WESTELL

ULTRALINE II VDSL GATEWAY (MODEL 826010)

USER GUIDE

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1. PRODUCT DESCRIPTION

Your Westell® UltraLine II VDSL Gateway is designed to provide reliable, high-speed Internet access using a variety of WAN access methods. The UltraLine II VDSL Gateway supports wireless 802.11b/g and Ethernet networking interfaces and functions as a modem enabling you to connect multiple PCs on your LAN to the Internet. The 802.11 wireless interface allows you to establish a secure wireless connection with mobile computing devices. To experience the Internet using your UltraLine II VDSL Gateway, simply connect the hardware, apply power, and perform the simple software configuration for your Internet connection.

Hereafter, the Westell® UltraLine II VDSL Gateway will be referred to as the "Gateway" or the "Modem."

2. SAFETY INSTRUCTIONS

The following important safety instructions should be applied when using your telephone equipment.

IMPORTANT: Please save these instructions.

- Do not use this product near water, for example, near a bathtub, washbowl, kitchen sink or laundry tub, in a wet basement or near a swimming pool.
- Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.
- Do not use the telephone to report a gas leak in the vicinity of the leak.
- Do not connect this equipment in an environment that is unsuitable.
- Never install any telephone wiring during a lightning storm.
- Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
- Never touch non-insulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
- Use caution when installing or modifying telephone lines.

WARNING

Risk of electric shock. Voltages up to 140 Vdc (with reference to ground) may be present on telecommunications circuits.

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3.   REGULATORY INFORMATION

3.1   FCC Compliance Note

(FCC ID: CH8A908260XX)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the Federal Communication Commission (FCC) Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. 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 equipment 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 equipment and the receiver.
- Connect the equipment to a different circuit from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Modifications made to the product, unless expressly approved by Westell Inc., could void the users' right to operate the equipment.

PART 68 – COMPLIANCE REGISTRATION

This equipment is designated to connect to the telephone network or premises wiring using a compatible modular jack that is Part 68 compliant. An FCC compliant telephone cord and modular plug is provided with the equipment. Refer to the installations instructions in this User Guide for details.

A plug and jack used to connect this equipment to the premises wiring and telephone network must comply with the applicable FCC Part 68 rules and requirements adopted by the ACTA. A compliant telephone cord and modular plug is provided with this product. It is designed to be connected to a compatible modular jack that is also compliant. Refer to the installation instructions in this User Guide for details.

If this terminal equipment (Model 826010) causes harm to the telephone network, the telephone company may request you to disconnect the equipment until the problem is resolved. The telephone company will notify you in advance if temporary discontinuance of service is required. If advance notification is not practical, the telephone company will notify you as soon as possible. You will be advised of your right to file a complaint with the FCC if you believe such action is necessary. If you experience trouble with this equipment (Model 826010), do not try to repair the equipment yourself. The equipment cannot be repaired in the field. Contact your ISP, or contact the original provider of your equipment.

The telephone company may make changes to their facilities, equipment, operations, or procedures that could affect the operation of this equipment. If this happens, the telephone company will provide advance notice in order for you to make the modifications necessary to maintain uninterrupted service.

If your home has specially wired alarm equipment connected to the telephone line, ensure that the installation of this equipment (Model 826010) does not disable your alarm equipment. If you have questions about what will disable alarm equipment, consult your telephone company or a qualified installer. This equipment cannot be used on public coin phone service provided by the telephone company. Connection of this equipment to party line service is subject to state tariffs.

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3.2 Canada Certification Notice

The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operations and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s). The department does not guarantee the equipment will operate to the user's satisfaction.

This equipment meets the applicable Industry Canada Terminal Equipment Technical Specification. This is confirmed by the registration number. The abbreviation, IC, before the registration number signifies that registration was performed based on a Declaration of Conformity indicating that Industry Canada technical specifications were met. It does not imply that Industry Canada approved the equipment. The Ringer Equivalence Number (REN) is 0.0. The Ringer Equivalence Number that is assigned to each piece of terminal equipment provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed five.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local Telecommunication Company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations. Connection to a party line service is subject to state tariffs. Contact the state public utility commission, public service commission, or corporation commission for information.

If your home has specially wired alarm equipment connected to the telephone line, ensure that the installation of this equipment (Model 826010) does not disable your alarm equipment. If you have questions about what will disable alarm equipment, consult your telephone company or a qualified installer.

If you experience trouble with this equipment (Model 826010) do not try to repair the equipment yourself. The equipment cannot be repaired in the field and must be returned to the manufacturer. Repairs to certified equipment should be coordinated by a representative, and designated by the supplier. Refer to section 20 in this User Guide for further details. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed five.

Operation of this equipment (Model 826010) is subject to the following conditions: (1) This device may not cause harmful interference, and (2) This equipment must accept any interference received, including interference that may cause undesired operation.

To reduce potential radio interference to users when a detachable antenna is used with this equipment the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (EIRP) is not more than that required for successful communication."

Users should ensure, for their own protection, that the electrical ground connections of the power utility, telephone lines, and internal, metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

⚠ **CAUTION** ⚠

Users should not attempt to make such connections themselves, but should contact the appropriate electrical inspection authority, or electrician, as appropriate.

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4. NETWORKING REQUIREMENTS

The following system specifications are required for optimum performance of the Gateway via 10/100 Base-T Ethernet or Wireless.

CONNECTION TYPE	MINIMUM SYSTEM REQUIREMENTS

ETHERNET (E1,E2,E3,E4)	• Pentium® or equivalent class or higher and above machines
	• Operating System:
	   • Microsoft Windows 98 SE or
	   • Microsoft Windows ME or
	   • Microsoft Windows 2000 (all versions and service packet levels) or
	   • Microsoft Windows XP (all versions and service packet levels) or
	   • Microsoft Server 2003 (all versions and service packet levels) or
	   • Macintosh OS X 10.1 or later or
	   • Linux installed
	• Internet Explorer 5.x or later, Netscape 7.x or later. Browsers must use HTTP 1.1 or later
	• Operating System CD on hand
	• 64 MB RAM (128 MB recommended)
	• 10 MB of free hard drive space
	• Ethernet 10/100 Base-T Network Interface Card (NIC)

WIRELESS IEEE 802.11g	• Pentium® or equivalent class or higher machines
	• Operating System:
	   • Microsoft Windows 98 SE or
	   • Microsoft Windows ME or
	   • Microsoft Windows 2000 (all versions and service packet levels) or
	   • Microsoft Windows XP (all versions and service packet levels) or
	   • Microsoft Server 2003 (all versions and service packet levels) or
	   • Macintosh OS X 10.1 or later or
	   • Linux installed
	• Internet Explorer 5.x or later, Netscape 7.x or later. Browsers must use HTTP 1.1 or later
	• Operating System CD on hand
	• 64 MB RAM (128 MB recommended)
	• 10 MB of free hard drive space
	• IEEE 802.11b/g PC adapter

5. HARDWARE FEATURES

5.1 LED Indicators

This section explains the LED states and descriptions of your Gateway. LED indicators can be used to verify the Gateway's operation and status.

LED States and Descriptions

| LED	State	Description
POWER	**Solid Green**	Gateway power is ON.
	Solid Red	Gateway is in reset mode.
	OFF	Gateway power is OFF.
ETHERNET (LAN) E1, E2, E3, E4	**Solid Green**	Powered device is connected to the associated port (includes devices with wake-on LAN capability where slight voltage is supplied to an Ethernet connection).
	Flashing Green	10/100 Base-T Ethernet LAN activity is present (LAN traffic in either direction).
	OFF	Gateway power is OFF, no cable or no powered device is connected to the associated port.
WIRELESS	**Solid Green**	Wireless is enabled and functioning.
	Flashing Green	Wireless LAN activity present (traffic in either direction).
	Off	Wireless is disabled or not functioning.
VDSL	**Solid Green**	Power on and synchronized with ISP's VDSL equipment
	Flashing Green	VDSL is attempting to sync.
	Solid Amber	Gateway is in safe-boot mode.
	Solid Red	VDSL line is failing to sync at the physical layer.
	Off	Power off, No VDSL signal detected.
INTERNET	**Solid Green**	Internet link established.
	Flashing Green	IP connection established and IP Traffic is passing through device (in either direction). Note: If the IP or PPP session is dropped due to an idle timeout, the light will remain solid green, if an ADSL connection is still present. If the session is dropped for any other reason, the light is turned OFF. The light will turn red when it attempts to reconnect and DHCP or PPP fails).
	Solid Red	Device attempted to become IP connected and failed (no DHCP response, no PPP response, PPP authentication failed, no IP address from IPCP, etc.).
	OFF	Gateway power is OFF, Gateway is in Bridge Mode, or the connection is not present.

5.2   Cable Connectors and Switch Locations

- Wireless IEEE 802.11b/g SMA connector and antenna
- VDSL connector (RJ-11)
- (4) Ethernet connectors (RJ-45)
- Reset push button
- Power connector (barrel)
- On/Off power switch
- Wireless IEEE 802.11b/g SMA connectors and antennas

Figure 1. Rear View of UltraLine II VDSL
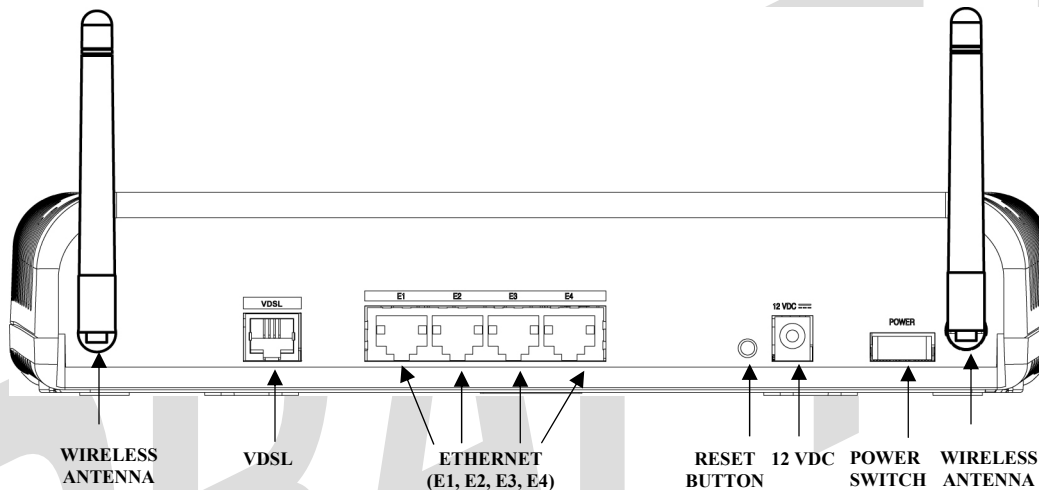
5.3   Connector Descriptions

The following chart displays the connector types for the VDSL modem.

SYMBOL	NAME	CONNECTOR TYPE	FUNCTION
Wireless	ANTENNA	SMA	Connects to wireless IEEE 802.11b/g device.
VDSL	VDSL	RJ-11	Connects from a VDSL-equipped telephone jack or modem to the UltraLine II VDSL modem.
	ETHERNET (E1, E2, E3, E4)	RJ-45	10/100 Base-T Ethernet Connection to PC or Hub.
12VDC	POWER	Barrel	Connection to DC (12V) Power Connector.

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6. INSTALLING THE HARDWARE

6.1   Installation Requirements

IMPORTANT: Please wait until you have received notification from your Internet service provider (ISP) that your VDSL line has been activated before installing your Gateway and software.

To install your VDSL Gateway, you will need one of the following:

- Network Interface Card (NIC) installed in your PC
- IEEE 802.11b/g adapter
- Active VDSL line

6.2   Before you begin

Make sure your kit contains the following items:

- Westell® UltraLine II VDSL Gateway
- 12 VDC Power Supply
- RJ-45 Ethernet cable
- RJ-11 telephone cable
- (2) SMA antennas
- Westell CD-ROM containing User Guide in PDF format
- Quick Start Guide

6.3   Microfilters

DSL (Digital Subscriber Line) signals must be blocked from reaching each telephone, answering machine, fax machine, computer modem or any similar conventional device. Failure to do so may degrade telephone voice quality and DSL performance. Install a microfilter if you desire to use the DSL-equipped line jack for telephone, answering machine, fax machine or other telephone device connections. Microfilter installation requires no tools or telephone rewiring. Just unplug the telephone device from the baseboard or wall mount and snap in a microfilter, next snap in the telephone device. You can purchase microfilters from your local electronics retailer, or contact the original provider of your DSL equipment.

6.4   Hardware Installations

> **IMPORTANT:**
>
> 1. Before you connect via 10/100 Base-T, you must have an available Ethernet card installed in your computer. If your Ethernet card does not auto-negotiate, set it to half duplex. Refer to the Ethernet card manufacturer's instructions for installing and configuring your Ethernet card.
>
> 2. When using a Microfilter, confirm that the VDSL RJ-11 phone cable is connected to the DSL port of the DSL/HPN non-filtered jack.
>
> 3. Westell recommends the use of a surge suppressor to protect equipment attached to the power supply. Use only power supply provided with your kit.
>
> 4. Additional Ethernet cables may be required depending on the installation method you are using. Ethernet cables and filters can be purchased at your local computer hardware retailer.

