



Wireless LAN Cable Modem

Model Number: U10C019



User's Guide

Rev. 1.2

Firmware 5.66.1005

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1. Before You Begin

Your new wireless cable modem provides high-speed wireless access to the Internet by using IEEE 802.11b/g wireless standard and an active Internet Connection through your cable service provider. This user guide describes how to set up and use the wireless cable modem. Before installing the wireless cable modem, you should read this user guide to ensure proper wireless cable modem operation.

Understand the Wireless Cable Modem's Features

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

- Wireless connectivity means that you can use your PC just about anywhere in your home.
- 802.11b/g compliance ensures interoperability with other 802.11b/g compliant devices
- Your wireless cable modem supports transmission rates of 54, 48, 36, 24, 18, 12, 11, 9, 6, 5.5, 2, and 1 Mbps. .
- Two-way design allows the wireless cable modem to send and receive data over the cable television network.
- Cable bandwidth allows data rates of up to 38 megabits per second (Mbps)*, which is faster than analog modems, integrated services digital network (ISDN), or asymmetric digital subscriber line (ADSL).
- Using your cable line means that the wireless cable modem is always on, always connected, and doesn't tie up your phone line.
- Plug-and-play operation through universal serial bus (USB) ensures easy setup and installation.
- Data Over Cable Service Interface Specification (DOCSIS¹) compliance ensures interoperability with DOCSIS compliant cable operators.

**NOTE: Speeds may vary based on the following factors:*

- *Computer equipment including available RAM and processor speed*
- *Software applications utilizing your computer's resources*
- *Network traffic depending on the time of day*
- *Limitations set by your Cable Service Provider*

Contact Your Local Cable Operator

Before installing your new wireless cable modem, you must contact your local cable service provider to activate your Internet account. Be sure to have the wireless cable modem's

MAC address available, which can be found on the underside of the wireless cable modem.

Prepare Your Area for Wireless Cable Modem Installation

Before installing your wireless cable modem, you should first prepare your area. To do this:

1. Locate your cable outlet and ensure that it is located within proper distance of your wireless cable modem and computer. Be sure not to bend the cable as this may strain the connector and cause damage.
2. Place wireless cable modem as high as possible. Allow sufficient airflow around the wireless cable modem to prevent overheating.
3. Place wireless cable modem and wireless clients in open areas or far away from transformers, heavy-duty motors, microwave ovens, refrigerators, fluorescent lights, and other manufacturing equipment.
4. Ensure that the temperature in the room where the wireless cable modem will be operating is between 0 and 40C (32 and 104F)
5. The wireless signal may be weaker after it has passed through metal, concrete, brick, walls, or floors. Also, make sure that the wireless cable modem and wireless adapters are positioned so that the signal will travel straight through a wall or ceiling for better reception. For example, a wall that is 1 foot thick, at a 45-degree angle appears to be almost 2 feet thick.

Gather Supplied and Required Items

You will use a variety of items to install your wireless cable modem. Some of the items are supplied with your wireless cable modem.

Supplied

Verify that these items were included in the cable modem's package:

- Wireless cable modem
- Power adapter
- USB cable (1.5m)
- Ethernet cable (1.8m)
- CD containing USB drivers

Not Supplied

Verify that these items are available before beginning the installation:

If using the wireless cable modem's USB port:

- A PC running Windows 98[®] Second Edition (SE), Windows Me, Windows 2000, or Windows XP. The cable modem's USB setup does not support the Macintosh[®] operating system, Windows 98 First Edition, and NT.
- Windows 98 SE, Windows Me, Windows 2000, or Windows XP CD or

- diskettes.
- o An active USB port on your PC.
- If using the wireless cable modem's Ethernet port:
 - o A PC running Windows 95 (or later) operating system or a Macintosh computer running system 7.6 (or later) operating system
 - o An active Ethernet port on your PC or Macintosh
- If using the wireless cable modem's Wireless feature:
 - o A PC running Windows 98 (or later) operating system or a Macintosh computer running system 7.6 (or later) operating system
 - o An active wireless client on your PC or Macintosh

Be sure to follow the instructions provided for the port that you want to use.

Using the Wireless feature of your wireless cable modem is the simplest and quickest way to connect your PC or MAC to the Internet. All you need is an 802.11b/g wireless client that is connected to your PC or MAC. Depending on your cable service provider, you may be able to connect multiple wireless clients to your wireless cable modem.

Using the USB port allows you to install the wireless cable modem more quickly and easily than using the Ethernet port, because you do not have to install and configure a network interface card (NIC).

USB, however, only enables you to connect one computer to the wireless cable modem.

Using the Ethernet port allows you connect multiple computers to a wireless cable modem through the use of additional equipment which is not included. Please contact your cable service provider for more information on using multiple computers.

Chapter 2 provides instructions for installing your wireless cable modem using the Wireless feature.

Chapter 3 provides instructions for installing your wireless cable modem using the USB port.

Chapter 4 provides instructions for installing your wireless cable modem using the Ethernet port.

2. Installing the Modem Using Wireless

This chapter explains the process for installing your wireless cable modem using the wireless feature. First you will install the hardware (wireless cable modem, wireless client (not

included), coax cable (not included), and power adapter).

Installing the Hardware

This section explains how to connect the wireless cable modem to the computer, wall cable outlet, and electrical outlet. To install the hardware:

1. Power off the computer
2. Connect one end of the coaxial cable to the wireless cable modem's cable connector. Connect the other end of the coaxial cable to the cable wall outlet. Be sure not to bend or over tighten the cables as this may strain the connector and cause damage. If you plan to connect the wireless cable modem and television to the same wall outlet, you must use a cable line splitter (not included).
3. Plug the wireless cable modem's power adapter into the wireless cable modem's power jack and into an electrical outlet or surge protector.
4. Follow the installation and configuration instructions included with your wireless client.
5. You are now ready to use your cable modem.

Troubleshooting the Wireless Installation

The *wlan* LED is not lit.

- Verify that your Wireless PC Card or Wireless USB client is properly connected to your computer.
- Try positioning the computer closer to the wireless cable modem. The wireless signal may be weaker after it has passed through metal, concrete, brick, walls, or floors. Make sure that the wireless cable modem and wireless adapters are positioned so that the signal will travel straight through a wall or ceiling for better reception. For example, a wall that is 1 foot thick, at a 45-degree angle appears to be almost 2 feet thick.
- Make sure PC's wireless client is connecting to right WLCM. Check the SSID of the WLCM and wireless client.
- If WEP (Wired Equivalent Privacy) is set, verify that the WEP key set in the modem matches the WEP key set in the wireless client

3. Installing the Wireless Cable Modem Using the USB Port

This chapter explains the process for installing your cable modem using the USB port. First, you will install the hardware (cable modem, USB cable, coax cable, and power adapter). You will then install the cable modem drivers and verify that the modem is functioning properly.

NOTE: The cable modem's USB setup does not support the Macintosh" operating system,

Using the USB port allows you to install the cable modem more quickly and easily than using the Ethernet port, because you do not have to install and configure a network interface card (NIC).

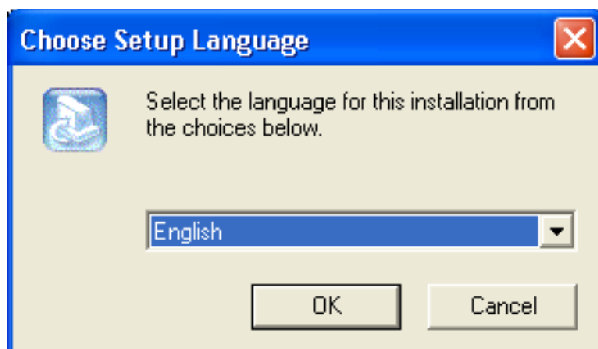
USB, however, only enables you to connect one computer to the cable modem. Using the Ethernet port allows you to connect multiple computers to a cable modem through the use of additional equipment which is not included. Please contact your cable service provider for more information on using multiple computers.

Installing the Software Drivers Before Hardware Connection

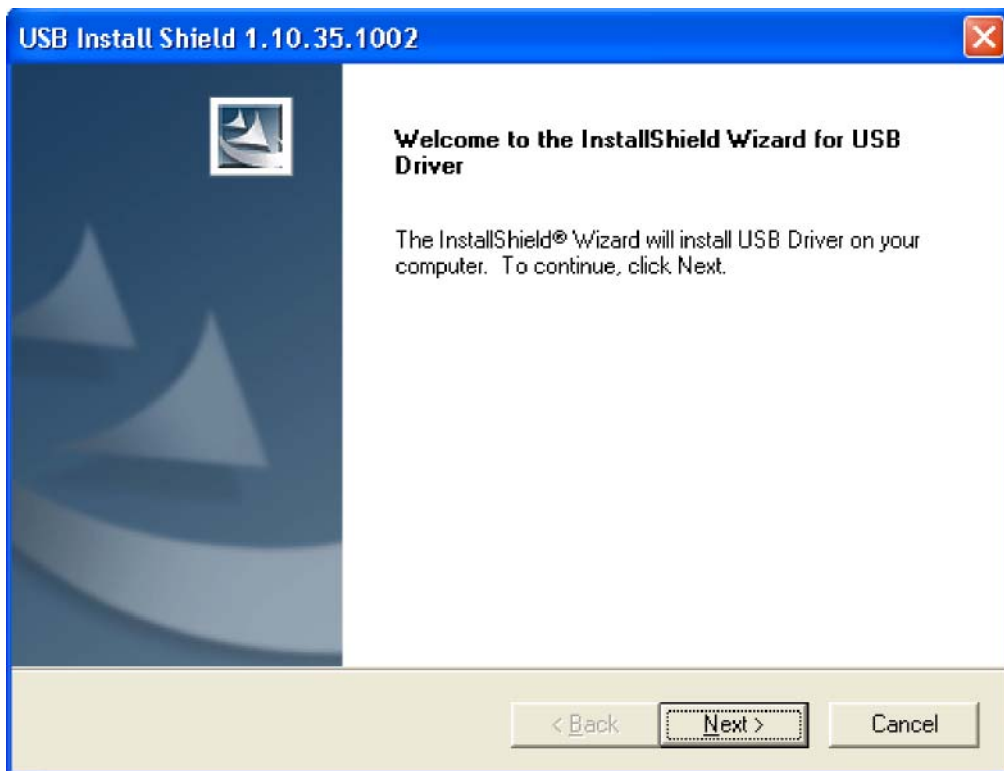
CAUTION: You should run the 'Setup.exe' program first before you connect USB cable to PC.

To install the cable modem software drivers using the Windows operating system:

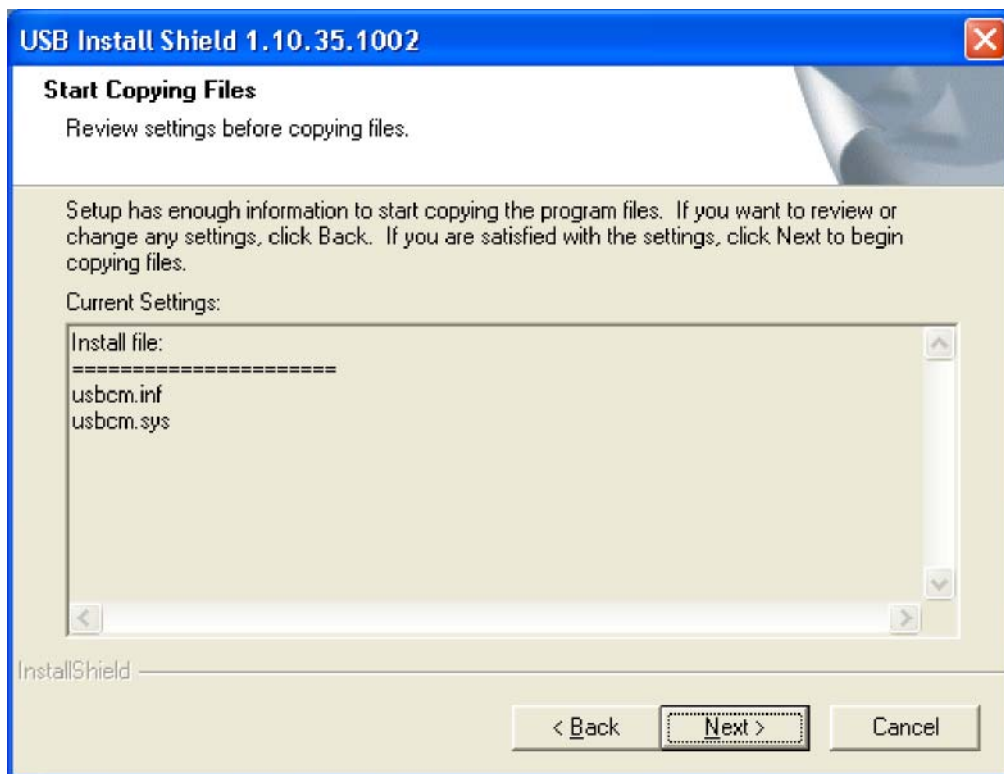
1. Double click the 'Setup.exe' program in the CD.
2. Then the 'Choose Setup Language' screen appears. You can choose the language you need and click 'OK'.



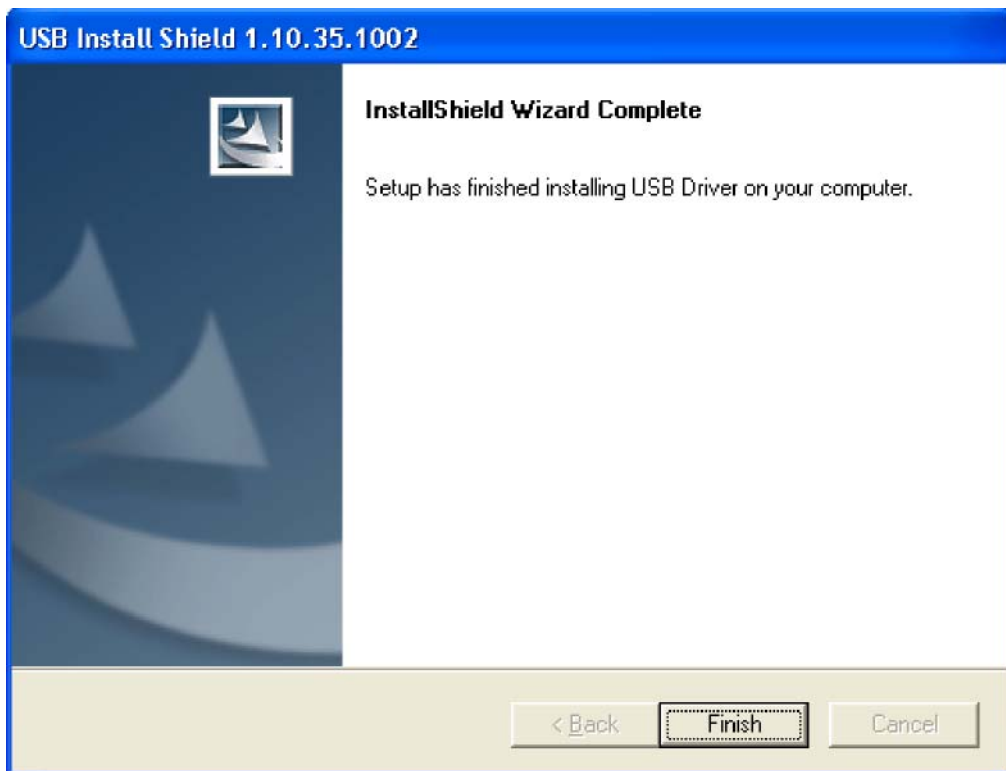
3. You will see the following Welcome screen.