6.4.1   Installation via Ethernet

To network the Gateway using an Ethernet only installation, you will need to do the following:

1. Connect the power supply cord to the power connector marked **12 VDC** on the rear panel of the Gateway. Plug the other end of the power supply into an AC wall socket, and then turn on the power switch.

2. Connect the Ethernet cable (provided with your kit) from any one of the four Ethernet jacks marked **ETHERNET** on the rear panel of the Gateway to the Ethernet port on your computer. Repeat this step to connect up to three additional PCs to the Gateway.

   > **NOTE:** Use any of the four Ethernet jacks on the Gateway's rear panel; each jack serves as an Ethernet switch.

3. Connect the RJ-11 phone cable from the connector marked **VDSL** on the rear panel of the Gateway to the VDSL-equipped jack on the wall. Please use the RJ-11 phone cable that was provided with your kit.

   > **IMPORTANT:** If you use a microfilter, you must plug the RJ-11 phone cable from the Gateway into the DSL port of the microfilter.

4. Check to see if the Gateway's **POWER** LED is solid green. This indicates that the Gateway is powered on.

5. Check to see if the Gateway's **ETHERNET** LED is solid green. Solid green indicates that the Ethernet connection is functioning properly. Check the **ETHERNET** LED for each Ethernet jack to which you are connected at the rear of the Gateway.

6. Check to see if the Gateway's **VDSL** LED is solid green. This means the VDSL connection is working properly.

7. After you have logged in to you account and established an Internet connection, as explained later in section 8, check to see if the Gateway's **INTERNET** LED is solid green. Solid green indicates that the Internet link has been established. (Flashing green indicates the presence of IP traffic.)

Congratulations! You have completed the Ethernet installation for your Gateway. Next, proceed to section 8 for instructions on configuring your Gateway for Internet connection.

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6.4.2   Connecting PCs via Wireless

IMPORTANT:

1. If you are connecting to the Gateway via a wireless network adapter, the SSID must be the same for both the Gateway and your PC's wireless network adapter. The default SSID for the Gateway is the serial number of the unit (located below the bar code on the bottom of the unit and also on the Westell shipping carton). Locate and run the utility software provided with your PC's Wireless network adapter and enter the SSID value. The PC's wireless network adapter must be configured with the SSID (in order to communicate with the Gateway) before you begin the connection setup and configuration procedures. Later, for privacy you can change the SSID.

2. Client PCs can use any Wireless 802.11b/g certified card to communicate with the Modem. The Wireless card and Gateway must use the same security code type. **If you use WPA-PSK or WEP wireless security, you must configure your computer's wireless adapter for the security code that you use. You can access the settings in the advanced properties of your wireless network adapter.**

3. Be sure to enter the default WEP key into your wireless adapter. The WEP key is located below the barcode on the bottom of your Gateway.

To network the Gateway to additional computers using wireless installation, you will need to do the following:

1. Ensure that an 802.11b/g wireless network adapter has been installed in each PC on your wireless network.

2. Install the appropriate drivers for your Wireless IEEE802.11b or IEEE802.11g adapter.

3. Orient the antenna in the proper configuration on the antenna connector. Then, tighten the antenna knob to lock it into place. Do this for both antennas.

4. Connect the power supply cord to the power connector marked **12 VDC** on the rear panel of the Gateway. Plug the other end of the power supply into an AC wall socket, and then turn on the power switch.

5. Connect the Ethernet cable (provided with your kit) from any one of the four Ethernet jacks marked **ETHERNET** on the rear panel of the Gateway to the Ethernet port on your computer. Repeat this step to connect up to three additional PCs to the Gateway.

   NOTE: Use any of the four Ethernet jacks on the Gateway's rear panel; each jack serves as an Ethernet switch.

6. Connect the RJ-11 phone cable from the connector marked **VDSL** on the rear panel of the Gateway to the VDSL-equipped jack on the wall. Please use the RJ-11 phone cable provided with your kit.

   IMPORTANT: If you are using a microfilter at the wall jack, you must plug the RJ-11 phone cable from the Gateway into the DSL port of the microfilter.

7. Check to see if the Gateway's **POWER** LED is solid green. This indicates that the modem is powered on.

8. Check to see if the modem's **ETHERNET** LED is solid green. Solid green indicates that the Ethernet connection is functioning properly. Check the **ETHERNET** LED for each Ethernet jack to which you are connected at the rear of the VDSL modem.

9. Check to see if the modem's **WIRELESS** LED is solid green. This means that the Wireless interface is functioning properly. (Flashing green indicates the presence of Wireless IP traffic in either direction.)

10. Check to see if the Gateway's **VDSL** LED is solid green. This means the VDSL connection is working properly.

11. After you have logged in to your account and established an Internet connection, as explained later in section 8, check to see if the modem's **INTERNET** LED is solid green. Solid green indicates that the Internet link has been established. (Flashing green indicates the presence of IP traffic in either direction.)

Congratulations! You have completed the Wireless installation for your Gateway. Next, proceed to section 8 for instructions on configuring your Gateway for Internet connection.

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7. SETTING UP MACINTOSH OS X

As of 8/3, this section is TBD. Delfino will review this section and provide feedback in a couple of weeks.

This section provides instructions on how to use Macintosh Operating System 10 with the Modem. Follow the instructions in this section to create a new network configuration for Macintosh OS X.

IMPORTANT: Macintosh computers must use the Gateway's Ethernet installation. Refer to section 6, "Installing the Hardware."

7.1 Opening the System Preference Screen

After you have connected the Westell Gateway to the Ethernet port of your Macintosh, click the "**Apple**" icon in the upper-right corner of the screen and select **System Preferences**.
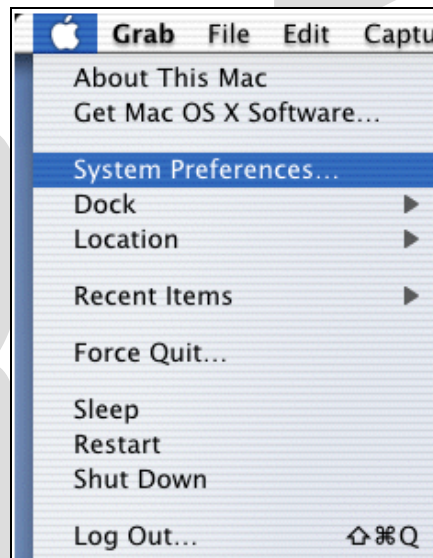

7.2 Choosing the Network Preferences

After selecting **System Preferences…**, from the previous screen, the **System Preferences** screen will be displayed. From the **System Preferences** screen, click the **Network** icon.

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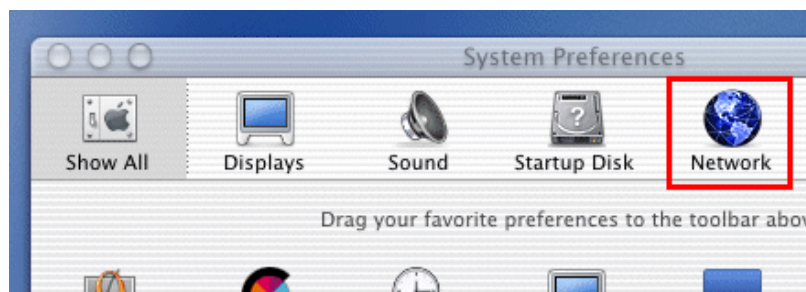
7.3   Creating a New Location

After selecting the **Network** icon at the **System Preferences** screen, the **Network** screen will be displayed. Select **New Location** from the **Location** field.
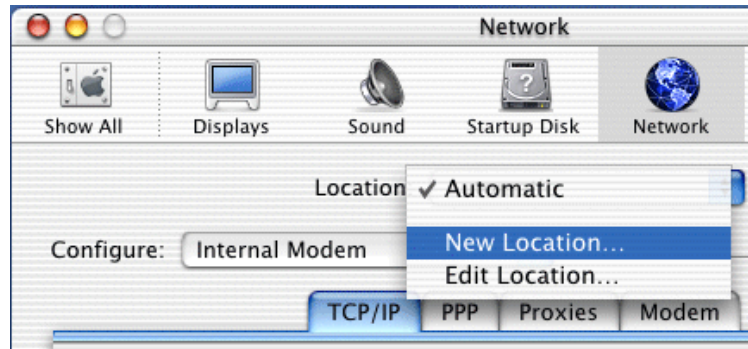

7.4   Naming the New Location

After selecting **New Location** from the **Network** screen, the following screen will be displayed. In the field labeled **Name your new location:**, change the text from "**Untitled**" to "**Westell**." Click **OK**.

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7.5 Selecting the Ethernet Configuration

If you clicked **OK** in the preceding screen, the **Network** screen will be displayed. The **Network** screen shows the settings for the newly created location. From the **Configure** field in the **Network** screen, select **Built-in Ethernet**. Click **Save**.

**NOTE:** Default settings for the Built-in Ethernet configuration are sufficient to operate the Modem.
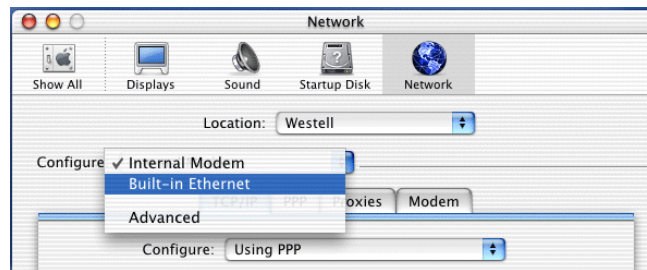
7.6 Checking the IP Connection

To verify that the computer is communicating with the Gateway, follow the instructions below.

1. Go to the "**Apple**" icon in the upper-right corner of the screen and select **System Preferences**.

2. From the **System Preferences screen**, click the **Network** icon. The **Network** screen will be displayed.

3. From the **Configure** field in the **Network** screen, select **Built-in Ethernet**.

4. View the IP address field. An IP address that begins with **192.168.1** should be displayed.

NOTE: The DHCP server provides this IP address. If this IP address is not displayed, check the Gateway's wiring connection to the PC. If necessary, refer to section 5 for hardware installation instructions.

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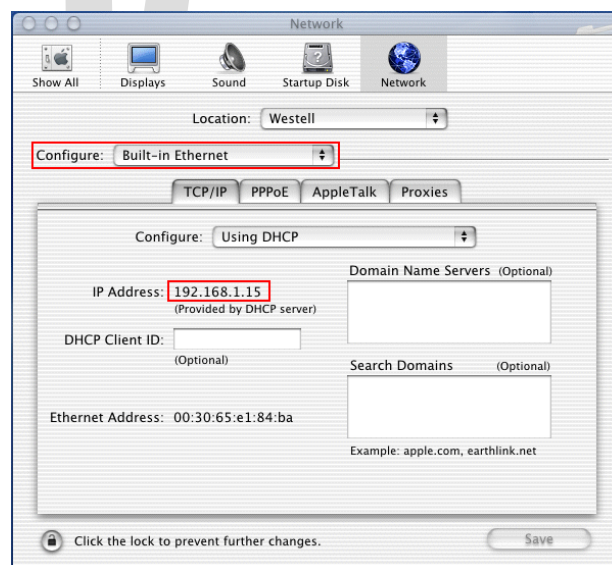
7.7 Accessing the Gateway's User Interface

To access your Gateway's user interface from your Macintosh, first start your web browser. Next, type **http://dslrouter/** in the browser's address bar and press **Enter** on your keyboard.
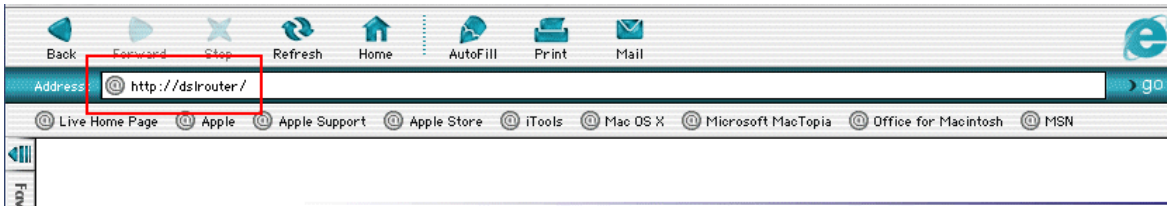
After you have accessed the Gateway's user interface, the following screen will be displayed. Proceed to section 8 to confirm you VDSL sync, set up your connection profile, and connect to the Internet.
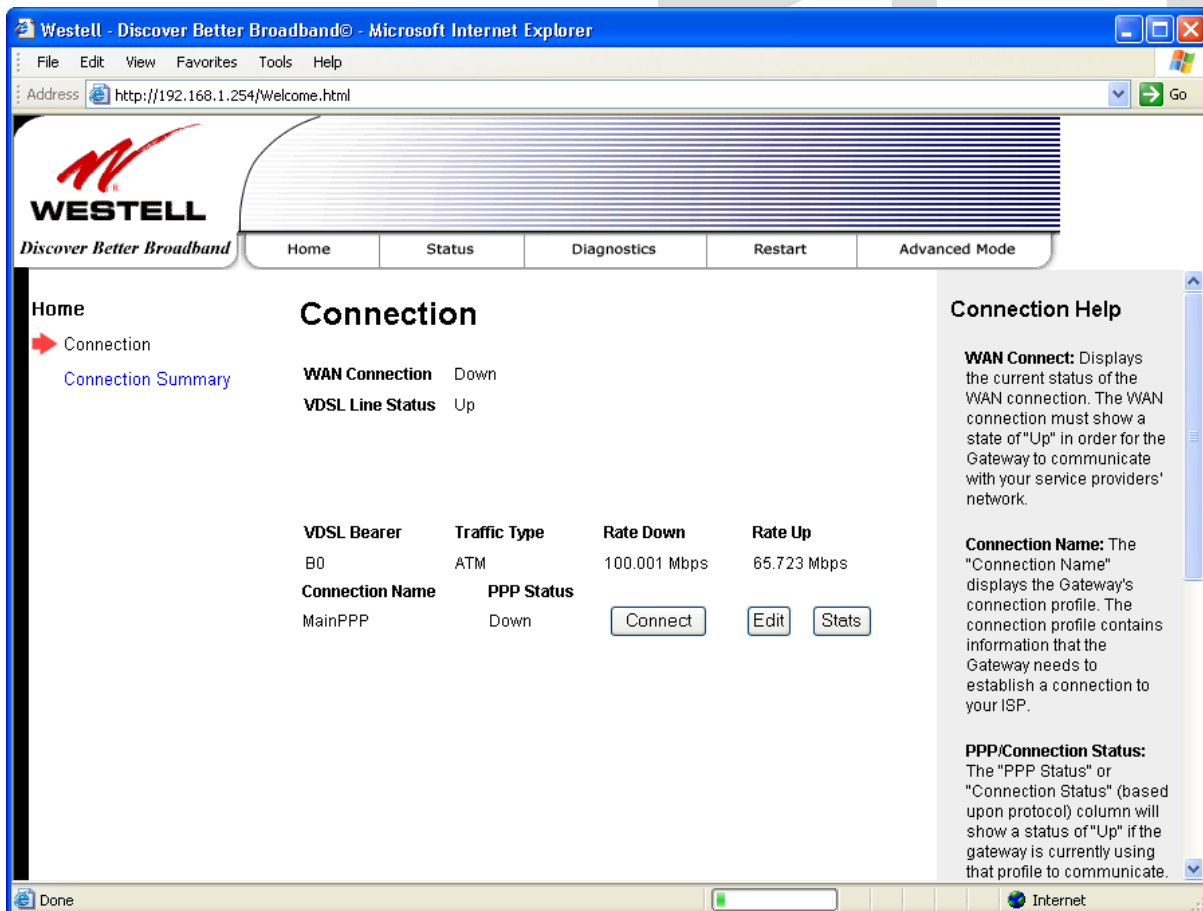
8. CONFIGURING YOUR GATEWAY FOR INTERNET CONNECTION

This section explains the procedures for accessing your VDSL Gateway, setting up you connection profile, and establishing a WAN connection with you Internet service provider (ISP). Refer to this section whenever you need to access or make changes to your Gateway or Firewall settings.
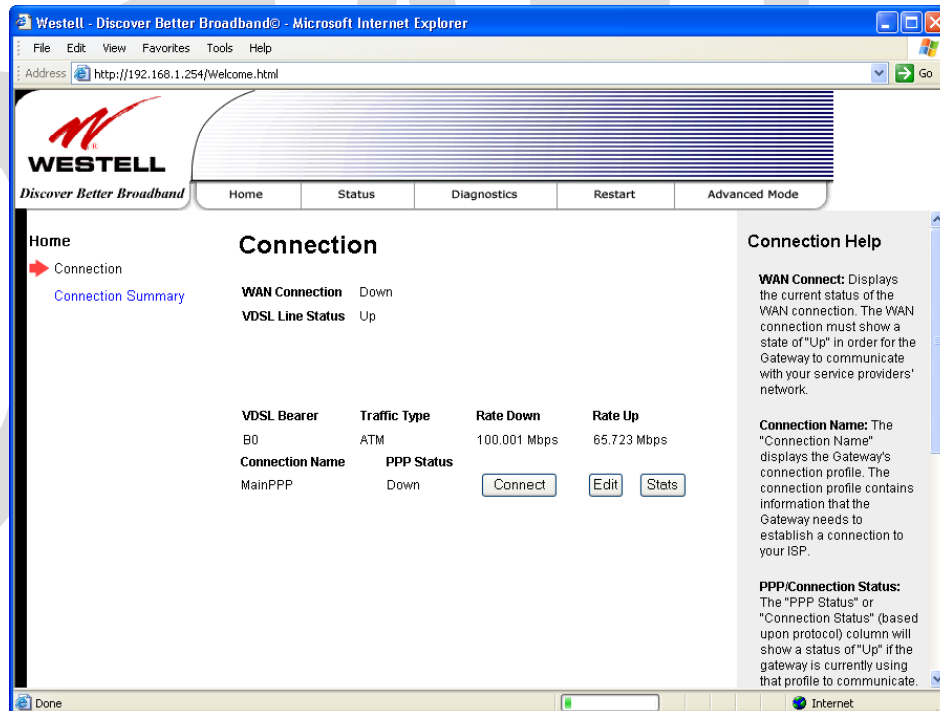
8.1   Accessing your VDSL Gateway

IMPORTANT: Your Gateway has the capability of automatically sensing protocol type (DHCP or PPPoE). This process is designed to start after you have connected your Gateway. To access the Gateway, your PC must be configured for DHCP. Refer to your Microsoft Windows help screen for information on configuring your computer for DHCP. Click Start, then click Help to access the Microsoft Windows help screen.

To access your VDSL Gateway, start your web browser and then type the following IP address in the browser's address bar:

http://192.168.1.254

After you type the IP address, press **Enter** on your keyboard. The following screen will appear. Next, proceed to section 8.2 to confirm your VDSL sync.
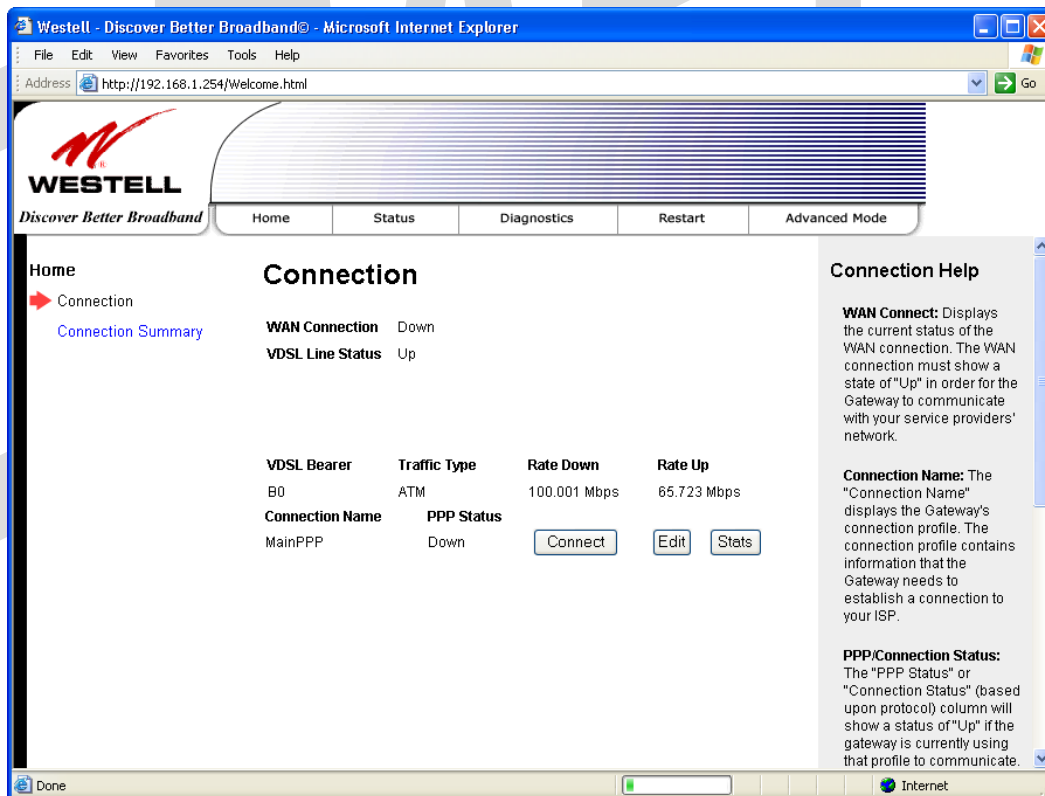
8.2   Confirming Your VDSL Sync

Your Gateway must first establish a VDSL sync with your service provider's equipment in order to have Internet access. To determine if your Gateway has established a VDSL sync, check the following:

- At the front of the Gateway, check to see if the Gateway's **VDSL** LED is solid green. Solid green indicates that a VDSL sync has been established. (The **VDSL** LED may flash while the connection is being established.)
- At the **Connection** screen, check the VDSL Line Status. If the status displays **Down,** you do not have a VDSL connection. If the **Rate Down/Rate Up** fields display numeric values, a VDSL sync has been established, and the VDSL Line Status should display **Up**.

IMPORTANT: Confirm that the VDSL Line Status displays **Up** before proceeding with the Gateway's configuration. If you do not have a VDSL sync, first check your physical connections (refer to section 6, "Installing the Hardware," if needed). Then, if the problem persists, contact your ISP for further instructions.

After you have confirmed that your VDSL Line Status is **UP**, proceed to section 8.3, "Setting Up Your Connection Profile."

NOTE: If your Gateway has established a VDSL sync and if you are connecting via DHCP, follow the instructions provided by your Internet service provider to connect to the Internet. However, if you are connecting to the Internet via PPP, proceed to section 8.3 to set up your connection profile.

8.3   Setting Up Your Connection Profile

After you have confirmed your VDSL sync, you are ready to set up your connection profile. When connecting to the Internet via PPP, you will use your connection profile to identify yourself to your ISP. Connection profiles can be associated with specific service settings such as connection settings or NAT services, enabling you to customize your Gateway for specific users.

IMPORTANT: Before you set up a connection profile, obtain your **Account ID** and **Account Password** from your Internet service provider. You will use this information when you set up your account parameters. If you are at a screen and need help, refer to the **Help** section located at the right of the screen.

Click **Edit** to begin your profile set up.
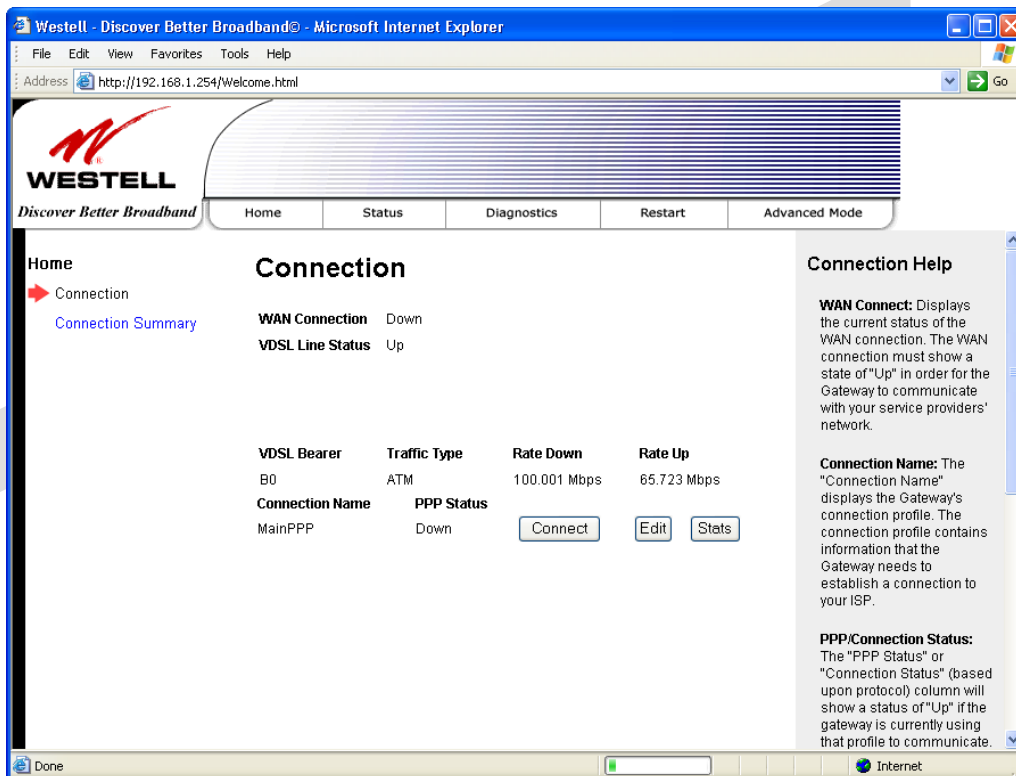
If you clicked **Edit**, the following screen will be displayed. This screen enables you to add new connection profiles or to edit existing connection profiles in your account. The **Connection Name** field enables you to enter the desired name that you wish to use for each profile that you set up. You may create and store up to eight unique connection profiles in your Gateway, which you can use once you establish a PPP session with your ISP.