4. Click 'Next>'. You will see the following Start screen.



5. Click 'Next>'. You will see the following 'Complete' screen.



6. Click 'Finish'. You will see below screen, and then select 'Yes'. Now you can connect the USB cable to the PC by following next section instructions.

Installing the Hardware

This section explains how to connect the cable modem to the computer, wall outlet, and electrical outlet.

To install the hardware:

1. Power off the computer
2. Connect one end of the coaxial cable to the cable modem's cable connector. Connect the other end of the coaxial cable to the cable wall outlet. Be sure not to bend or over tighten the cables as this may strain the connector and cause damage. If you plan to connect the cable modem and television to the same wall outlet, you must use a cable line splitter (not included).
3. Connect one end of the USB cable to the cable modem's USB port and the other end of the cable to the USB port on the PC.
4. Plug the cable modem's power adapter into the cable modem's power jack and into a wall outlet or surge protector.
5. You are now ready to install the software drivers.

Installing the Software Drivers

This section explains how to install the software drivers that your PC requires for the cable modem to operate.

Installing the Software Drivers in Windows 98 SE Operating System

CAUTION: You must install the drivers located on the CD that ships with your cable modem. If you use the default Windows-supplied software drivers, you will not be able to properly install the cable modem.

To install the cable modem software drivers using the Windows 98 operating system:

1. Power on your PC. After your computer boots, Windows detects the cable modem. The Found New Hardware screen appears, followed by the Add New Hardware Wizard screen.



2. Insert the CD into the PC's CD-ROM drive and click *Next*. You will see the following screen:



3. Select *Search for the best driver for your device (Recommended)*. Then select *Next*. You will see the following screen.



4. Check the *CD-ROM drive* check box and verify that the CD is in the CD-ROM drive. Click *Next* to have Windows search for the necessary driver files. You will see the following.

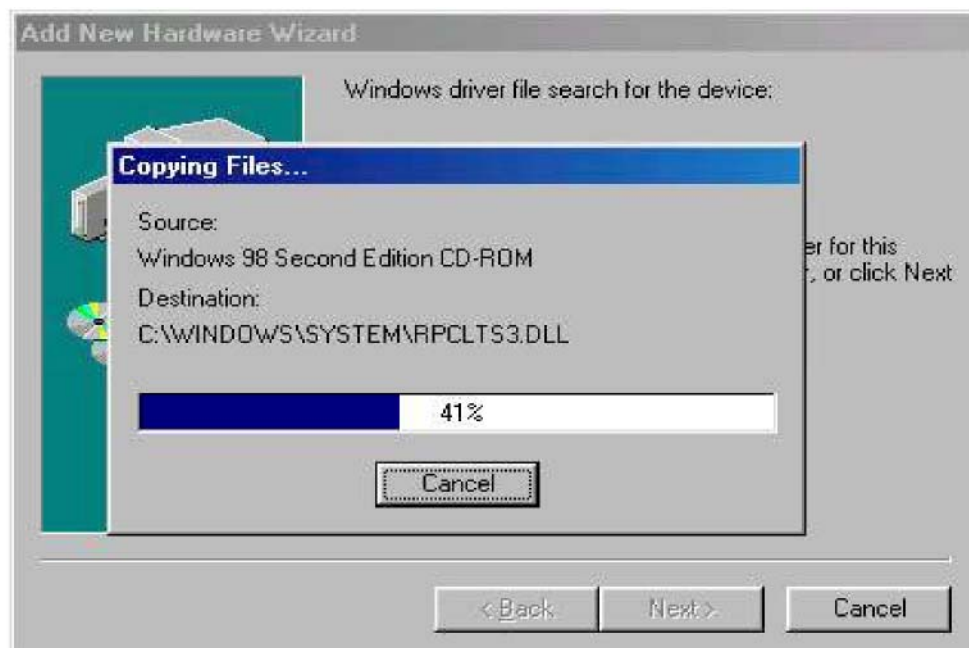
CAUTION: You must verify that **Ambit USB Cable Modem** appears on the screen. If **USB Composite Device** appears, you must click *Back* twice and specify the correct location of the driver files. **DO NOT** proceed if **USB Composite Device** is displayed in the above window. Contact your cable provider for further assistance.



5. Click *Next*. The computer automatically installs the necessary driver files. You may see the following screen



6. If the above screen appears, you must insert the Windows 98 CD so that Windows can copy the remaining files.



7. Wait for Windows to complete copying the remaining files.



8. Click *Finish* to complete the installation. You will see the following screen.

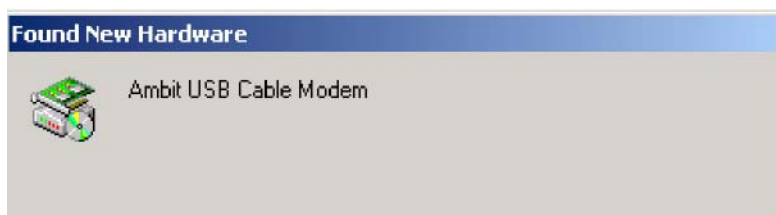


9. Choose *Yes* to restart your computer.
10. After the computer is rebooted, verify that the USB LED is lit on the front of you cable modem. If not, refer to the troubleshooting section later in this chapter.

Installing the Software Drivers in Windows Me Operating System

To install the cable modem software drivers using the Windows Me operating system:

1. Power on your PC. After your computer boots, Windows detects the cable modem. The Found New Hardware screen appears, followed by the Found New Hardware Wizard screen.



2. Insert the CD into the PC's CD-ROM and click *Next*. You will see the following screen.



3. Select *Automatic search for a better driver (Recommended)* and click (*Next*). The computer automatically copies the necessary driver files from the CD. You will see the following screen.



4. Check the *CD-ROM drive* check box and verify that the CD is in the CD-ROM drive. Click *Next* to have Windows search for the necessary driver files. You will see the following



5. Click *Finish* after the computer has copied the necessary files. You will see the following screen.



6. Click *Yes* to restart the computer

Installing the Software Drivers in Windows 2000 Operating System

To install the cable modem software drivers using the Windows 2000 operating system:

1. Power on your PC. After your computer boots, Windows detects the cable modem. The Found New Hardware screen appears, followed by the Found New Hardware Wizard screen.



2. Insert the CD into the PC's CD-ROM Drive and click *Next*. You will see the following screen.



3. Select *Search for a suitable driver for my device (recommended)*. Then select *Next>*. You will see the following screen



4. Check the *CD-ROM drive* check box and verify that the CD is in the CD-ROM drive.

Click *Next* to have Windows locate the necessary driver files. You will see the following screen.



5. Click *Next* to install the driver files for the cable modem. You will see the following screen.



7. Click *Finish* to complete the installation.
8. After the installation is completed, verify that the USB LED is lit on the front of your cable modem. If not, refer to the troubleshooting section later in this chapter.

Installing the Software Drivers in Windows XP Operating System

1. Power on your PC. After your computer boots, Windows detects the cable modem. The Found New Hardware screen appears, followed by the Found New Hardware Wizard screen.



2. Choose *the software automatically (Recommended)*. Click *Next* to continue. You will see the following screen.



3. Click *Finish* to complete the installation.

Troubleshooting the USB Installation

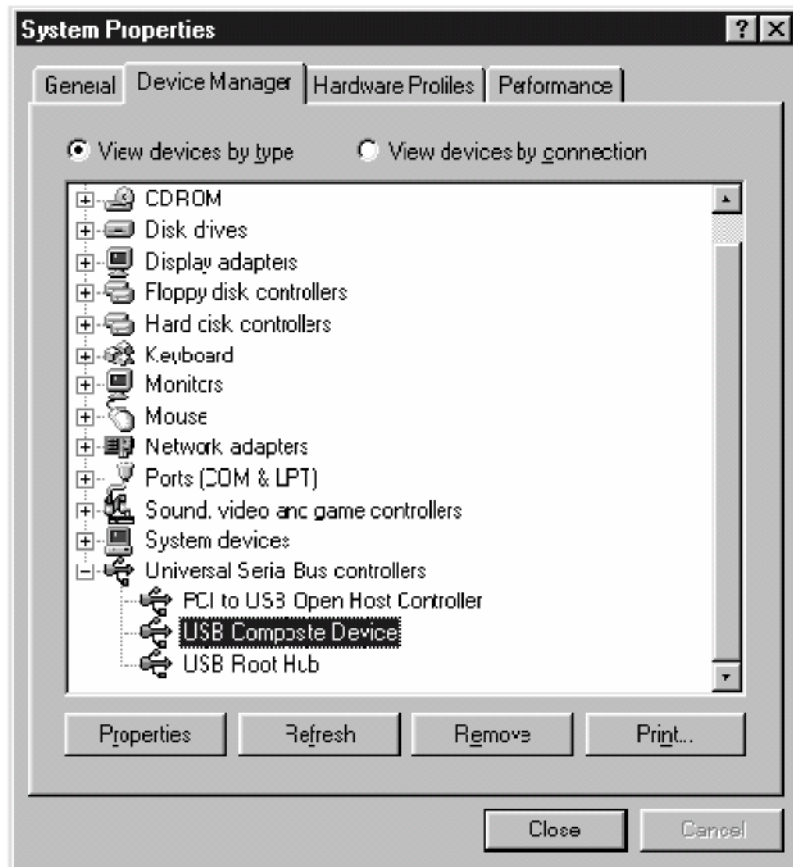
None of the LEDs are on when I power on the Wireless LAN Cable Modem.

Check the connection between the power adapter and the cable modem. Power off the Wireless LAN Cable Modem and wait for 5 Seconds and power on the modem again. If the problem still exists, you may have a hardware problem.

When attempting to install the USB driver in Windows 98 SE, I receive the following error message: Device not installed at this time. Driver not found.

This usually occurs when the wrong driver has been installed. To remove the wrong driver and install the correct driver:

1. Right-click on the *My Computer* icon on your desktop and choose *Properties*.
2. Click the *Device Manager* tab
3. Click the plus sign next to *Universal Serial Bus controllers* to view the list of installed USB device drivers



4. Select *USB Composite Device* and click *Remove*
5. Click *Refresh*

The Add New Hardware Wizard window appears, displaying the device name *USB Composite Device*. Refer to the proper operating system instructions in this chapter for information on reinstalling the driver properly.

All of the LEDs on the front of my modem look correct, but I cannot access the Internet.

If the POWER, USB, SYNC, and READY are solidly lit, the cable modem is working properly. Use the following procedures to verify connectivity between the PC and the cable modem:

- o Launch Your PC's Internet Browser (e.g., Netscape, IE)
- o Enter <http://192.168.100.1> into your browser. This URL connects you directly to the web server within your cable modem. A successful connection indicates that the PC is able to communicate with the cable modem. The next step is to enter a public URL to ensure connectivity between the cable modem and your cable service provider. If this fails, please contact your cable service provider for further assistance.
- Try restarting the computer so that it could re-establish a connection with the cable modem.
- Power cycle the cable modem by removing the power adapter from the electrical outlet and plugging it back in. Wait several minutes for the cable modem to

re-establish communications with your cable service provider.

- Remove any other USB devices from your computer and connect the cable modem's USB cable directly to the USB port on your computer.
- If you are using a cable splitter, try removing the splitter and connect the cable modem directly to the cable wall outlet. Wait several minutes for the cable modem to re-establish communications with your cable service provider.
- Your USB or coaxial cable may be damaged. Try using another cable.
- If none of these suggestions work, contact your cable service provider for further assistance.

Uninstalling the USB Driver

1. Insert the supplied CD into your CD-ROM drive
2. Click on the *My Computer* icon on your desktop. Then click on the icon that belongs to your CD-ROM Drive.

Locate the file called **setup.exe** and click on the file. This program will remove all the necessary files from your computer.

4. Installing the Modem Using the Ethernet Port

This chapter explains the process for installing your wireless cable modem using the Ethernet port. Using the Ethernet port allows you to connect multiple computers to a wireless cable modem through the use of additional equipment which is not included. Please contact your cable service provider for more information on using multiple computers.

See Chapter 2 ⁱInstalling the Wireless Cable Modem Using the USB Portⁱ for instructions on installing the wireless cable modem using the USB port.

You can use the wireless cable modem's Ethernet port if you have:

- A PC running Windows 95 (or later) operating system or a Macintosh computer running system 7.6 (or later) operating system
- An active Ethernet port on your PC

Before you begin, verify that your Network Interface Card (NIC) has been installed and configured for use with your wireless cable modem. The wireless cable modem requires TCP/IP to be installed. Contact your cable service provider for assistance with installing and configuring TCP/IP. After installed the hardware, your computer can connect the wireless cable modem directly by using Network Interface Card. Unlike USB installation, there is no need for software installation for the Ethernet connection.

Installing the Hardware

This section explains how to connect the wireless cable modem to the computer, wall cable outlet, and electrical outlet.

To install the hardware:

1. Power off the computer
2. Connect one end of the coaxial cable to the wireless cable modem's cable connector. Connect the other end of the coaxial cable to the cable wall outlet. Be sure not to bend or over tighten the cables as this may strain the connector and cause damage. If you plan to connect the wireless cable modem and television to the same wall outlet, you must use a cable line splitter (not included).
3. Connect one end of the Ethernet cable to the wireless cable modem's Ethernet port and the other end of the cable to the Ethernet port on the PC or network interface card (NIC).
4. Plug the wireless cable modem's power adapter into the wireless cable modem's power jack and into a wall outlet or surge protector.
5. If the **pwr**, **sync**, **ready**, and **ethernet** LEDs are solidly lit, the wireless cable modem is working properly.

Troubleshooting the Ethernet Installation

None of the LEDs are on when I power on the Wireless LAN Cable Modem.

Check the connection between the power adapter and the cable modem. Power off the Wireless LAN Cable Modem and wait for 5 seconds and power on the modem again. If the problem still exists, you may have a hardware problem.

The ethernet 1 or 2 or 3 or 4 LED on my wireless cable modem is not lit.