Profile Parameters include:

- **Connection Name**-the Connection Name is a word or phrase that you use to identify your account. (You may enter up 64 characters in this field.)

- **Account ID**-the Account ID is provided by your Internet Service Provider. (You may enter up 255 characters in this field.)

- **Account Password-**the Account Password is provided by your Internet Service Provider. (You may enter up 255 characters in this field.)
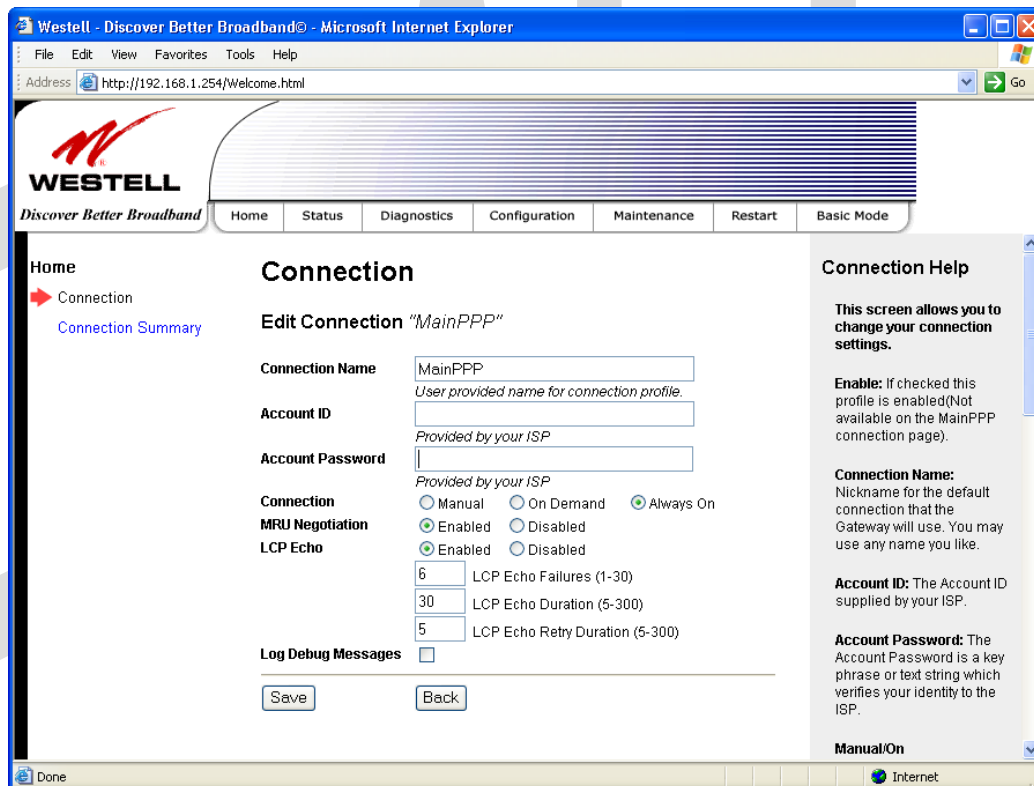
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At the **Edit Connection** screen, complete the following steps to set up your connection profile:

1. Type your **Connection Name, Account ID** and **Account Password** in the fields provided. The Account Password field will be masked with asterisks for security.

    > **NOTE:** The Connection Name is the name that you will use for this connection profile. The Account ID and Account Password are provided by your Internet service provider.

2. At the field labeled **Connection**, select the connection type (Manual, On Demand, Always On) that you want to associate this Connection Name. The factory default Connection Name is "MainPPP. The factory default connection setting is "Always On." You can change the default connection setting, if desired. (Connection settings are explained in the following table.)

3. Select the MRU Negotiation and LCP settings that you want to use for this connection. For details on these settings, refer to the following table.

4. Click **Save** to save any changes that you have made to this screen.

5. Click **Back** to return to the main **Connection** screen.

> **NOTE:** If you click **Back** before you click **Save,** the previously saved settings will remain active, and any recent changes that you have made to this screen will not take effect. You must click **Save** to save the settings.

Connection	
Edit Connection	Factory Default = MainPPP The name of the default connection profile. Westell recommends that you use the Default parameter.
Connection Name	This field allows you to enter a new connection name of your choice (up to 64 characters).
Account ID	The account ID (provided by your Internet service provider).
Account Password	The account password that you are using to connect to your Internet service provider (provided by your Internet service provider).
Connection	Factory default = Always On Manual: Selecting this feature allows you to manually establish your PPP session. On Demand: Selecting this feature allows the Modem to automatically re-establish your PPP session on demand anytime your PC requests Internet activity (for example, browsing the Internet, email, etc.). When you have traffic, it may cause a delay. Always On: Selecting this feature allows the Modem to automatically establish a PPP session when you log on or if the PPP session goes down.
MRU Negotiation	Factory Default = Enabled When Enabled, the Maximum Received Unit (MRU) will enforce MRU negotiations. If Disabled, this function will not be activated.
LCP Echo	Factory Default = Enable If 'Disabled' is selected, this option will disable the Modem LCP Echo transmissions.
LCP Echo Failures	Factory Default = 6 Indicates number of continuous LCP echo non-responses received before the PPP session is terminated. This value must be between 1 and 30 inclusive.
LCP Echo Duration	Factory Default = 30 The interval between LCP Echo transmissions with responses. This value must be between 5 and 300 seconds inclusive and greater than or equal to the Retry Duration.
LCP Echo Retry Duration	Factory Default = 5 The interval between LCP. Echo after no response. This value must be between 5 and 300 seconds inclusive.
Log Debug Messages	Factory Default = Disabled When Enabled (box is checked), the Modem will send log debug messages to the syslog server.

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8.4   Establishing a WAN Connection

If you clicked **Save** (to save your connection profile) and then clicked **Back** in the preceding **Connection** screen, the following **Enter Network Password** screen will be displayed. Type the default **User Name** (which is bellsouthtech) and default **Password** (which is be11s0uth) into the fields provided. Click **OK** to continue.

IMPORTANT: Notice the 1's and the 0 used the network password. You must enter this network password before you can establish a WAN Connection. Your Internet service provider will provide you with these values.
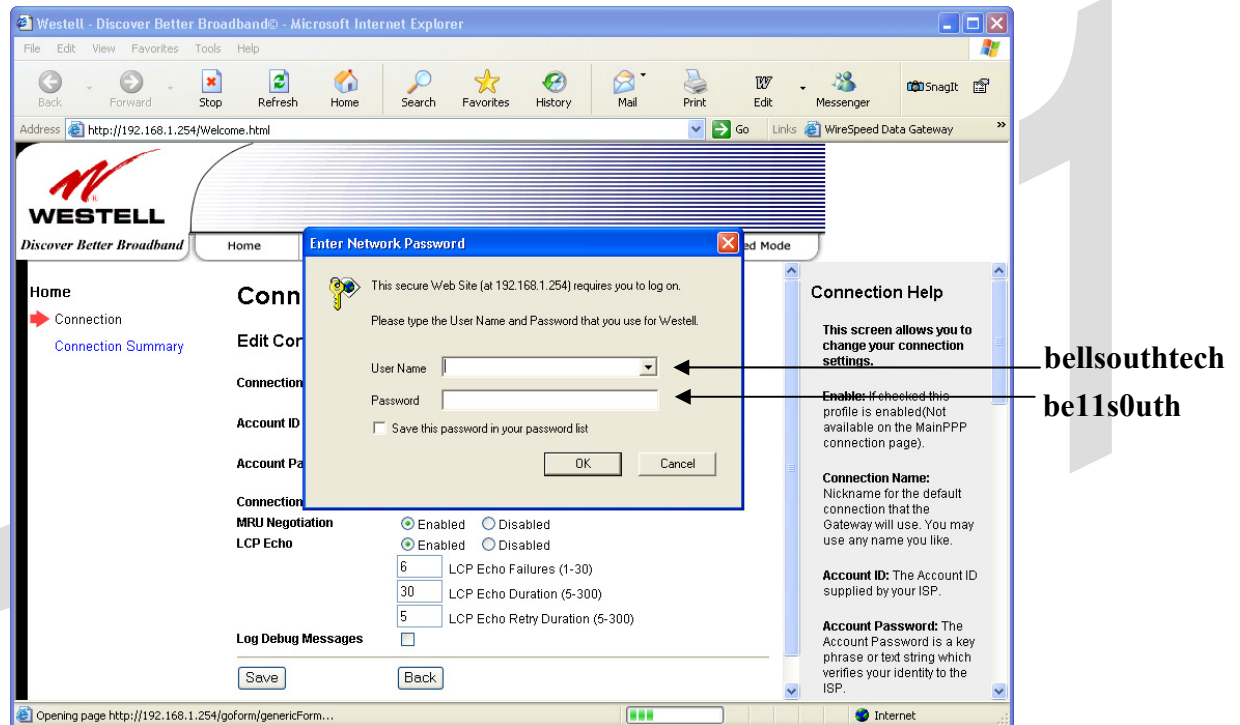

After you have entered your network name and password and clicked **OK** in the preceding screen, the following **Connection** screen will appear. At the **Connection** screen, confirm that the **WAN Connection** field displays **Up.** When **WAN Connection** displays **Up**, this means that you have established a PPP session with your Internet service provider (ISP). If **WAN Connection** displays **Down,** ensure that the **VDSL Line Status** field displays **Up,** and then click **Connect** to establish a PPP session with your ISP. After a PPP session has been established, the **WAN Connection** field should display **UP.** (Note: The VDSL Line Status must be **Up** in order to establish WAN connectivity.)

IMPORTANT: Whenever the **WAN Connection** field displays **Down,** you do not have a PPP session established. If your Gateway's connection profile is set to "Always On" or "On Demand," after a brief delay, the PPP session will be established automatically and the **WAN Connection** field will display **Up.** If the connection setting is set to "Manual," you must click the **Connect** button to establish a PPP session. Once the PPP session has been established (**WAN Connection** displays **UP**), you can proceed with your Gateway's configuration. **(**Refer to the preceding **Edit Connection** screen if you desire to change your connection settings.) The factory default connection setting is "Always On."

The following screen displays **Up** in the **PPP Status** field. This indicates that **MainPPP** is the active connection profile and that you have established a PPP session with your ISP.

NOTE: If you experience problems establishing a WAN Connection, contact your ISP for further instructions.
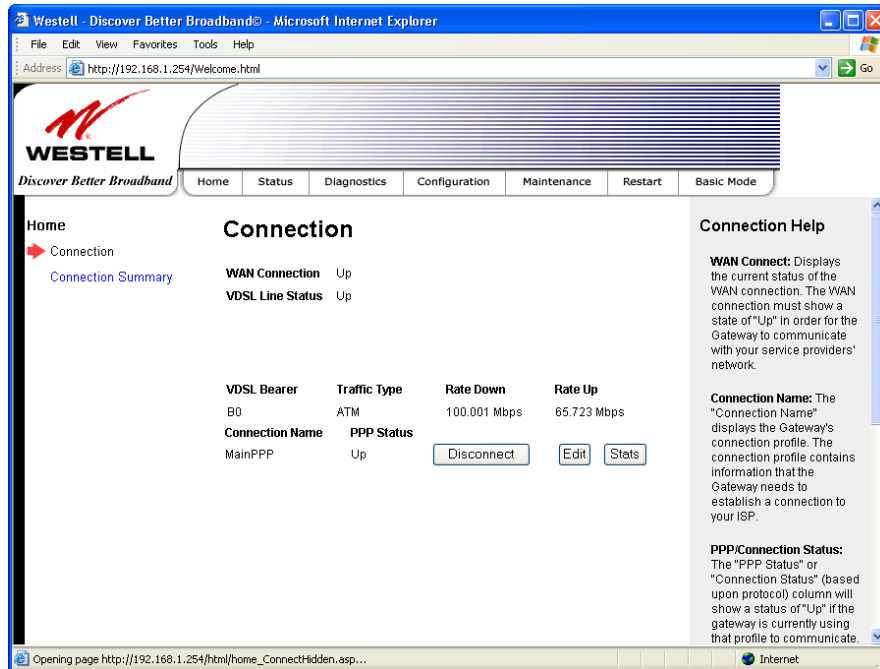
If you click the **Stats** button, the following screen will be displayed. This screen displays the statistics for the selected PPP connection. When you have finished viewing this screen, click **Back.**
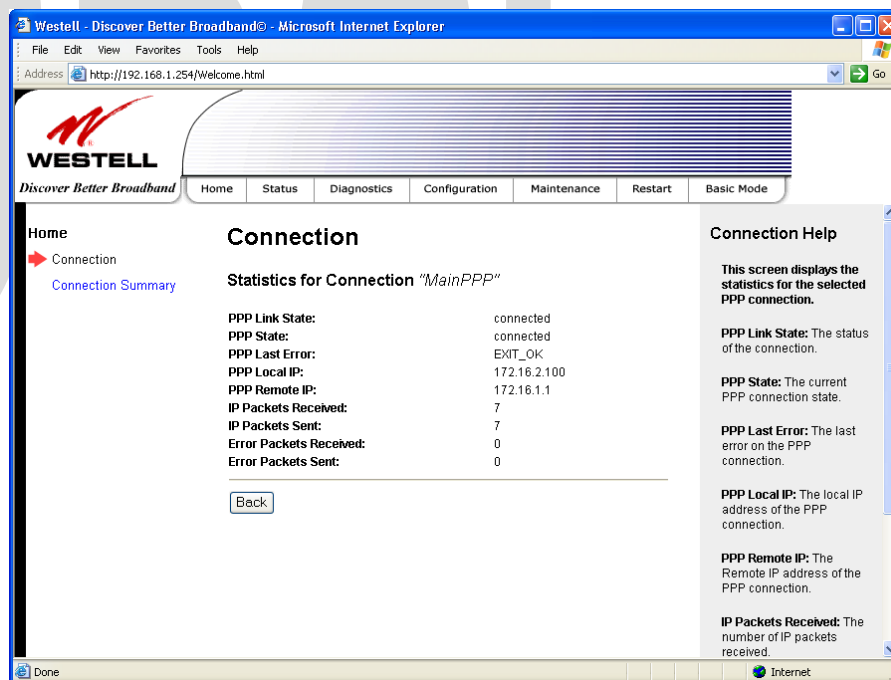
After a PPP session has been established, you can browse the Internet. For example, to visit BellSouth's home page, type **http://bellsouth.com** in your browser's address bar, and then press **Enter** on your keyboard.
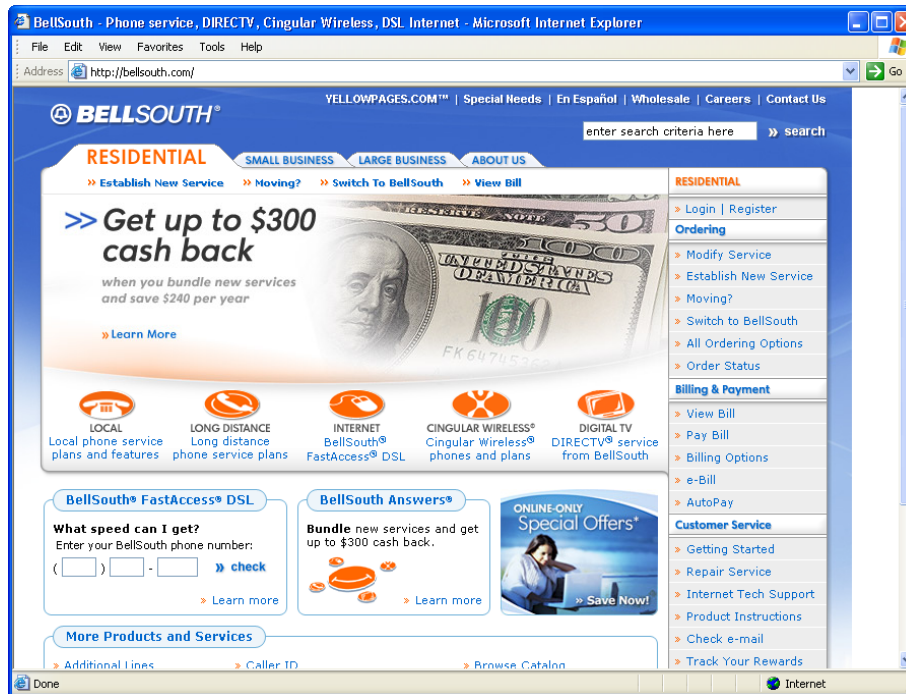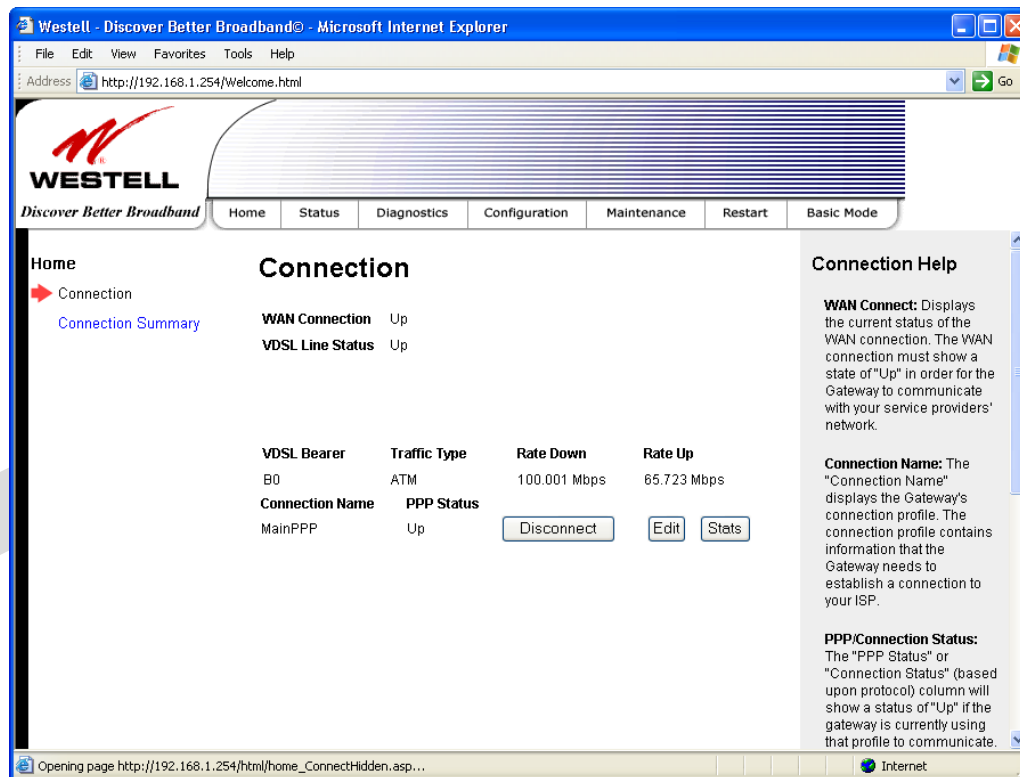

When you are ready to return to the Gateway's interface, type **http://192.168.1.1** in your browser's address bar, and then press **Enter** on your keyboard. Next, proceed to section 9, "Basic Mode," to begin the basic configurations of your Gateway.

8.5   Disconnecting Your WAN Connection

If you have finished browsing the Internet and want to disconnect from your Internet service provider, click **Disconnect** in the **Connection** screen.

CAUTION: If you click **Disconnect**, this will disconnect the Gateway from the Internet, and Internet access for all users connected to the Gateway will be down until the WAN connection (PPP session) is re-established. The WAN Connection field will display **Down**; however, your VDSL sync will not be affected, VDSL Line Status will remain **Up**. If you want to end your VDSL session, simply power down the Gateway via the power switch on the Gateway's rear panel.


When you are ready to re-establish a WAN connection, click **Connect** and wait a brief moment for the WAN Connection to display **UP.** If you powered down your Gateway, you must first power up the Gateway, and then log in to your connection profile to establish a WAN connection, as explained in section 8.4, "Establishing a WAN Connection."

NOTE: When you are ready to exit the Gateway's interface, click the **X** (close) in the upper-right corner of the screen. Closing the screen will not affect your PPP Status or your WAN connection. When you are ready to restore the Gateway's screen, you must launch your Internet browser and type **http://192.168.1.1/** in the browser's address bar, and then press **Enter** on your keyboard.

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9. BASIC MODE

The following sections explain the basic configurations of your Gateway. The Gateway's web pages contain a main navigation menu, displayed at the top of the screens. As you navigate through the various pages of the Gateway, the active page that you have selected from the menu options will appear in the left corner of the screen. The submenu options for that page will appear in the left-side navigation menu, as shown below. A red arrow will be displayed adjacent to the active submenu option. Please note that the values displayed in this User Guide might differ from the actual values reported by your Gateway. If you are at a screen and need help, refer to the Help section displayed on the right side of the screen. Additional details are displayed in the tables below the screens.

Some screens require that you save your settings. To save your settings, click the **Save** button. To discard changes that you have made to the screen, click the **Discard** button. If you click the **Discard** button, the previously saved settings will be displayed in the screen.

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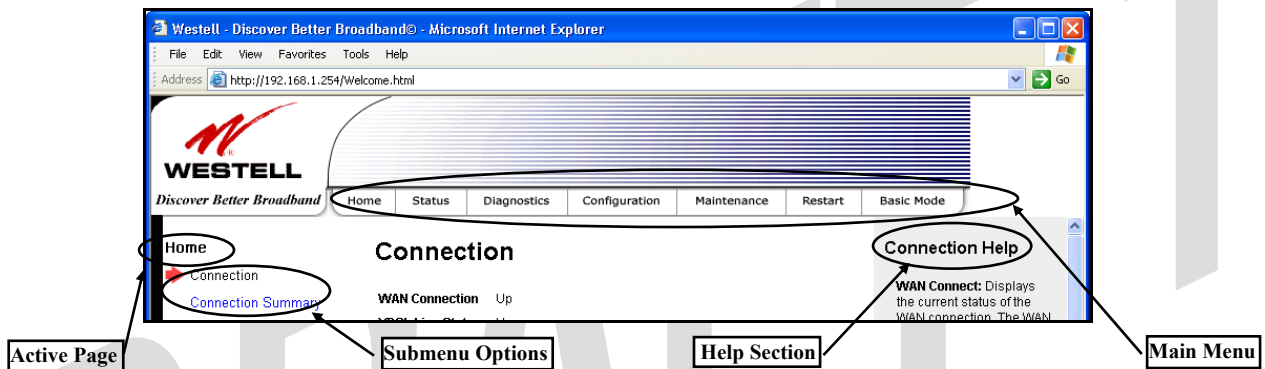
10. HOME

10.1 Connection

The following screen will be displayed if you select **Home > Connection** from main menu. The **Connection** screen provides information about your Gateway's connections. As explained in section 8, when the VDSL and WAN connection fields display **UP,** you have established a connection with your ISP and can browse the Internet,

NOTE: The values displayed in this User Guide might differ from the actual values reported by your Gateway.
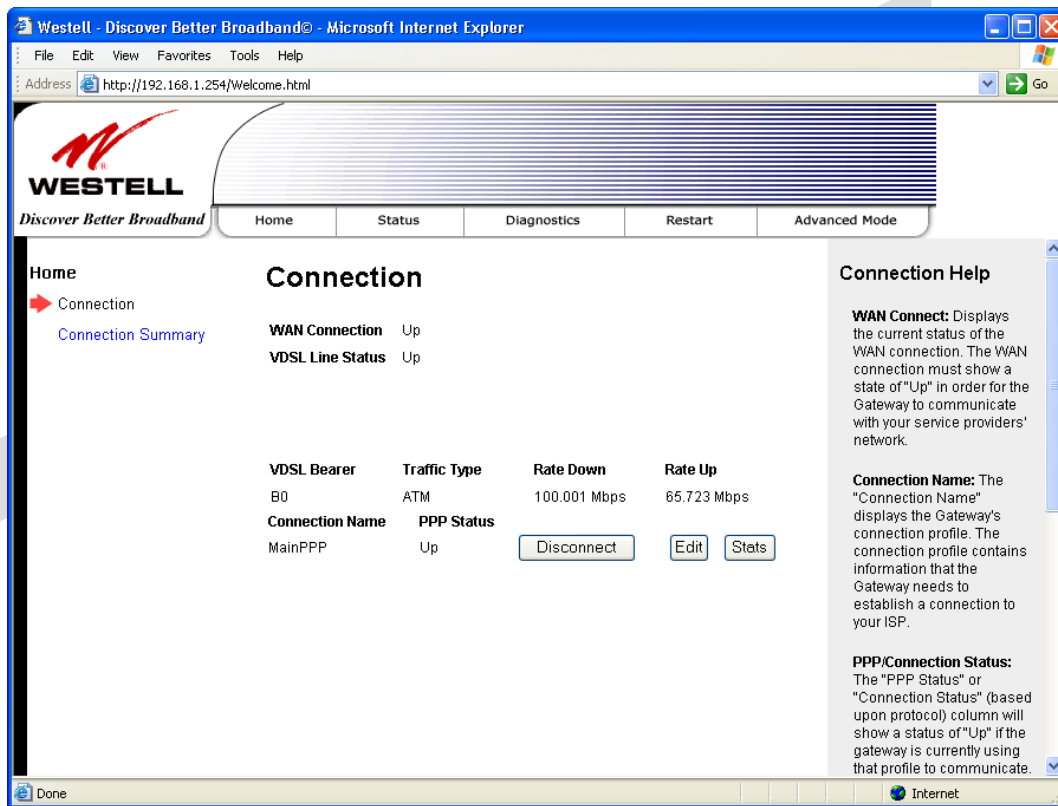
Connection	
WAN Connection	Displays status of your WAN connection.
VDSL Line Status	Displays the status of your VDSL connection.
VDSL Bearer	The VDSL bearer that carries the data transmission.
Traffic Type	The medium over which data is transmitted.
Rate Down/Rate Up	The downstream/upstream rate of the data transmission.
Connection Name	The Connection Name is from the connection profile that you set up in section 8.3.
PPP Status	Up = WAN connection (PPP session) is established. Down = WAN connection is not established.
Connect/Disconnect	Click Connect to establish a WAN connection. Click Disconnect to disconnect a WAN connection.
Edit	Click Edit to edit or add a connection profile. Refer to section 8.3. for details on connection profiles.
Stats	Click Stats to view statistical information about your WAN connection.