- Try restarting the computer so that it could re-establish a connection with the wireless cable modem.
- Check for a resource conflict (Windows users only). To do this:
 - 1) Right-click on the *My Computer* icon on your desktop and choose *Properties*.
 - 2) Click the *Device Manager* tab and look for a yellow exclamation point or red X over the NIC in the *Network Adapters* field. If you see either one, you may have an IRQ conflict. Refer to the manufacturer's documentation or your cable service provider for further assistance.
- Verify that TCP/IP is the default protocol for your network interface card (NIC)
- Power cycle the wireless cable modem by removing the power adapter from the electrical outlet and plugging it back in. Wait several minutes for the wireless cable modem to re-establish communications with your cable service provider.
- Your Ethernet cable may be damaged. Try another cable.

All of the LEDs on the front of my modem look correct, but I cannot access the Internet.

- If the **pwr**, **sync**, and **ready** LEDs are solidly lit, the wireless cable modem is working properly. Try restarting the computer so that it could re-establish a connection with the wireless cable modem.
- Power cycle the wireless cable modem by removing the power adapter from the electrical outlet and plugging it back in. Wait several minutes for the wireless cable modem to re-establish communications with your cable service provider.
- If your PC is connected to a hub or gateway, try connecting the PC directly into the wireless cable modem.
- If you are using a cable splitter, try removing the splitter and connect the wireless cable modem directly to the cable wall outlet. Wait several minutes for the wireless cable modem to re-establish communications with your cable service provider.
- Your Ethernet or coaxial cable may be damaged. Try using another cable.
- If none of these suggestions work, contact your cable service provider for further assistance.

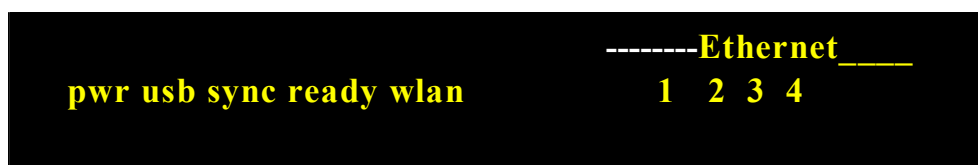
5. Wireless Cable Modem LEDs and Connectors

This chapter describes the functions of the wireless cable modem's LEDs and connectors.

When the **pwr**, **sync**, and **ready** LEDs are lit, the wireless cable modem is working properly. The **usb** or **enet 1, 2, 3, 4** LEDs should also be lit depending on what port is being used.

The following provides an overview of the LED indicator lights on the front of the wireless cable modem and what the LEDs mean.

LEDs on the Front of the Modem



- **pwr**: Indicates that the wireless cable modem has successfully completed internal power-on tests.
- **usb**: Indicates connectivity between the USB port on the wireless cable modem and a PC's USB port.
- **sync**: Indicates the connection status between the wireless cable modem and the

cable network. The LED is lit when the wireless cable modem has established a downstream channel with the cable service provider's Cable Modem Termination System (CMTS).

- **ready:** Indicates that the wireless cable modem has completed the ranging/registration process and is ready to send/receive data.
- **wlan:** Indicates that at least one wireless client is linked to the wireless cable modem.
- **Enet 1, 2, 3, 4:** Indicates connectivity between the Ethernet port on the wireless cable modem and the Ethernet port on a PC or Mac. This LED blinks when the wireless cable modem is transferring or receiving data over the Ethernet cable.

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

Connectors on the Back of the Modem

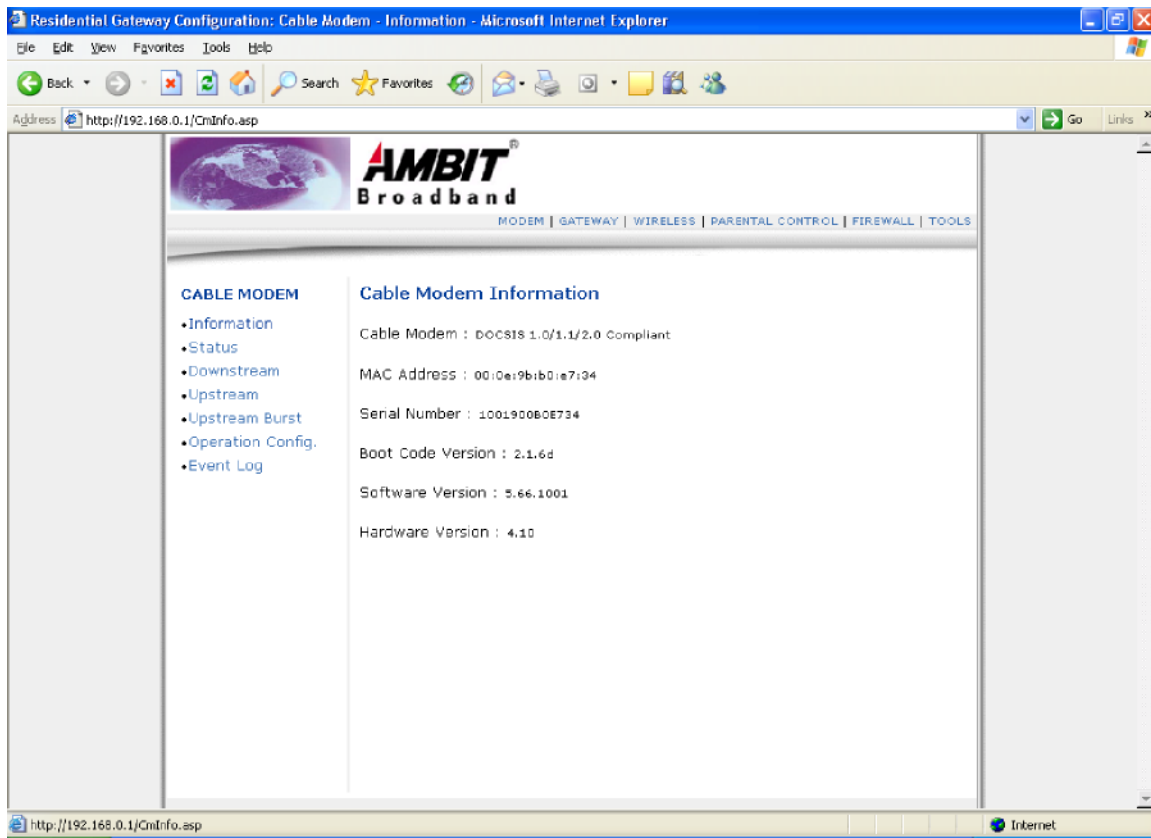
This list of connectors describes where to connect the cables and power adapter when installing the wireless cable modem.

1. **PWR:** This is where you plug the included power adapter. Remember to use only the power adapter that came with the wireless cable modem.
2. **Ethernet 10/100 Port 1, 2, 3, 4:** This is where you plug the Ethernet cable. The other end connects to the Ethernet port on the PC or NIC
3. **USB Port:** This is where you plug the included USB cable. The other end connects to the USB port on your PC.
4. **Cable Connector:** This is where you connect the coaxial cable (not included) that leads to the cable splitter (not included) or the cable wall outlet.

6. Web User Interface

Accessing the Web User Interface

1. - Open the web browser and set the address to: <http://192.168.100.1> for local access



2. Click Login. Enter **user** for User name and **user** for Password, and then click **OK**.



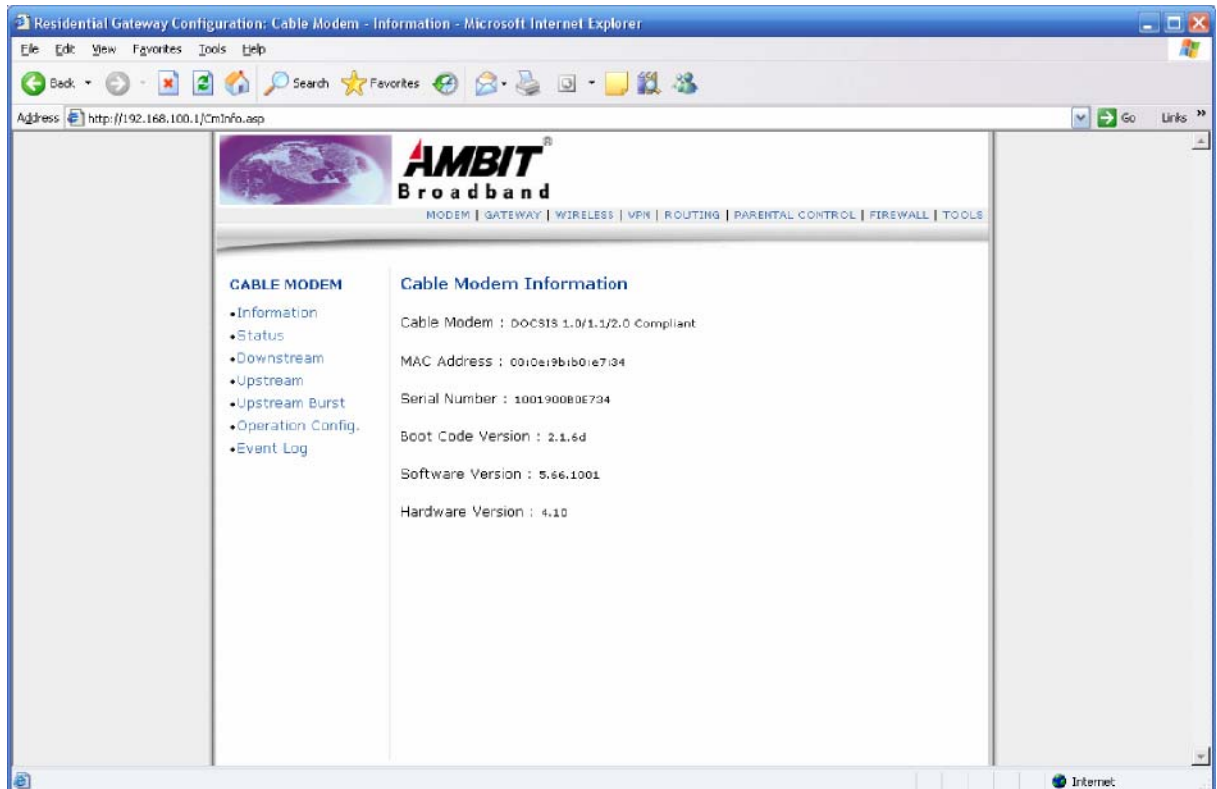
3. If the user enters an incorrect user name and/or password, the web user interface displays
401 Unauthorized¹.

Web User Interface Home Page

A main menu is shown at the top of the pages and the user can select different options to view wireless cable modem information. They include:

Cable Modem

Cable Modem Information



Cable Modem Status

The screenshot shows a web browser window titled "Residential Gateway Configuration: Cable Modem - Status - Microsoft Internet Explorer". The address bar displays "http://192.168.0.1/CmStatus.asp". The page features the "AMBIT Broadband" logo and a navigation menu with links: MODEM, GATEWAY, WIRELESS, PARENTAL CONTROL, FIREWALL, and TOOLS. On the left, a "CABLE MODEM" sidebar lists links: Information, Status, Downstream, Upstream, Upstream Burst, Operation Config., and Event Log. The main content area is titled "Cable Modem Status" and contains a table with the following data:

Item	Status	Comments
Acquire a Downstream Channel	585000000 Hz	Locked
Connectivity State	OK	Operational
Boot State	OK	Operational
Security	Disabled	Disabled

Below the table is a "Refresh" button. The browser's status bar at the bottom shows "Internet".

Downstream

The screenshot shows a web browser window titled "Residential Gateway Configuration: Cable Modem - Downstream - Microsoft Internet Explorer". The address bar displays "http://192.168.0.1/CmDnstream.asp". The page features the "AMBIT Broadband" logo and a navigation menu with links: MODEM, GATEWAY, WIRELESS, PARENTAL CONTROL, FIREWALL, and TOOLS. On the left, a "CABLE MODEM" sidebar lists links: Information, Status, Downstream, Upstream, Upstream Burst, Operation Config., and Event Log. The main content area is titled "Cable Modem Downstream" and displays the following parameters:

Downstream Lock :	Locked
Downstream Channel Id :	1
Downstream Frequency :	585000000 Hz
Downstream Modulation :	QAM256
Downstream Symbol Rate :	5360.537 Ksym/sec
Downstream Interleave Depth :	taps128Increment1
Downstream Receive Power Level :	5.7 dBmV
Downstream SNR :	42.8 dB

Below the parameters is a "Refresh" button. The browser's status bar at the bottom shows "Internet".

Upstream

Residential Gateway Configuration: Cable Modem - Upstream - Microsoft Internet Explorer

Address: <http://192.168.0.1/CmUpstream.asp>

AMBIT Broadband

MODEM | GATEWAY | WIRELESS | PARENTAL CONTROL | FIREWALL | TOOLS

CABLE MODEM

- Information
- Status
- Downstream
- Upstream
- Upstream Burst
- Operation Config.
- Event Log

Cable Modem Upstream

Upstream Lock : Locked

Upstream Channel ID : 17

Upstream Frequency : 10000000 Hz

Upstream Modulation : QPSK

Upstream Symbol Rate : 2560 Ksym/sec

Upstream transmit Power Level : 33.0 dBmV

Upstream Mini-Slot Size : 4

Refresh

Upstream Burst

Residential Gateway Configuration: Cable Modem - Upstream Burst - Microsoft Internet Explorer

Address: <http://192.168.0.1/CmUpBurst.asp>

AMBIT Broadband

MODEM | GATEWAY | WIRELESS | PARENTAL CONTROL | FIREWALL | TOOLS

CABLE MODEM

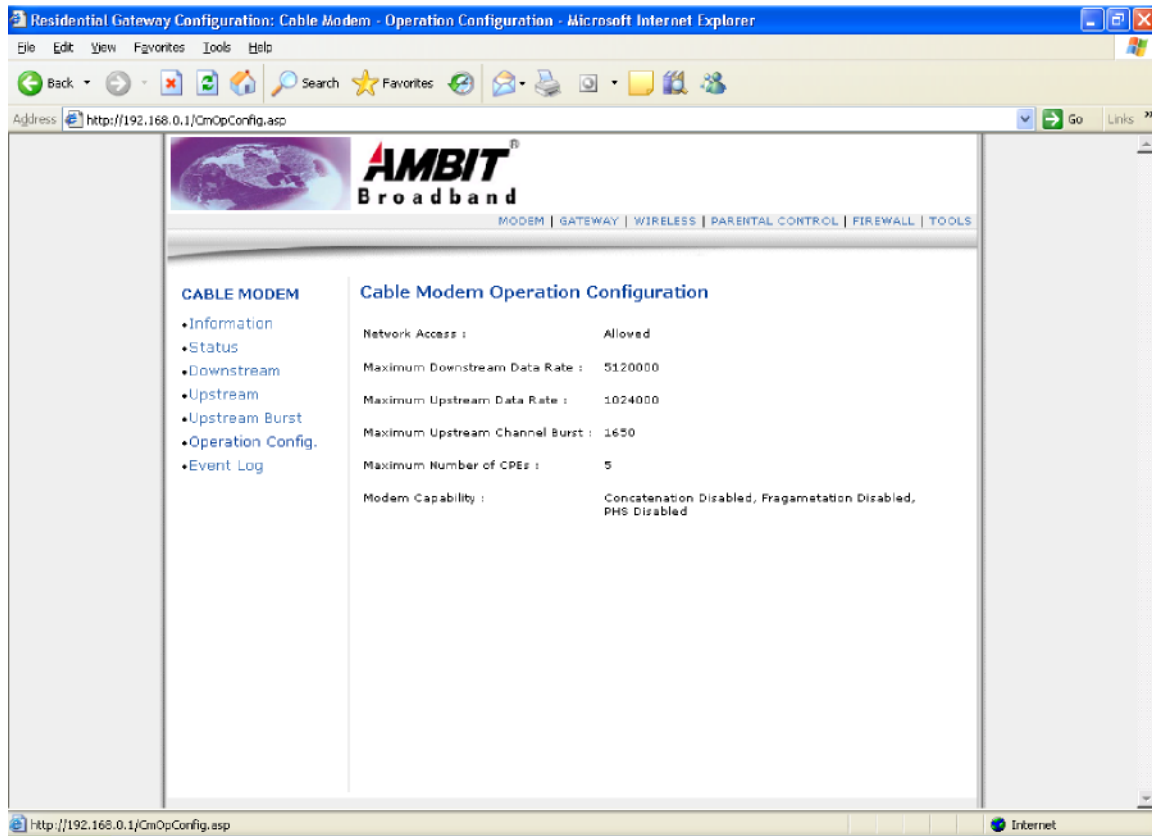
- Information
- Status
- Downstream
- Upstream
- Upstream Burst
- Operation Config.
- Event Log

Cable Modem Upstream Burst

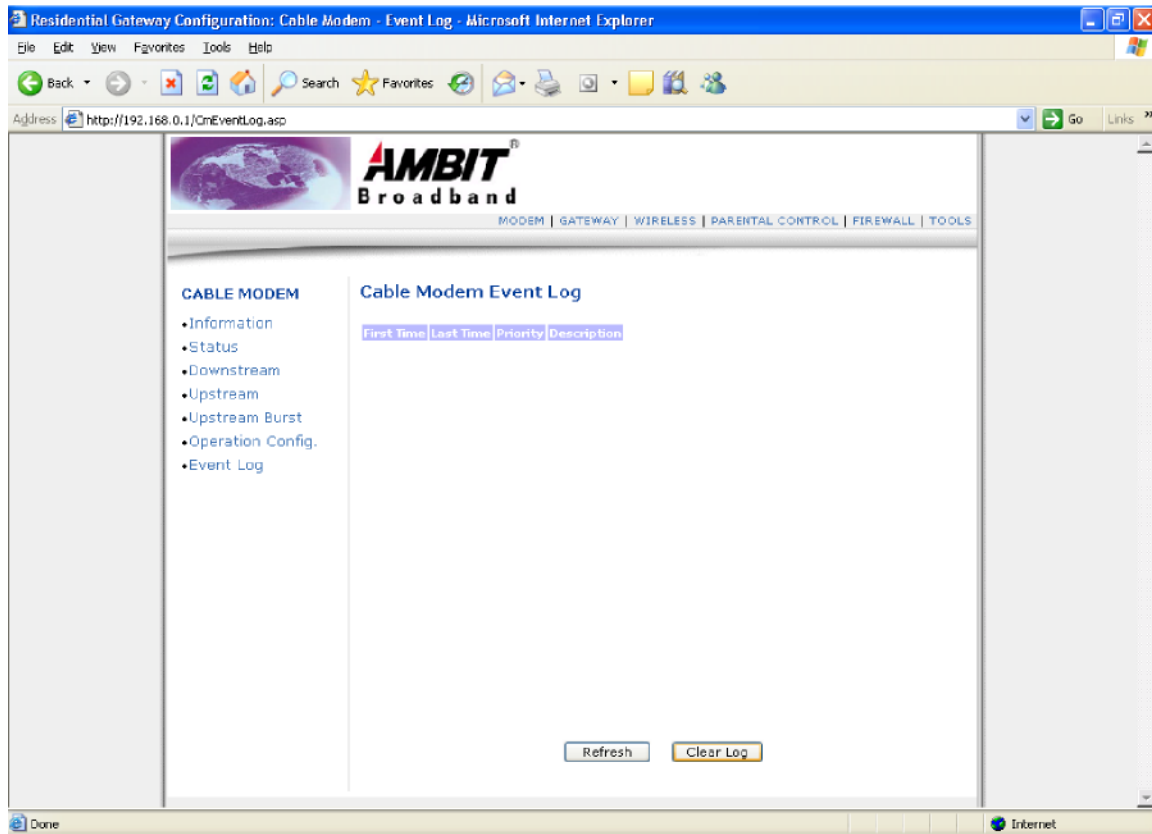
	Req (1)	Req/Data (2)	Init Maint (3)	Per Maint (4)	Short Data (5)	Long Data (6)
Modulation Type	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK
Differential Encoding	Off	Off	Off	Off	Off	Off
Preamble Length	128	128	128	128	128	128
Preamble Value Offset	0	0	0	0	0	0
FEC Error Correction (T)	0	0	5	5	0	0
FEC Codeword Information Bytes (k)	6	6	34	34	6	6
Scrambler Seed	338	338	338	338	338	338
Maximum Burst Size	1	0	0	0	130	0
Guard Time Size	40	64	16	16	8	8
Last Codeword Length	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
Scrambler on/off	On	On	On	On	On	On

Refresh

Operation Configuration



Event Log

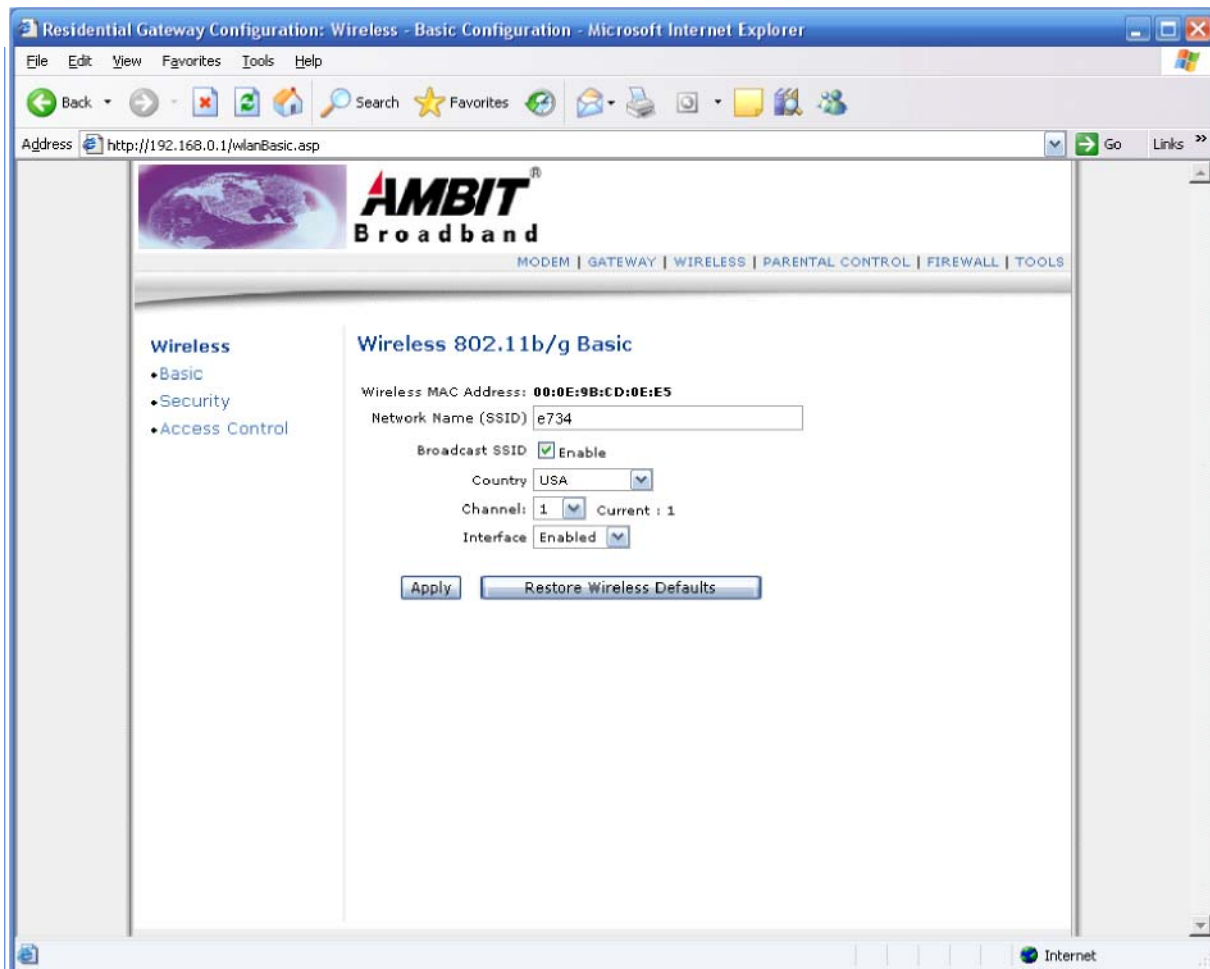


- **Refresh**
Click to update event log.
- **Clear Log**
Click to clear event log.

Wireless

Basic

This page allows configuration of the Wireless Modem parameters the SSID and channel number.



Wireless Basic

- **Network Name (SSID)**

Enter SSID to group your wireless network. The wireless clients that have the same SSID can communicate with others. The default SSID is the last four hexadecimal digits of the modem MAC address.

- **Broadcast SSID**

Click **Enable** to allow broadcast of SSID.

- **Country**

When set to **USA**, Channel 1 to 11 is available.

- **Interface**

When set to **enabled**, wireless clients can access to the network.

- **Apply** Click to submit changes.

Security

This page allows configuration of the WEP keys and/or pass phrase.

Residential Gateway Configuration: Wireless - Security - Microsoft Internet Explorer

Address: http://192.168.0.1/wlanSecurity.asp

Wireless

- Basic
- Security
- Access Control

Wireless Privacy

WPA: Disabled

WPA-PSK: Disabled

WPA2: Disabled

WPA2-PSK: Disabled

WPA/WPA2 Encryption: Disabled

WPA Pre-Shared Key: [Empty]

RADIUS Server: 0.0.0.0

RADIUS Port: 1812

RADIUS Key: [Empty]

Group Key Rotation Interval: 0

WPA/WPA2 Re-auth Interval: 3600

WEP Encryption: WEP (128-bit)

Shared Key Authentication: Optional

802.1x Authentication: Disabled

PassPhrase: [Empty] [Generate WEP Keys](#)

Network Key 1: [Asterisks]

Network Key 2: [Asterisks]

Network Key 3: [Asterisks]

Network Key 4: [Asterisks]

Current Network Key: 1

[Apply](#)

Wireless Security

- **Network Authentication**
Network authentication can be enabling with **WPA, WPA-PSK, WPA2, and WPA2-PSK**
- **WPA Pre-Shared Key**
Enter WPA Pre-shared Key when WPA-PSK network authentication is selected.
- **WPA Group Rekey Interval**
Enter WPA Group Rekey Interval when WPA-PSK network authentication is selected.
- **WPA Pre-Shared Key**
Enter WPA Pre-shared Key when WPA-PSK network authentication is selected.
- **RADIUS Server**
Enter RADIUS Server IP address when WPA or 802. 1x network authentication is selected.
- **RADIUS Port**
Enter RADIUS port number when WPA or 802. 1x network authentication is selected.
- **RADIUS Key**

Enter RADIUS Key when WPA or 802. 1x network authentication is selected.

- **Data Encryption (WEP)**

Data Encryption can be set to WEP **128-bit**, **64-bit**, or **off**.

Factory default for Data Encryption is 128-bit.

- **Shared Key Authentication**

Shared Key Authentication can be set to **optional** or **required**.

- **Pass Phrase**

You can set WEP encryption key by entering a word or group of printable characters in the

Pass phrase box and click **Generate WEP keysⁱ**. These characters are case sensitive.

- **Network Key 1, 2, 3, 4**

You can pre-define up to 4 keys for 64-bit or 128-bit

(64-bit keys require 10 hexadecimal digits) (128-bit

key require 26 hexadecimal digits)

Factory default WEP keys are 128-bit, and the key is the cable modem MAC address plus 14

zeros. Example: 00028A861 118000000000000000

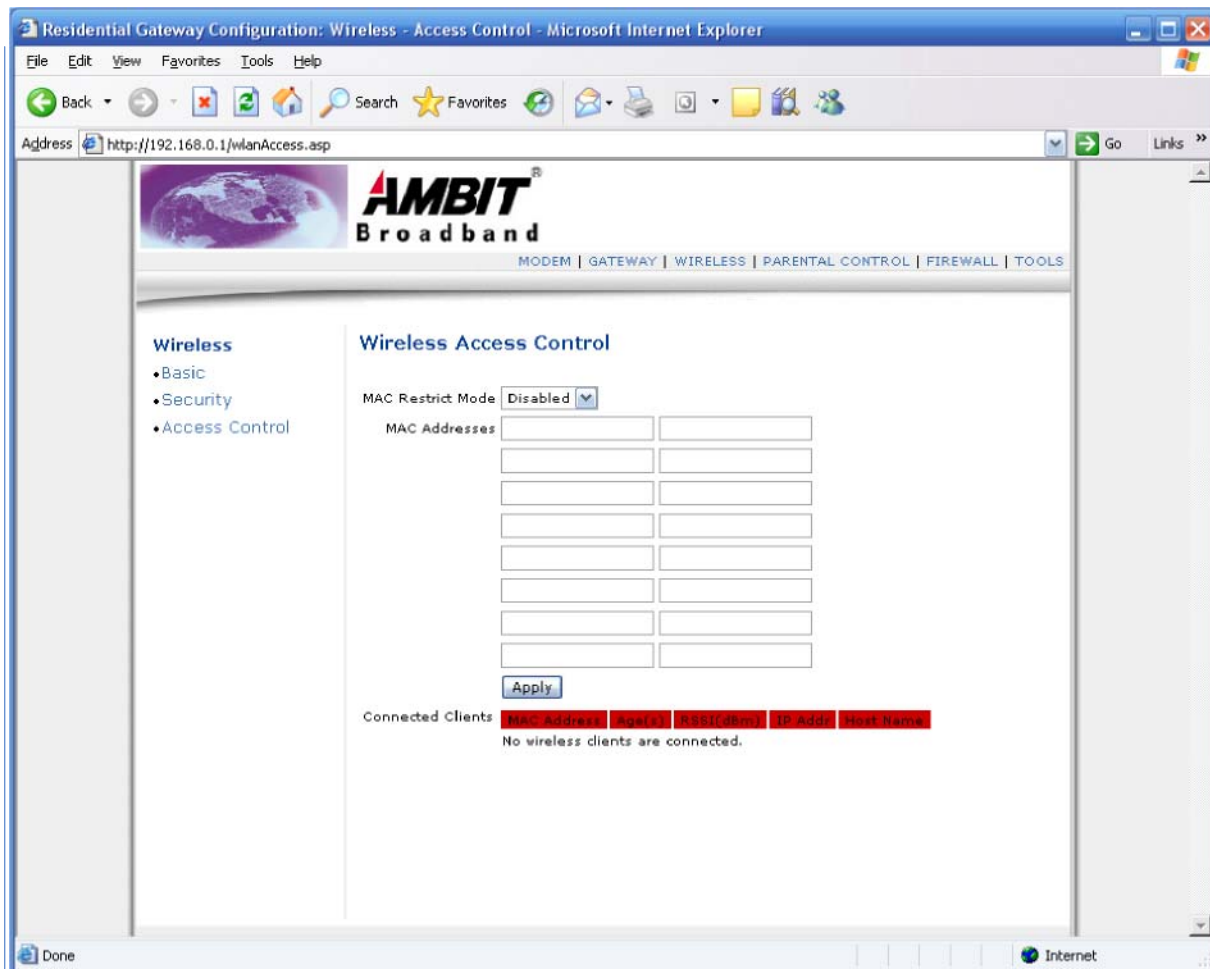
- **Current Network Key**

You can use one of the four pre-defined keys as the current network key.