10.2 Connection Summary

The following screen will be displayed if you select **Home > Connection Summary** from the menu options. Refer to this screen for information about your Gateway's connections.
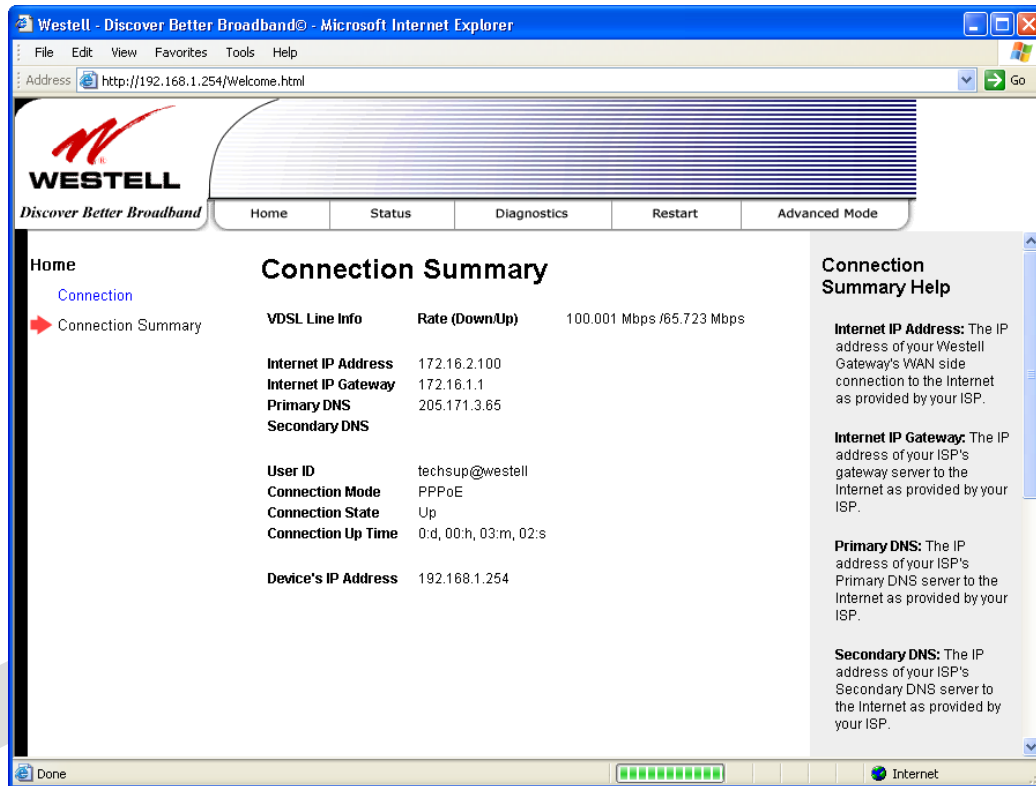

| Connection Summary	
Internet IP Address	The WAN side or Gateway's IP address to the Internet. Provided by your Internet service provider.
Internet IP Gateway	The IP address of your ISP's server to the Internet. Provided by your Internet service provider.
Primary DNS	The IP address of your ISP's primary DNS server. Provided by your Internet service provider.
Secondary DNS	The IP address of your ISP's secondary DNS server. Provided by your Internet service provider.
User ID	The same as your Account ID. Provided by your Internet service provider.
Connection Mode	The Gateway's mode of connection to your ISP. The protocol can either be PPPoE or Routed IP.
Connection State	The Gateway's PPP connectivity status to the Internet. The VDSL state and WAN connection must be **Up** in order for connection state to be **Up.**
Connection Up Time	The duration of your PPP time status. This time field tells how long the Gateway has had a PPP connection established, displayed in the format of (days:hours:minutes:seconds).
Device's IP Address	The IP address on the LAN side of your Gateway.

11. STATUS

11.1 About

The following screen will be displayed if you select **Status > About** from the menu options. This screen displays the manufacturer's information about your Gateway.
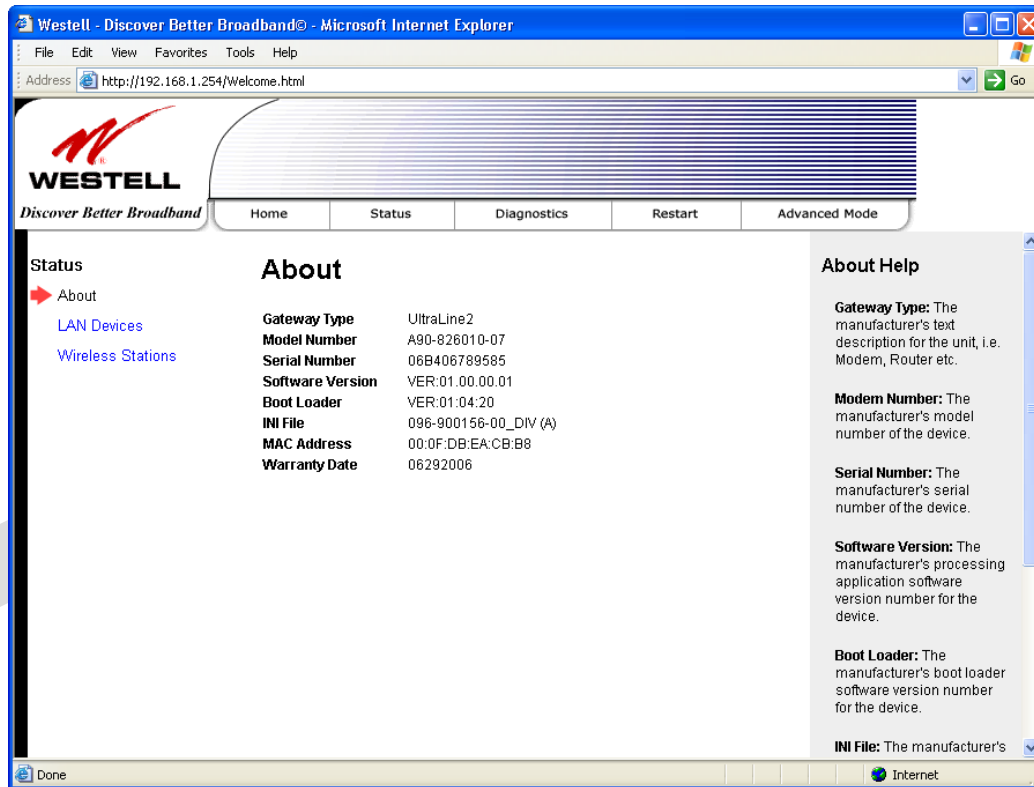
About	
Gateway Type	The manufacturer's description for this device.
Model Number	The manufacturer's model number.
Serial Number	The manufacturer's serial number.
Software Version	The version of the application software and the build date.
Boot Loader	The manufacturer's boot loader software version number.
INI File	The manufacturer's INI information for the device.
MAC Address	Media Access Controller (MAC) i.e., hardware address.
Warranty Date	The warranty start date for this device.

11.2 LAN Devices

The following screen will be displayed if you select **Status > LAN Devices** from the menu options. This screen displays all the devices connected to your LAN.
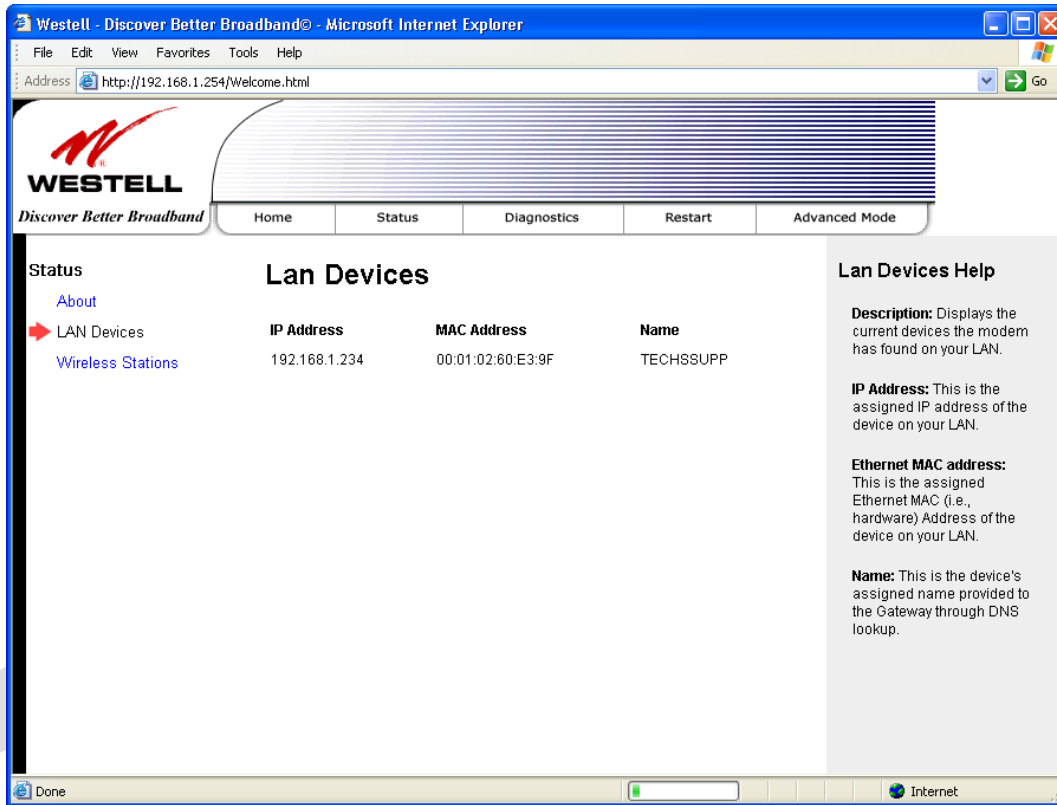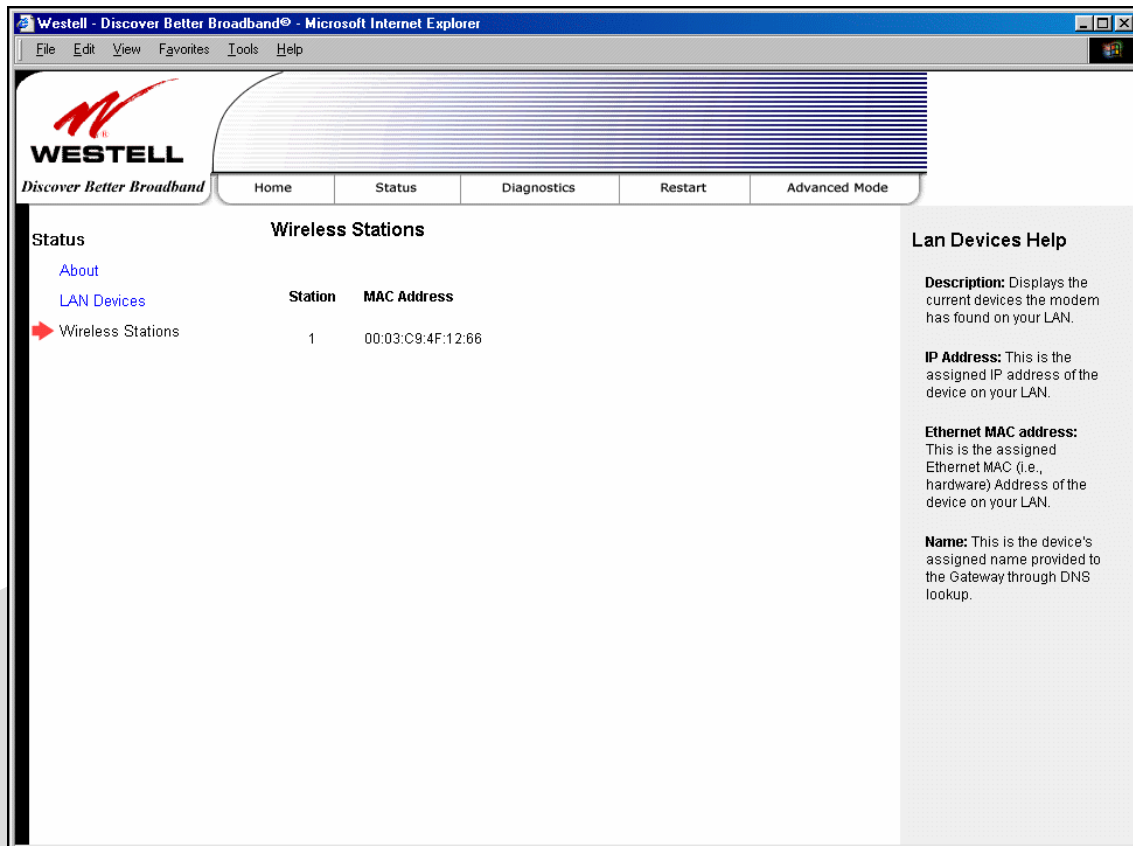

LAN Devices	
IP Address	The assigned IP address of the networking devices on your LAN.
MAC Address	The assigned Ethernet MAC (i.e., hardware) address of the networking devices on your LAN.
Name	The computer's assigned name provided to the Gateway through DNS lookup. (The computer name or the IP address may be displayed in this field.)