- **Apply** Click to submit changes.

Access

This page allows configuration of the Access Control to the AP as well as status on the connected clients. Selects whether clients with the specified MAC address are allowed or restricted wireless access.



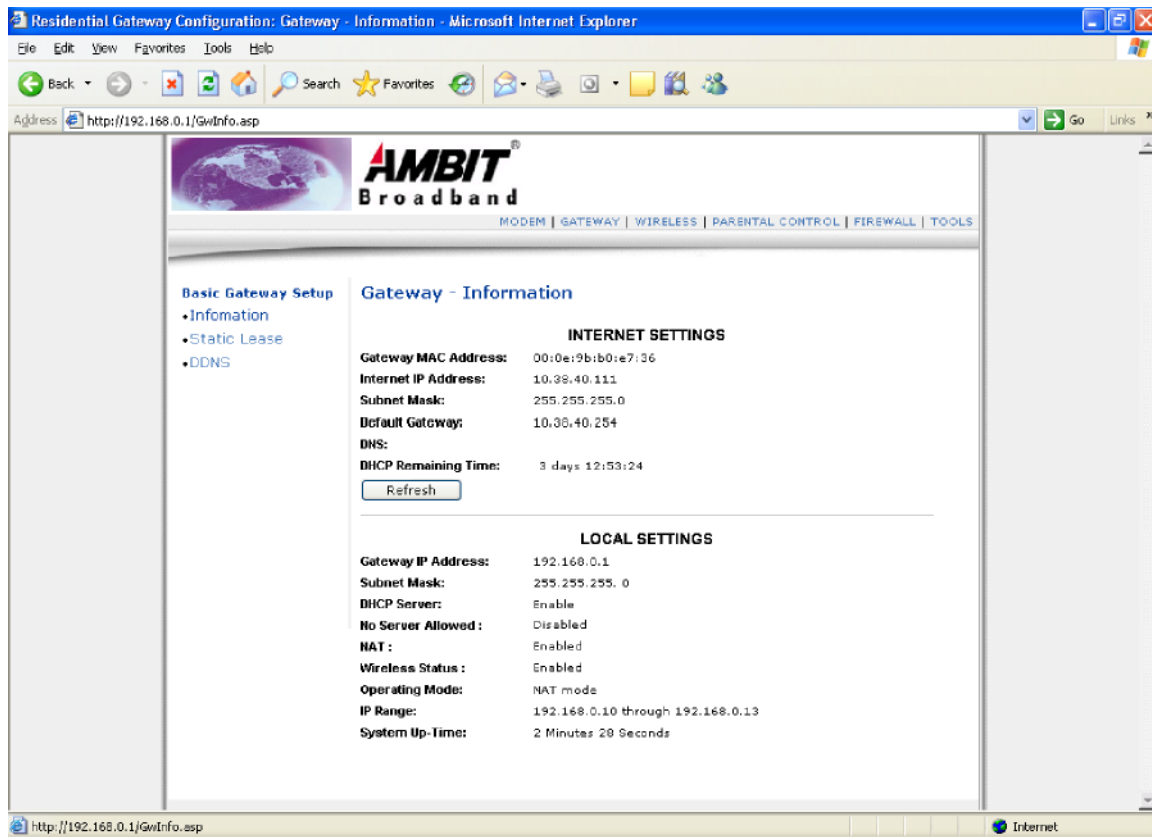
Wireless Access

- **MAC Restrict Mode**
MAC Restrict Mode can be set to **Disabled**, **Allow**, or **Deny**.
- **Mac Address**
Enter Mac Address to allow or deny access to the AP.
- **Apply** Click to submit changes.

Gateway

Information

This page shows gateway information.



Gateway Information

Refresh

Click **Refresh**¹ to get current gateway information.

Static-lease

This page allows configuration of static-lease option for the internal DHCP server for the private LAN.

Index	MAC Address	IP Address	Enabled	Clear
1.	00 : 00 : 00 : 00 : 00 : 00	192.168.0.0	<input type="checkbox"/>	<input type="checkbox"/>
2.	00 : 00 : 00 : 00 : 00 : 00	192.168.0.0	<input type="checkbox"/>	<input type="checkbox"/>
3.	00 : 00 : 00 : 00 : 00 : 00	192.168.0.0	<input type="checkbox"/>	<input type="checkbox"/>
4.	00 : 00 : 00 : 00 : 00 : 00	192.168.0.0	<input type="checkbox"/>	<input type="checkbox"/>
5.	00 : 00 : 00 : 00 : 00 : 00	192.168.0.0	<input type="checkbox"/>	<input type="checkbox"/>
6.	00 : 00 : 00 : 00 : 00 : 00	192.168.0.0	<input type="checkbox"/>	<input type="checkbox"/>
7.	00 : 00 : 00 : 00 : 00 : 00	192.168.0.0	<input type="checkbox"/>	<input type="checkbox"/>
8.	00 : 00 : 00 : 00 : 00 : 00	192.168.0.0	<input type="checkbox"/>	<input type="checkbox"/>

Apply

Gateway n DHCP Static lease

- **MAC Address**
Enter the MAC address in hexadecimal format.
- **IP Address**
Enter one of the internal private IP addresses from the ip-pool for a specified MAC address.
- **Enabled**
Check **Enabled**¹ to assign static private IP address based on specified MAC address.
- **Clear**
Check **Clear**¹ to remove static private IP address based on specified MAC address.
- **Apply** Click to submit changes.

DDNS

This page allows setup of Dynamic DNS service.

The screenshot shows a web browser window titled "Residential Gateway Configuration: Gateway - DHCP - Microsoft Internet Explorer". The address bar shows "http://192.168.0.1/GwDdns.asp". The page features the "AMBIT Broadband" logo and a navigation menu with links: MODEM, GATEWAY, WIRELESS, PARENTAL CONTROL, FIREWALL, and TOOLS. On the left, under "Basic Gateway Setup", there are links for Information, Static Lease, and DDNS. The main content area is titled "Gateway - DDNS" and contains the following fields and status:

- DDNS Service: Disabled (dropdown menu)
- User Name: [text input field]
- Password: [text input field]
- Host Name: [text input field]
- IP Address: 0.0.0.0
- Status: DDNS service is not enabled.
- [Apply button]

Gateway ñ Dynamic DNS service

- **DDNS Service** Enter DDNS service provider's address to enable DDNS.
- **User Name** Enter User Name provided by DDNS service provider.
- **Password** Enter User Password provided by DDNS service provider.
- **Host Name** Enter host name for DDNS service provider
- **Apply** Click to submit changes.

Parental Control User Setup

This page allows configuration of users. 'White List Only' feature limits the user to visit only the sites specified in the Allowed Domain List of his/her content rule.

Residential Gateway Configuration: Parental Control - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://192.168.0.1/RgUserSetup.asp> Go Links

AMBIT
Broadband

MODEM | GATEWAY | PARENTAL CONTROL | FIREWALL | TOOLS

Parental Control

- User Setup
- Basic
- Tod Filter
- Event Log

Parental Control - User Setup

User Configuration

User Settings

1. Default ☐ Enable

Password

Re-Enter Password

Trusted User ☐ Enable

Content Rule ☐ White List Access Only 1. Default

Time Access Rule No rule set

Session Duration 0 min

Inactivity time 0 min

Trusted Computers

Optionally, the user profile displayed above can be assigned to a computer to bypass the Parental Control login on that computer.

00 : 00 : 00 : 00 : 00 : 00

No Trusted Computers

The Parental Control ñ User Setup Page is the master page to which each individual 'user' is linked to a specified time access rule, content filtering rule, and login password to get to the filtered content. Each specified user may also be enabled as a 'trusted user' which means that person will have access to all Internet content regardless of filters that may be set up. This check box can be used as a simple override to grant a user full access but still having the ability to keep all of the previous filtering settings stored and available. Session duration timers can also be entered to allow a finite amount of time that a user has Internet access via the rules entered once entering their password to get to the Internet for the first time. This allows access to the Internet for a defined user without having to enter a password every time a new web page is served to the client. Likewise, there is a password inactivity timer if there is no Internet access for the specified amount of time in minutes, requiring the user to re-login at expiration to continue using the Internet. These timed logins insure that a specific user is using the Internet gateway for access and logging/access can be provided appropriately. Any time a change is made on this page for a particular user, the Apply button at the bottom of the page needs to be

pressed to activate and store the settings.

Parental Control ñ User Setup

- **Add User**

Enter new user name.

Click to add new user.

- **Remove User**

Select user name, click Remove User to delete user.

- **Password**

Enter new user password.

- **Re-Enter Password**

Enter new user password again to confirm.

- **Trusted User**

Click to allow all internet content regardless of filters that may be setup.

- **Content rule**

Click to apply White List Access Only.

- **Time Access rule**

Click to apply time access rule selected.

- **Content rule**

Click to apply White List Access Only.

- **Session Duration**

Specify session duration.

- **Inactivity timer**

Specify inactivity timer.

- **Apply** Click to submit changes.

- **Trusted Computer**

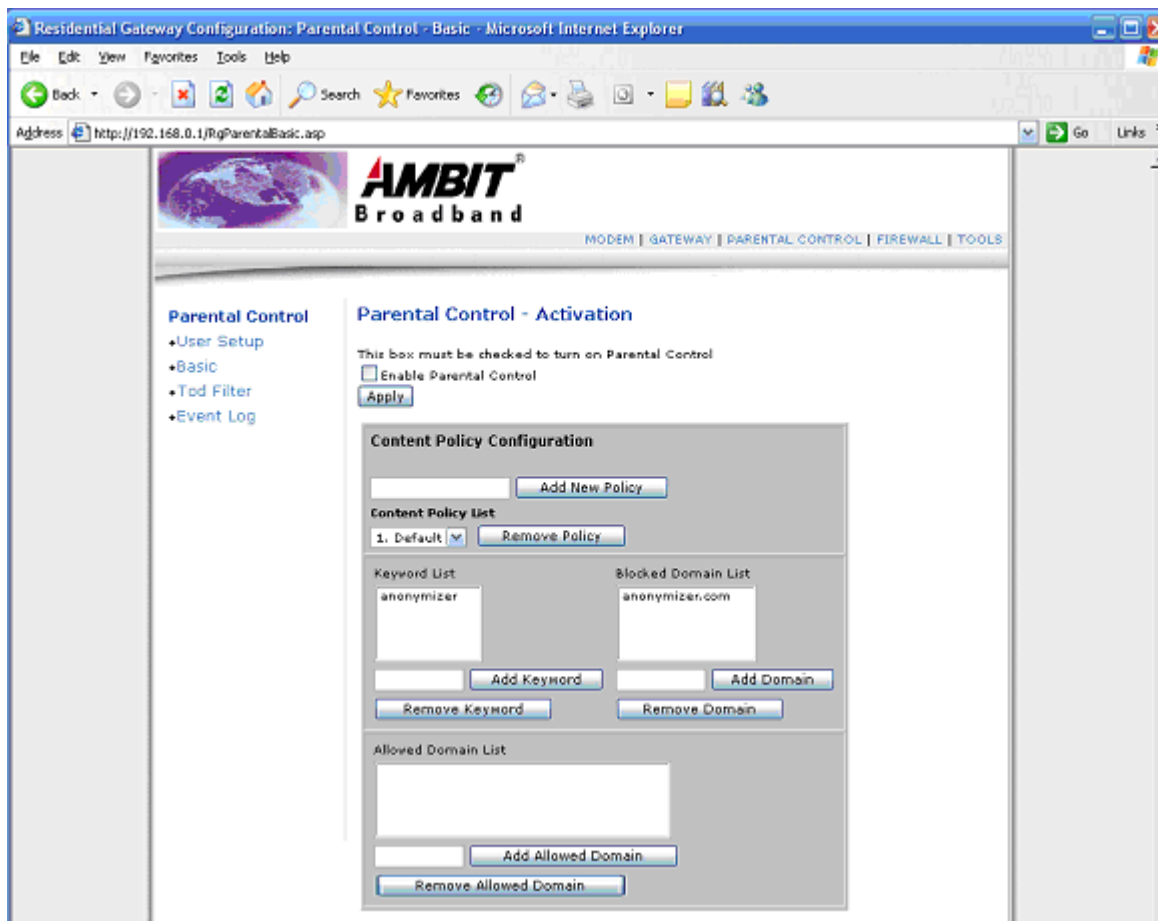
Specify trusted computer by MAC address.

- **Remove**

Click to remove trusted computer from the list.

Settings

This page allows basic selection of rules which block certain Internet content and certain Web sites. When you change your Parental Control settings, you must click on the appropriate "Apply", "Add" or "Remove" button for your new settings to take effect. If you refresh your browser's display, you will see the currently active settings.



Parental Control - Settings

- **Enable Parental Control Check**
to enable parental control. Click **Apply** to submit changes.
- **Add New Policy**
Enter new policy name.
Click **Add New Policy** to create new policy.
- **Add Keyword**
Enter new keyword.
Click **Add Keyword** to add new keyword.

- **Remove Keyword** Select keyword from the list.

Click **Remove Keyword** to remove keyword from the list.

- **Add Domain**

Enter new domain.

Click **Add Domain** to add new domain.

- **Remove Domain** Select domain from the list.

Click **Remove Domain** to remove domain from the list.

- **Add Allowed Domain** Enter new allowed domain.

Click **Add Allowed Domain** to add new allowed domain.

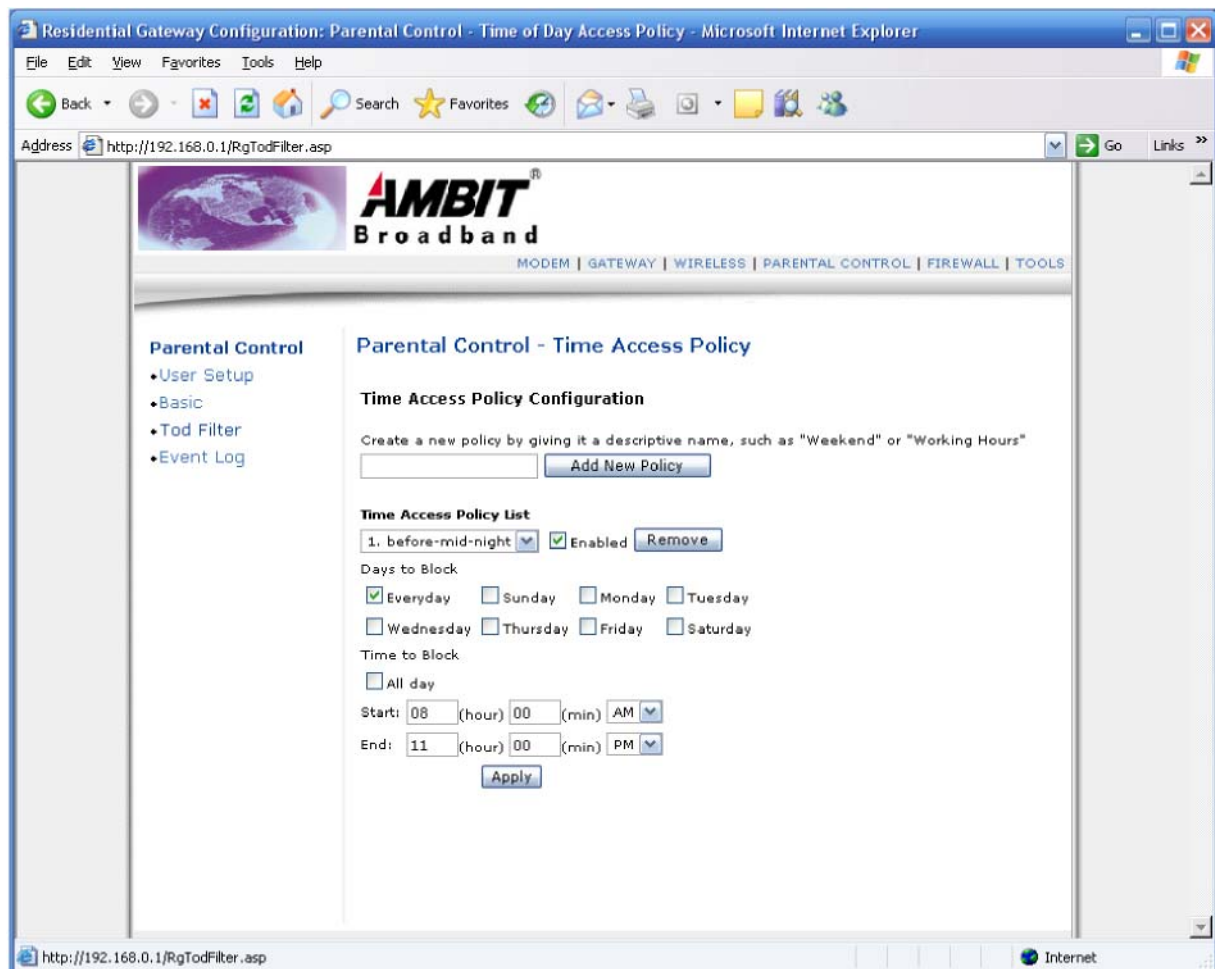
- **Remove Allowed Domain**

Select allowed domain from the list.

Click **Remove Allowed Domain** to remove allowed domain from the list.

TOD Filter

This page allows configuration of time access policies to block all internet traffic to and from specific network devices based on time of day settings.

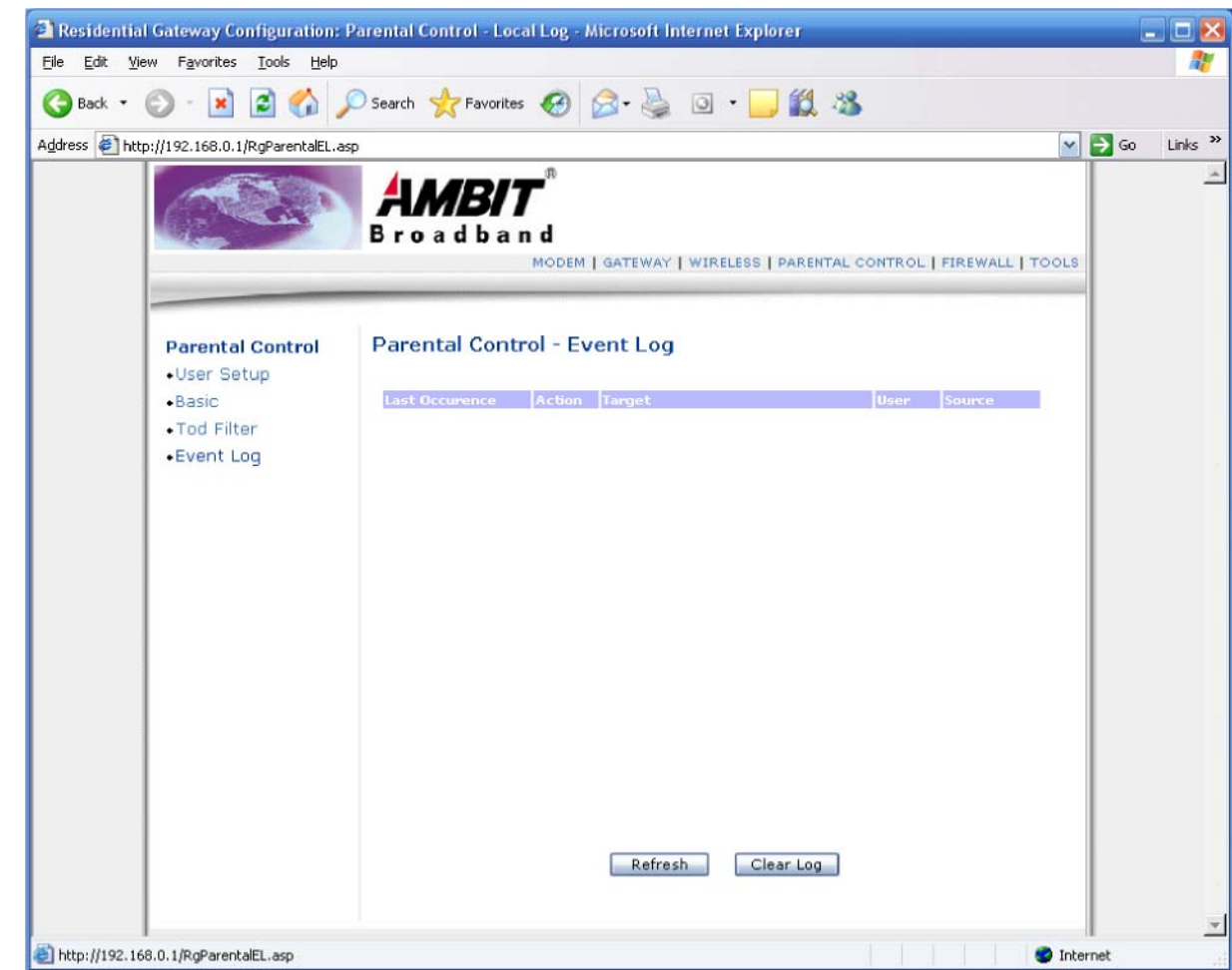


Parental Control - Time Access Policy

- **Add New Policy** Enter new policy name. Click ¹**Add New Policy** to add new time access policy.
- **Enable**
Select policy name.
Click ¹**Enable** to enable selected time access policy.
- **Remove**
Select policy name.
Click ¹**Remove** to remove selected time access policy.
- **Days to block**
Check day(s) to apply the selected time access policy from the list.
Specify start time & end time for each day.
Click ¹**Apply** to submit changes.

Event Log

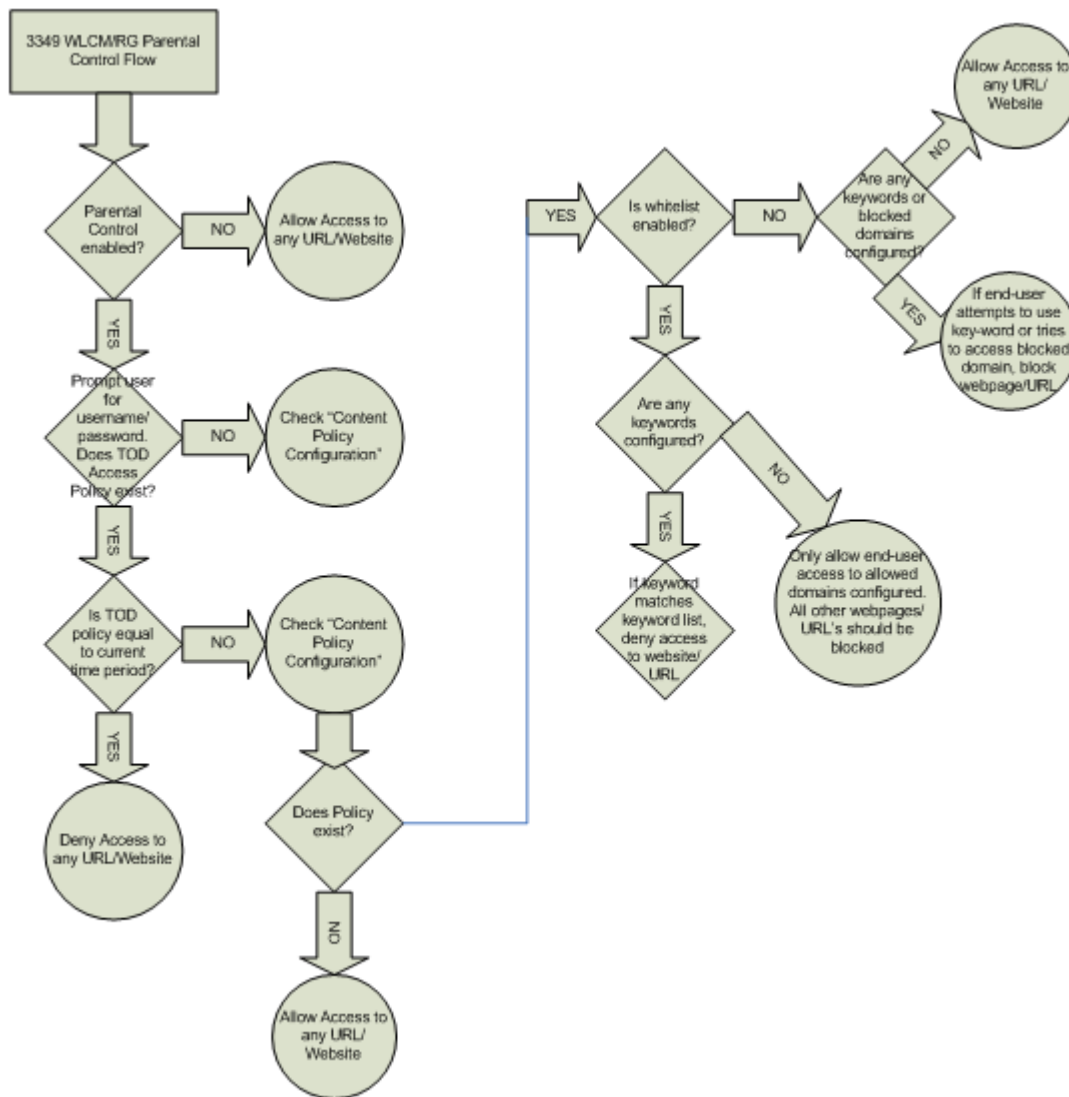
This page displays Parental Control event log reporting.



Parental Control ñ Event Log

- **Refresh**
Click to update event log.
- **Clear Log**
Click to clear event log.

Parental Control Flow



Firewall

Content Filter

This page allows certain Web-oriented cookies, java scripts, and pop-up windows to be blocked by the firewall. A list of "trusted computers" can also be defined that are not subject to any filters configured. Specific Firewall features can also be enabled. It is highly recommended that the Firewall is left enabled at all times for protection against Denial of Service attacks. Go to the Parental Control page to block internet access to specific sites.

AMBIT[®] Broadband

MODEM | GATEWAY | VPN | ROUTING | PARENTAL CONTROL | FIREWALL | TOOLS

Firewall

- Content Filter
- Event Log
- Remote Log

Firewall - Content Filter

Content Filter Settings

Filter Proxy	<input type="checkbox"/> Enable
Filter Cookies	<input type="checkbox"/> Enable
Filter Java Applets	<input type="checkbox"/> Enable
Filter ActiveX	<input type="checkbox"/> Enable
Filter Popup Windows	<input type="checkbox"/> Enable

Firewall Settings

Block Fragmented IP Packets	<input type="checkbox"/> Enable
Port Scan Detection	<input type="checkbox"/> Enable
IP Flood Detection	<input type="checkbox"/> Enable
Firewall Protection	<input type="checkbox"/> Enable
Protection against incoming connection requests on routed subnet	<input type="checkbox"/> Enable

Apply

Firewall ñ Content Filter Settings

- **Filter Proxy** Click to enable Proxy filter.
- **Filter Cookies** Click to enable Cookies filter.
- **Filter Java Applets** Click to enable Java Applets filter.
- **Filter ActiveX** Click to enable ActiveX filter.
- **Filter Popup Windows** Click to enable Popup Windows filter.

Firewall ñ Settings

- **Block Fragmented IP Packets** Click to enable blocking of Fragmented IP Packets.