11.3 Wireless Stations

The following screen will be displayed if you select **Status > Wireless Stations** from the menu options. This screen displays the information about the wireless stations that are associated with your Gateway.

NOTE: The **Station** and **MAC Address** fields in this screen will be blank if no wireless stations are associated with your Gateway.

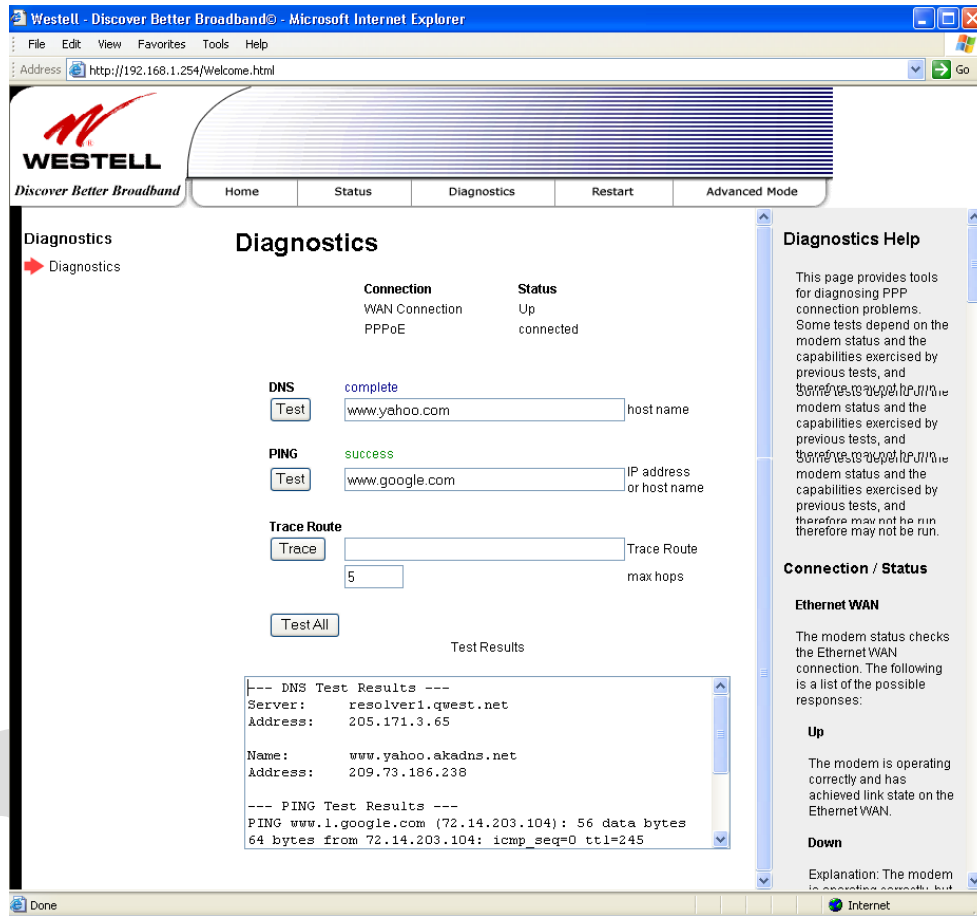| Wireless Stations	
Station	A number indicating the order in which stations have accessed the Gateway. This list can contain a maximum of 10 stations.
MAC Address	The Media Access Controller (MAC) address (i.e., the hardware address of the associated station). This is a unique number entered into the WLAN device's permanent memory during production. A station's MAC address is typically printed on the card or can be viewed using the card's configuration utility.

12. DIAGNOSTICS

The following screen will be displayed if you select **Diagnostics** from the menu options. This screen allows you to run diagnostic tests on your Gateway.
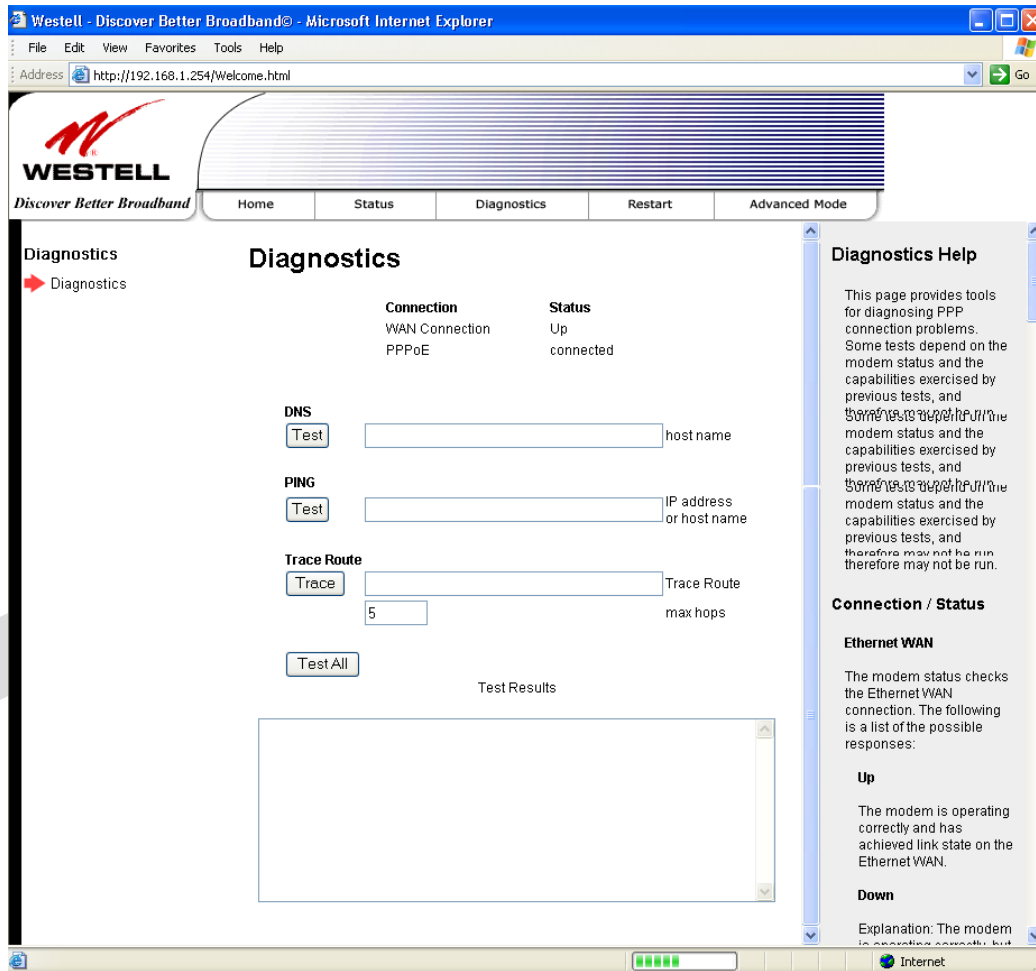
- To run a DNS test, type the appropriate host name in the field provided, and then click **Test.**
- To run a PING test, type the appropriate IP address or host name in the field provided, and then click **Test.**
- To run a Trace Route, type the appropriate IP address or host name in the field provided, and then click **Trace.**

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If you click **Test All,** the following screen will be displayed, and the results will be displayed in the window labeled **Test Results**.

Diagnostics	
Connection	The first line displays WAN Connection. This the type of connection used to establish your Internet connection.
	The second line displays the protocol used to establish the session and the status of the session. This is a specific format used for transmitting data on your ISP's network to access the Internet. You ISP will inform you of the protocol to use for your Internet connection. Possible Responses: PPPoE – Point-to-Point protocol over Ethernet Bridge – Bridging protocol Routed IP – Routed IP protocol
Status	The first line displays the status of the physical interface connection. Possible Responses: Up – The interface connection is Up. Down – The interface connection is Down.
	The second line indicates the status of the protocol. Possible Responses: Connected – The protocol is connected. Disconnected – The protocol is disconnected.
Test Description / Test Results	
DNS	Performs a test to try to resolve the name of a particular host. The host name is entered in the input box.

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	Possible responses are: Success: The Router has successfully obtained the resolved address. The IP address is shown below the host name input box. No Response: The Router has failed to obtain the resolved address. Host not found: The DNS Server was unable to find an address for the given host name. No data, enter host name: No host name is specified. Could not test: The test could not be executed due to the Router's settings. Check your DSL sync or your PPP session. You must have both a DSL sync and a PPP connection established to execute a PING.
IP Address	IP Address of the Host Name.
PING (via IP Address or Host Name)	Performs an IP connectivity check to a remote computer either within or beyond the Service Provider's network. You can PING a remote computer via the IP address or the DNS address. If your PING fails, try a different IP or DNS address. Possible responses are: Success: The Remote Host computer was detected. No Response: There was no response to the Ping from the remote computer. No name or address to PING: No host name or IP address was specified. Could not test: The test could not be executed due to the Router settings. Check your DSL sync or your PPP session. You must have both a DSL sync and a PPP connection established to execute a PING.
Trace Route	Determines the route taken to destination by sending Internet Control Message Protocol (ICMP) echo packets with varying IP Time-To-Live (TTL) values to the destination. Trace Route is used to determine where the packet is stopped on the network.
Max hops	The number of hops from the Router to the specified destination.
Test All	Allows you to run a full diagnostic test.

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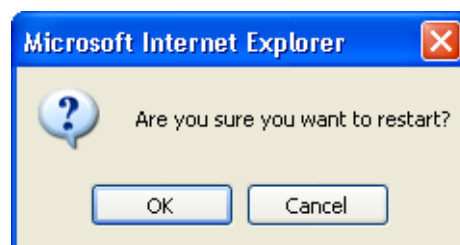
13. RESTART

The following screen will be displayed if you select **Restart** from the menu options.

- To erase your stored configuration settings, click the check box labeled **Reset device to configuration to factory defaults** (a check mark will appear in the box). Next, click the **Restart** to restart the Gateway.

- To reset the Gateway without erasing your store configuration settings, leave the box uncheck and click Restart.

IMPORTANT: If you check mark the box, all of your configuration settings will be lost, and the Gateway will be reset to factory default settings when you click **Restart.**
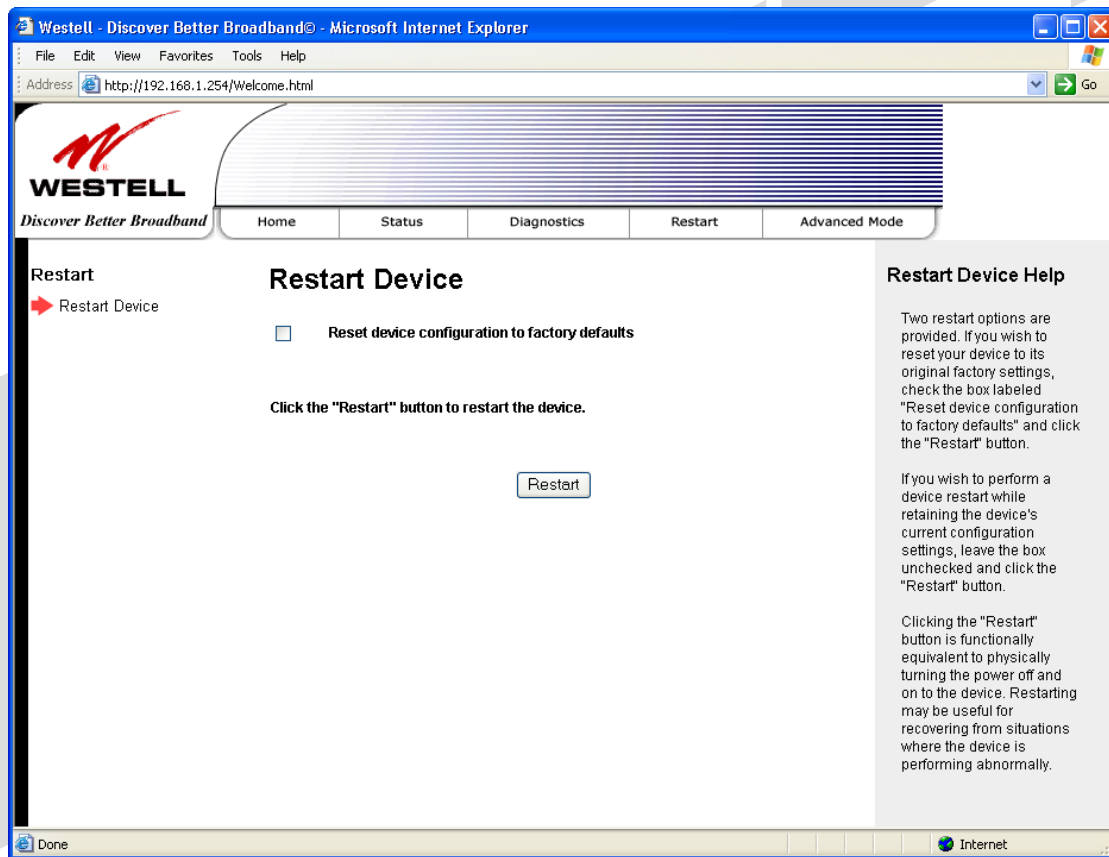

After you click the **Restart** button, the following pop-up screen will be displayed. Click **OK** to continue. Click **Cancel** if you do not want to restart the Gateway.