"With this feature enabled, all packets are checked to determine if the packet contains a "fragment" flag. If the flag exists, the CM will discard the packet. This feature is used primarily to protect against any intruders/hackers from gaining access to the router or

network." "Under certain conditions, this feature may cause communication issues with other devices on the network and should be disabled. For example, streaming media applications may fragment the packets depending on the encoding used for the video stream. Depending on the encoding used for the clip, some or a majority of the packets will become fragmented. For clips encoded at 300 Kbps, 66% of the packets are IP fragments, while below 100 Kbps there is no fragmentation.

- **Port Scan Detection**

Click to enable blocking of Port Scan

- **IP Flood Detection**

Click to enable blocking of IP Flood.

- **Firewall Protection**

Click to enable Firewall Protection.

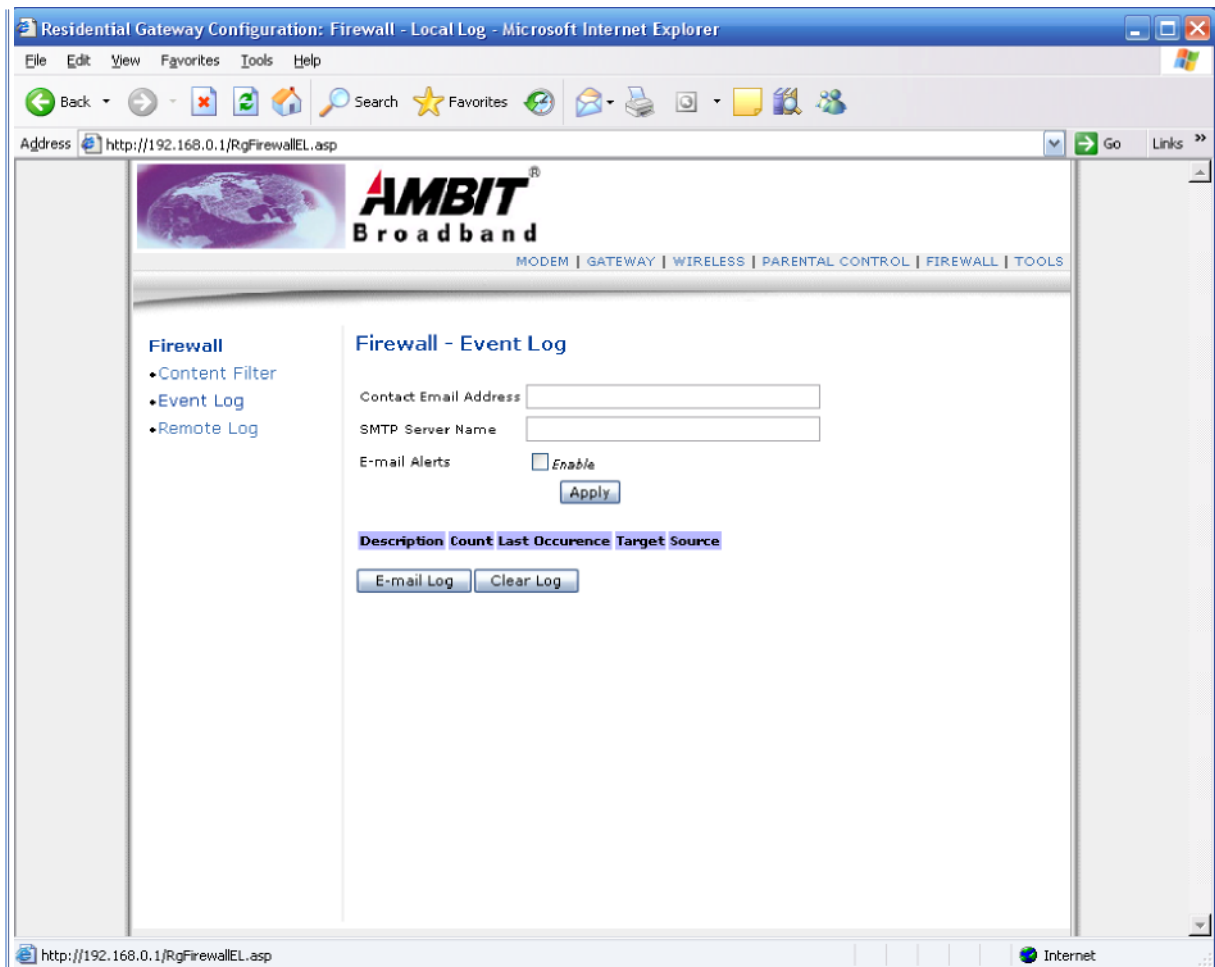
Protection against incoming connection requests on routed subnet

Click to enable protection against incoming connection requests on routed subnet

- **Apply** Click to submit changes.

Event Log

This page allows configuration of Firewall event log reporting via email alerts and a local view of the attacks on the system.



Firewall ñ Event Log

- **Contact E-mail Address**
Enter E-mail address for sending Firewall event log.
- **SMTP Server Name**
Enter SMTP Server Name for sending Firewall event log.

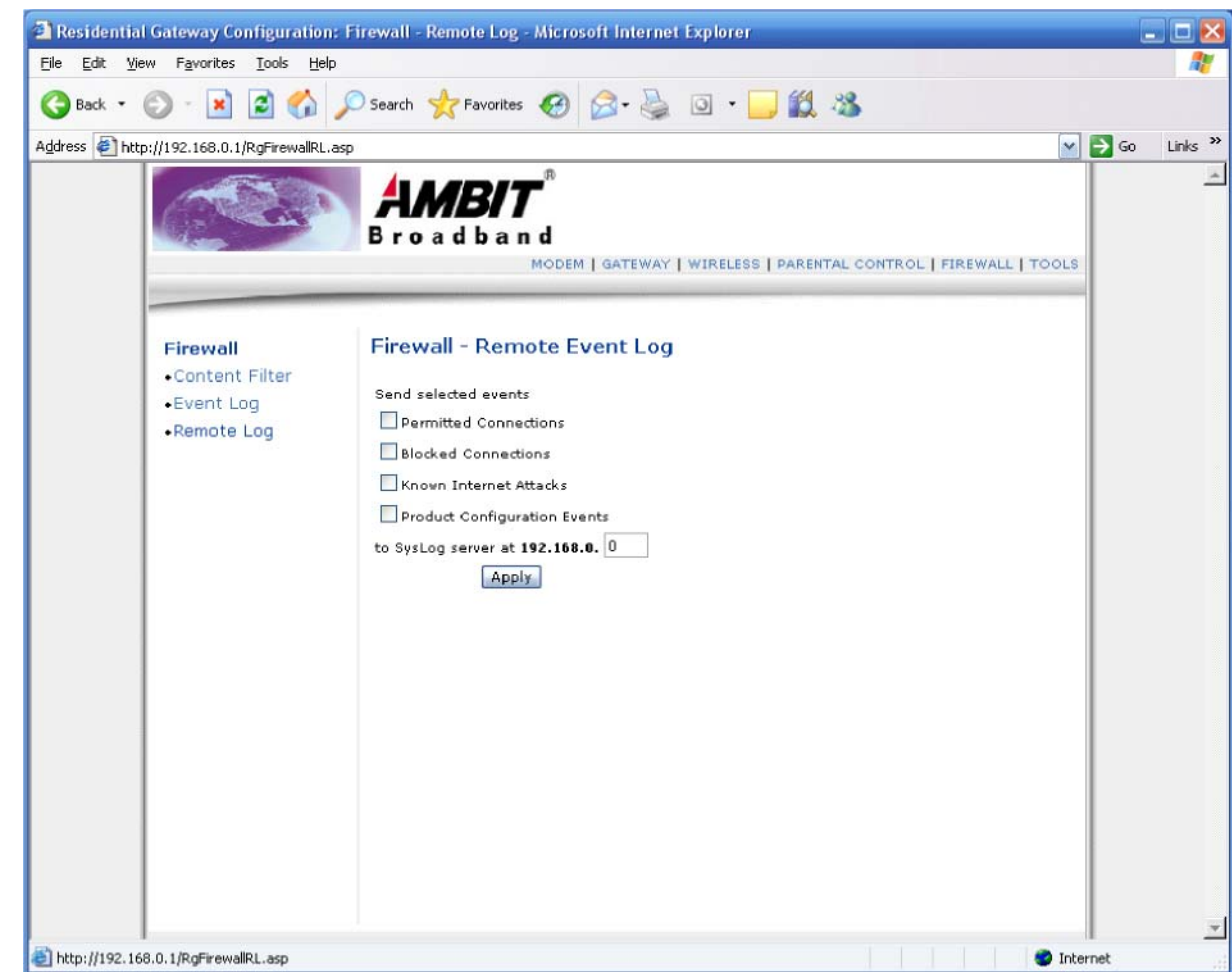
Apply

Click to submit changes.

- **E-mail Log**
Click to send current Firewall event log to e-mail address specified.
- **Clear Log**
Click to clear event log.

Remote Log

This page allows optional configuration of events to be sent to a local SysLog server.



Firewall ñ Remote Event Log

- **Permitted Connection**
Select to send permitted connection event to local SysLog server.
- **Blocked Connection**
Select to send blocked connection event to local SysLog server.
- **Known Internet Attacks**
Select to send known internet attack event to local SysLog server.
- **Production Configuration Events**
Select to send product configuration event to local SysLog server.
- **SysLog Server**
Enter local SysLog server IP address.

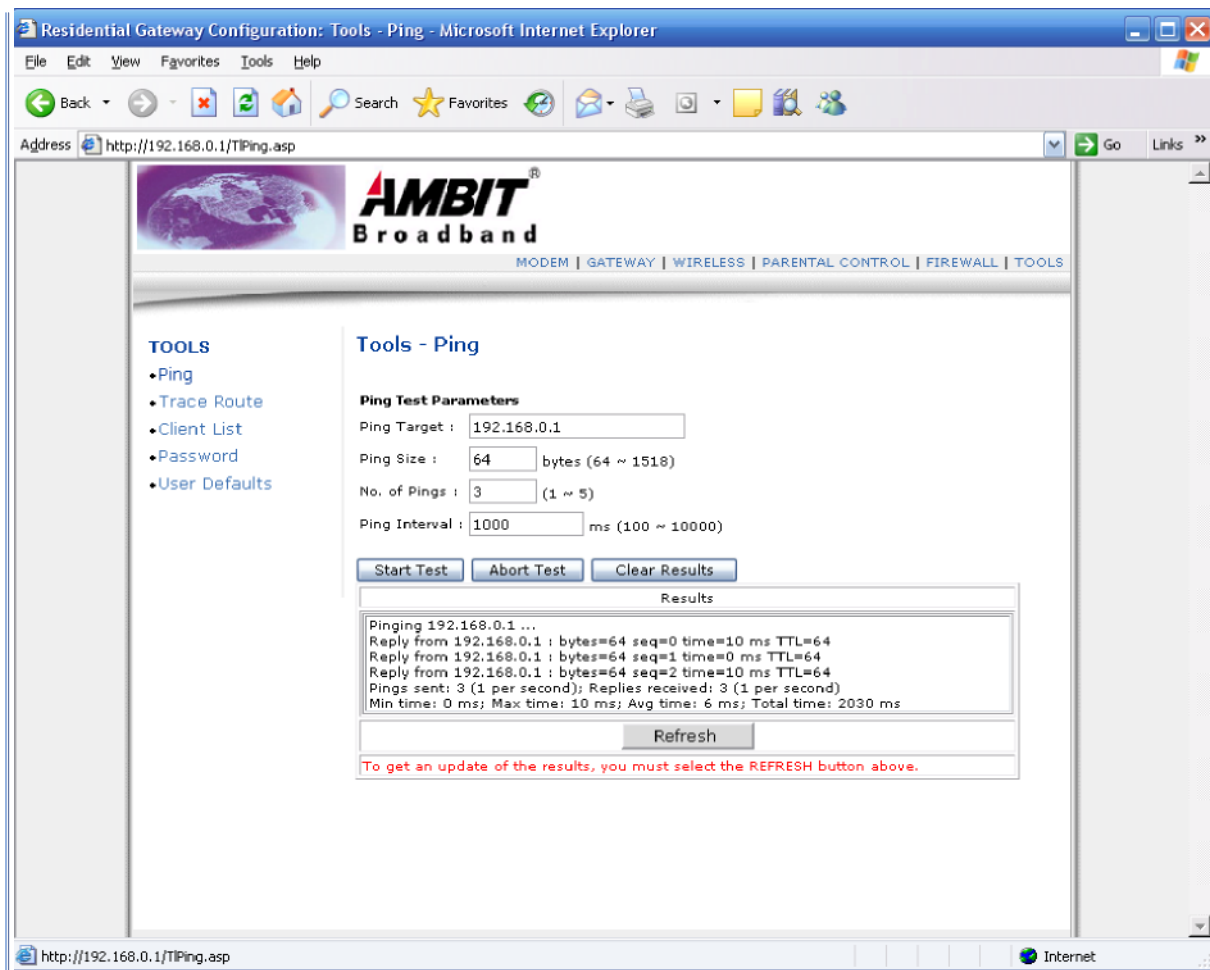
Apply

Click to submit changes.

Tools

Ping

This page provides ping diagnostics to help with IP connectivity problems.

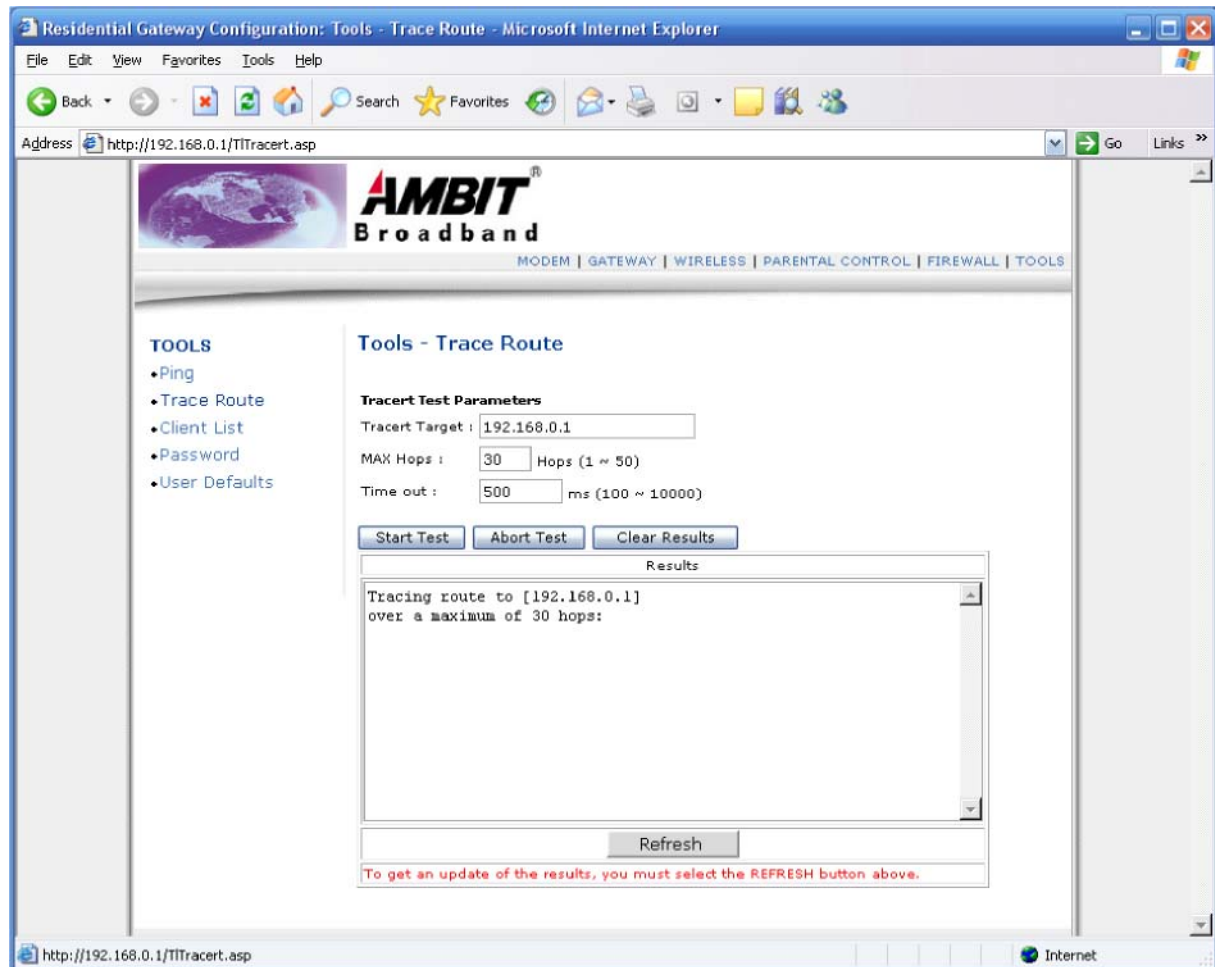


Tools - Ping

- **Ping Target**
Specify target IP address.
- **Ping Size**
Specify ping packet size in bytes.
- **No. of Pings**
Specify number of pings.
- **Ping Interval**
Specify interval between pings in ms.
- **Start Test**
Click to start ping test.
- **Abort Test**
Click to abort ping test.
- **Clear Results**
Click to clear result messages.
- **Refresh**
Click **Refresh** to get updated results.

Trace Route

This page provides trace route diagnostics to help with IP connectivity problems.



Tools ñ Trace Route

- **Tracert Target**
Specify trace route target IP address.
- **MAX Hops**
Specify maximum hops.
- **Timeout**
Specify timeout.
- **Refresh**
Click **Refresh** to get updated results.

Start Test

Click **Start Test** to start trace route test.

■ **Abort Test**

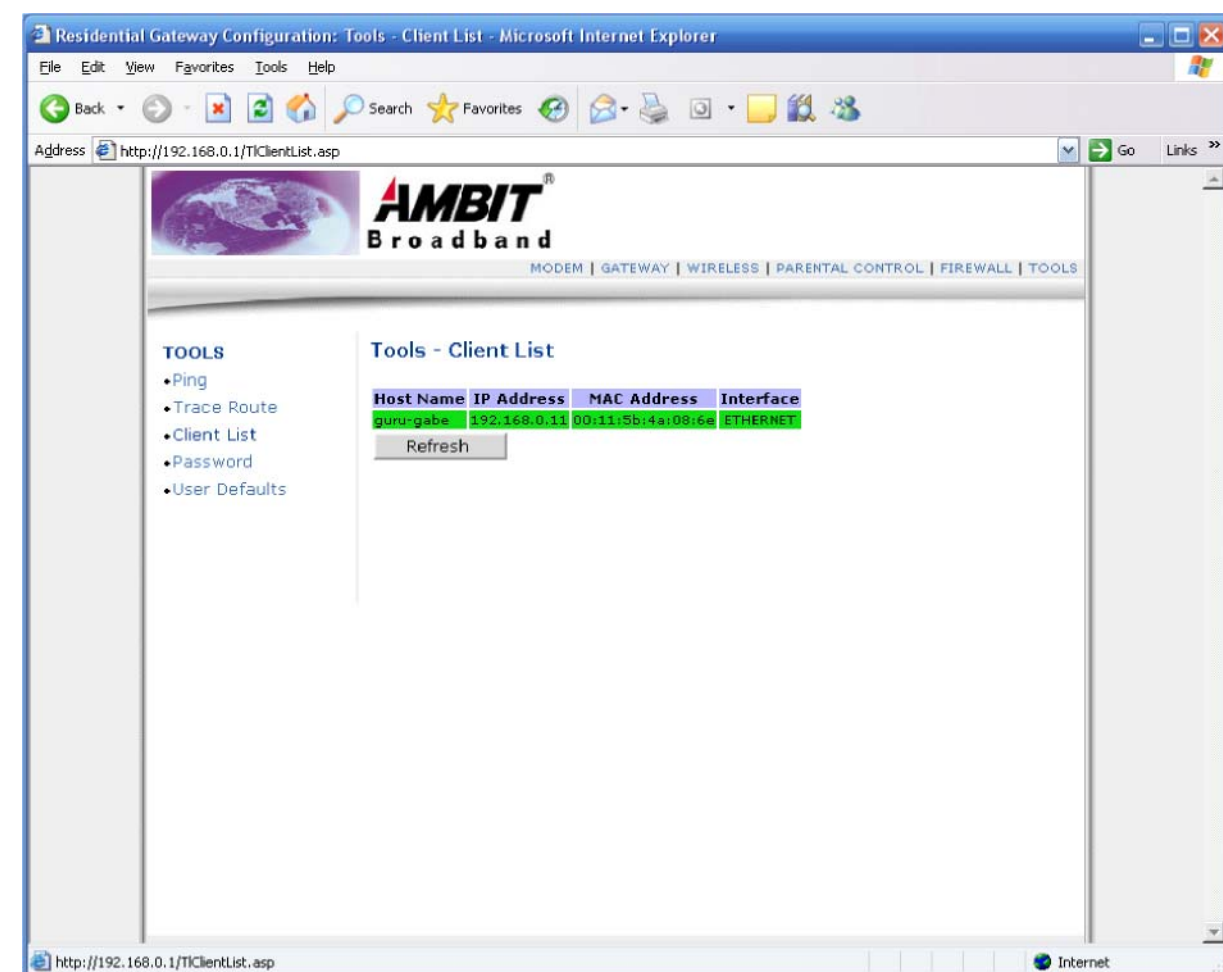
Click **Abort Test** to abort trace route test.

■ **Clear Results**

Click **Clear Results** to clear result messages.

Client List

This page shows connected computer in client list.



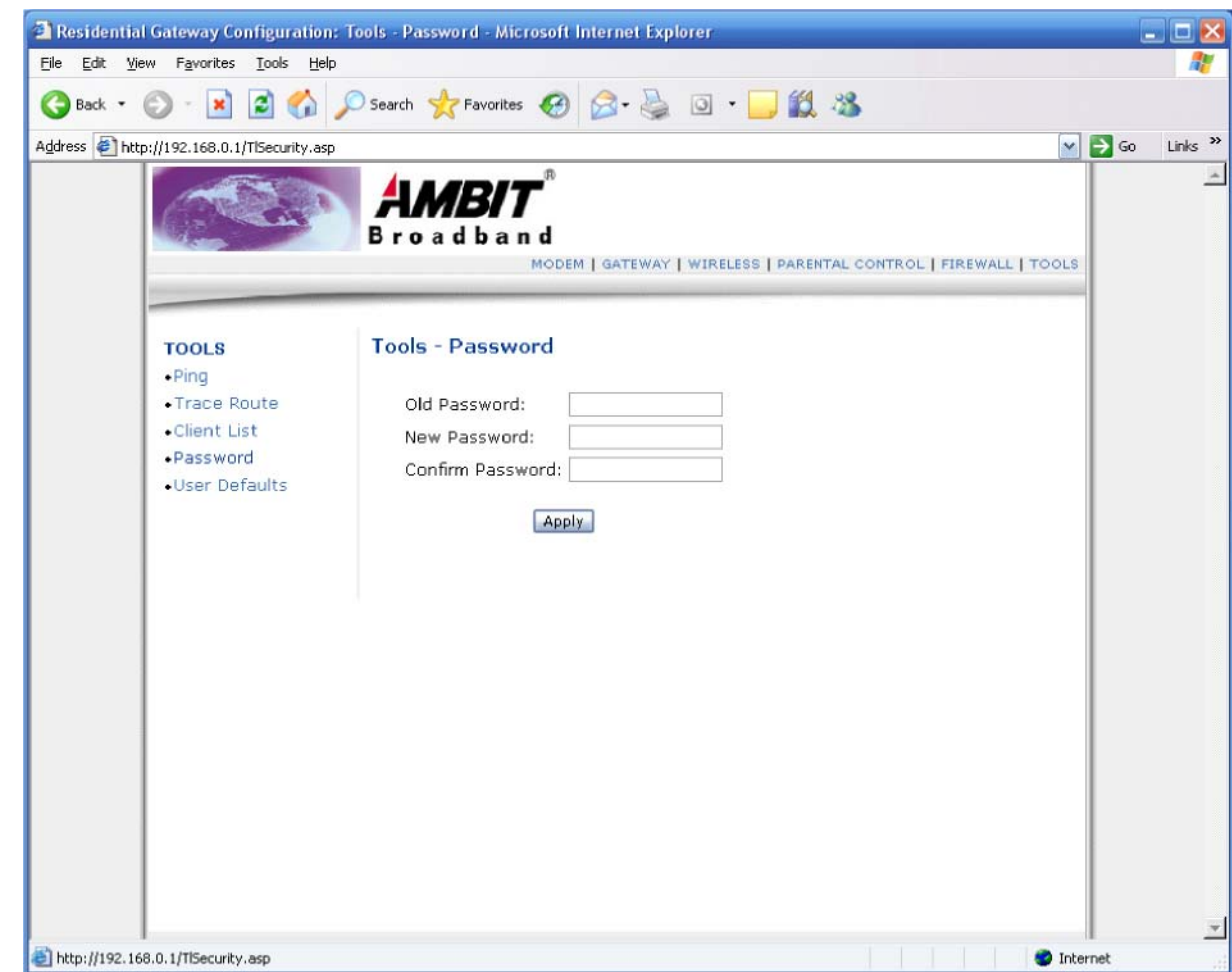
Tools ñ Client List

Refresh

Click **Refresh** to get updated results.

Password

This page allows you to change user's password.

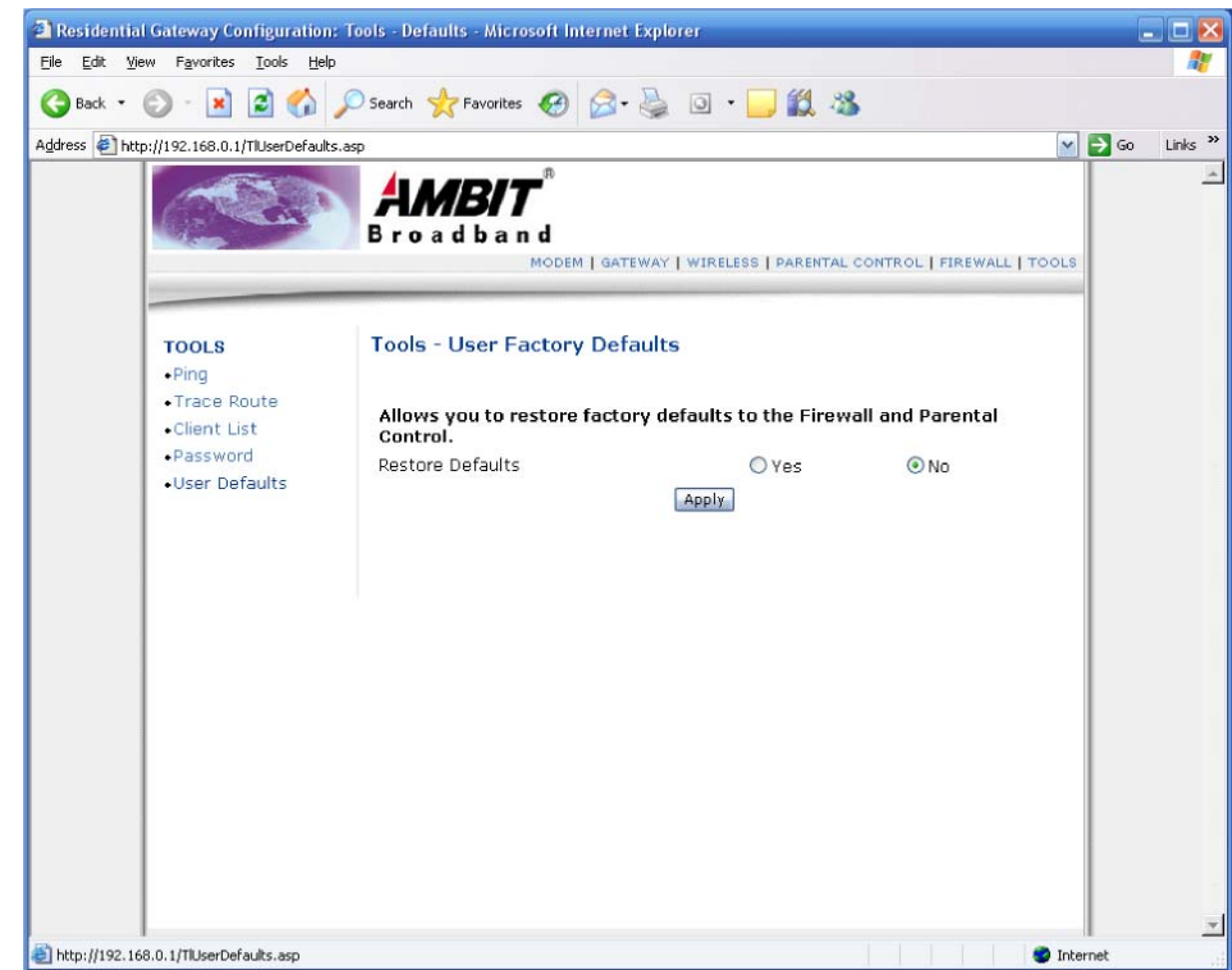


Tools ñ Password

- **Old Password**
Enter old password.
- **New Password**
Enter new password.
- **Confirm Password**
Confirm new password.
- **Apply** Click to submit changes.

Factory Defaults

This page allows you to restore user factory defaults to the system.



Tools ñ User Factory Defaults

- **Restore User Factory Defaults**
Check 'Yes' to restore user firewall and content filter to factory defaults.
- **Apply**
Click to submit changes.