If you clicked **OK** in the preceding pop-up screen, the following screen will be displayed. Please wait a brief moment for your Gateway to restart. After your Gateway has restarted, the **Edit Connection** screen will be displayed.
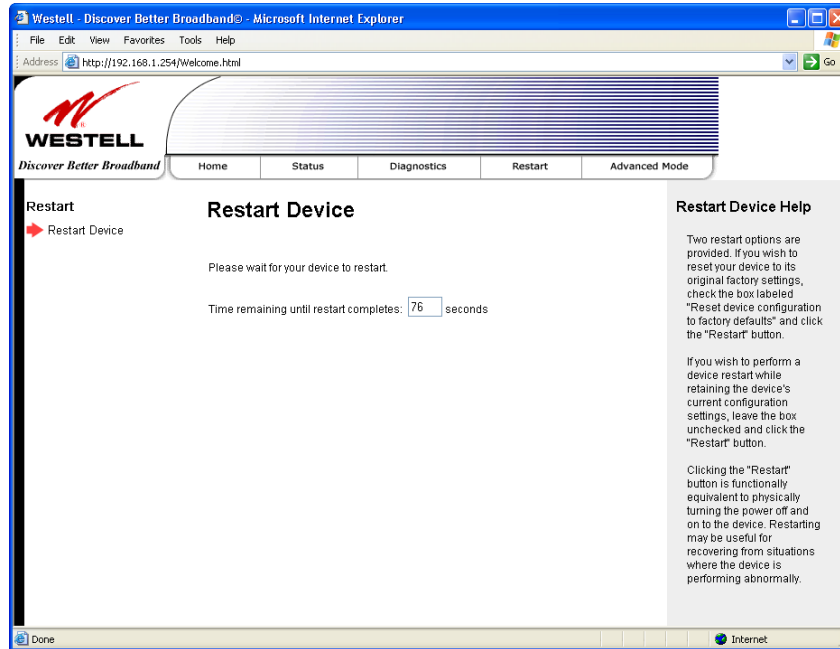
At the **Edit Connection** screen, confirm that the **PPP Status** field displays **Up** before proceeding with your Gateway's configuration.
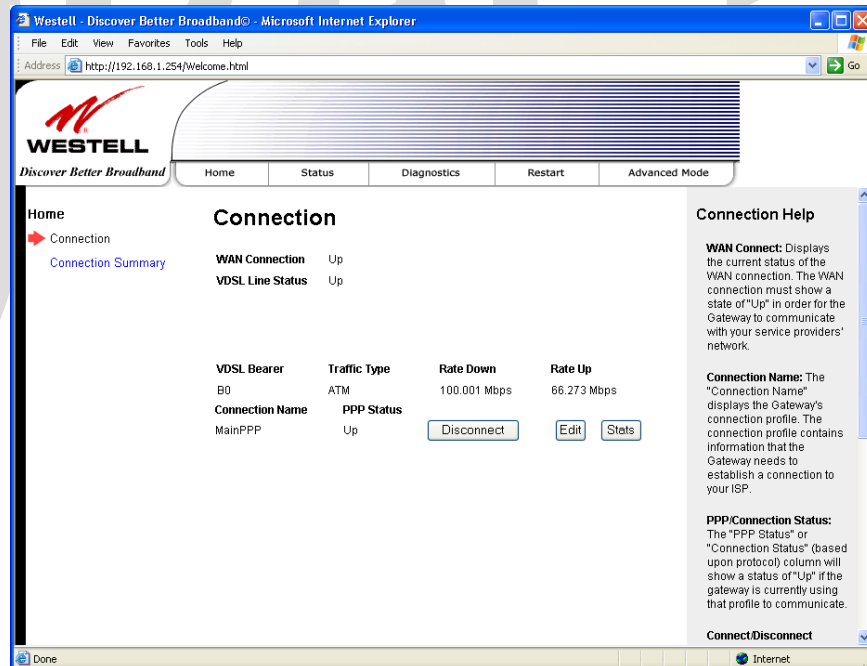

NOTE: If you have chosen to reset the Gateway to the factory default configuration, you must set up your connection profile and establish your connection as previously explained in section 8.3 "Setting Up Your Connection Profile." Until then, the WAN connection field will display **Down.**

14. ADVANCED MODE

The basic operations of your Gateway were discussed earlier in this User Guide and provided details on the **Home, Status, Diagnostics,** and **Restart** features. For instructions on configuring any of these features, refer to the Basic Mode sections (beginning with section 9). The remainder of the document will discuss the advanced configurations of your Gateway.

IMPORTANT: If you change any of the settings in the screens, you must click the **Save** button to allow the changes to take effect. If you click **Discard**, the screen will refresh and the previously saved settings will be displayed.

To configure the advanced operations of your Gateway, first select **Advanced Mode** from the menu options.
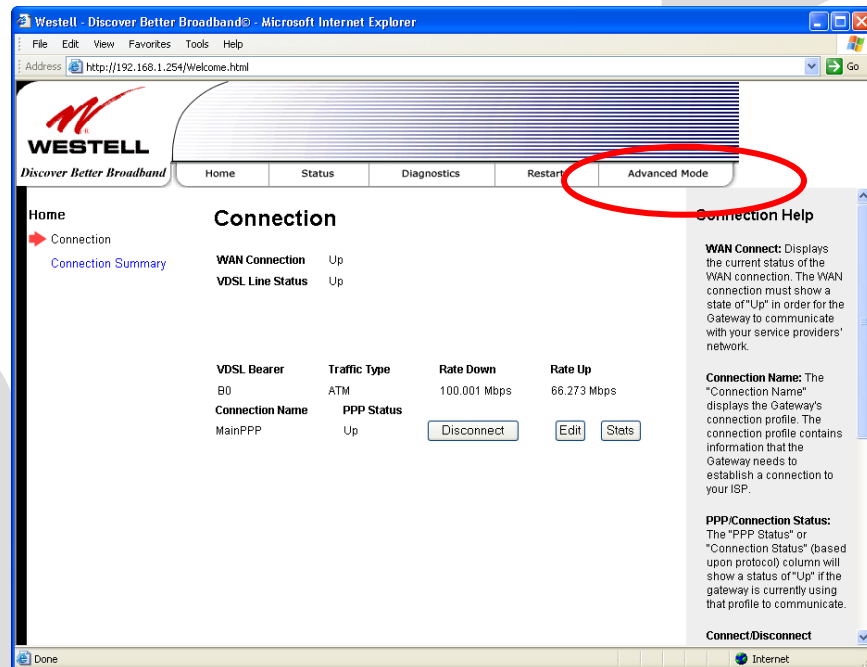
After you click **Advanced Mode**, the main menu options for Advanced Mode will be displayed. Select the desired main menu option, and then select from the submenu options displayed at the left of the screen.
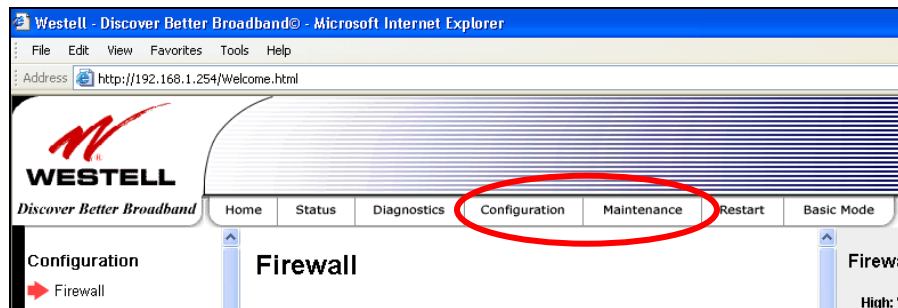
15. CONFIGURATION

15.1 Firewall Configuration

The following screen will be displayed if you select **Configuration > Firewall** from the menu options. If you change any settings in this screen, you must click **Save** to save the settings.

The firewall enforces rules about what network traffic is allowed to enter or leave your computer or network. The firewall comes with some preconfigured rules and you can add more rules, if desired. After the rules are in place, the firewall examines all network traffic and drops the traffic if the rules prohibit it.
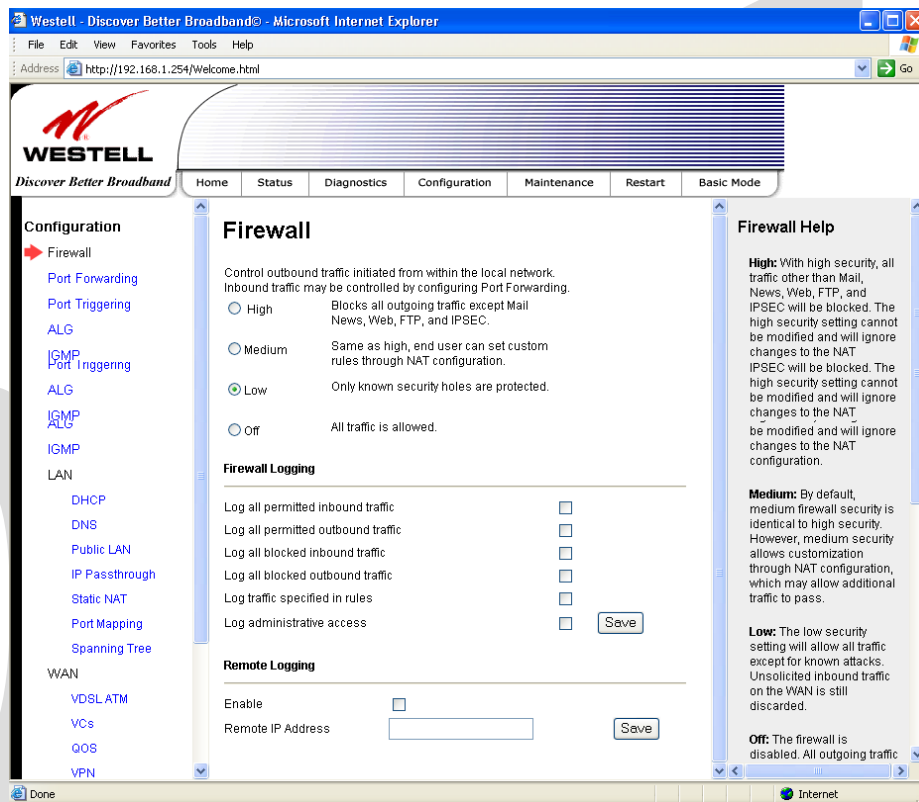

Security Level	
High	High security level only allows basic Internet functionality. Only Mail, News, Web, FTP, and IPSEC are allowed. All other traffic is prohibited.
Medium	Like High security, Medium security only allows basic Internet functionality by default. However, Medium security allows customization through NAT configuration so that you can enable the traffic that you want to pass.
Low	Factory Default = Low The Low security setting will allow all traffic except for known attacks. If security is set to Low, the Gateway will be visible to other computers on the Internet.
Off	Firewall is disabled. (All traffic is passed)
Firewall Logging	
Log all permitted inbound traffic	Factory Default = Disabled

|	If Enabled (box is checked), this function will be activated.
Log all permitted outbound traffic	Factory Default = Disabled If Enabled (box is checked), this function will be activated.
Log all blocked inbound traffic	Factory Default = Disabled If Enabled (box is checked), this function will be activated.
Log all blocked outbound traffic	Factory Default = Disabled If Enabled (box is unchecked), this function will be activated.
Log traffic specified in rules	Factory Default = Disabled If Enabled (box is checked), this function will be activated.
Log administrative access	Factory Default = Disabled If Enabled (box is checked), this function will be activated.
Remote Logging	
Remote firewall logging allows the firewall logs to be sent to a machine running a syslog server*. If you wish to save the firewall logs, enable this feature (check mark the box), and enter the IP address of the syslog server. *Note: The syslog server must be configured t listen on UDP port514, which is usually the default. In addition, the syslog server should be configured to save the logs to a file.*	
Enable	Factory Default = Disable If Enabled (box is checked), the modem will send firewall logs to a syslog server.
Remote IP Address	The IP address of the syslog server machine to which the diagnostics logs will be sent. Note: Enabling, disabling, or changing the remote logging IP address will clear the existing logs.

15.2 Port Forwarding Configuration

The following screen will be displayed if you select **Configuration > Port Forwarding** from the menu options. Port Forwarding enables you to set up the Gateway's port forwarding attributes for the services that you want to add to your profile.

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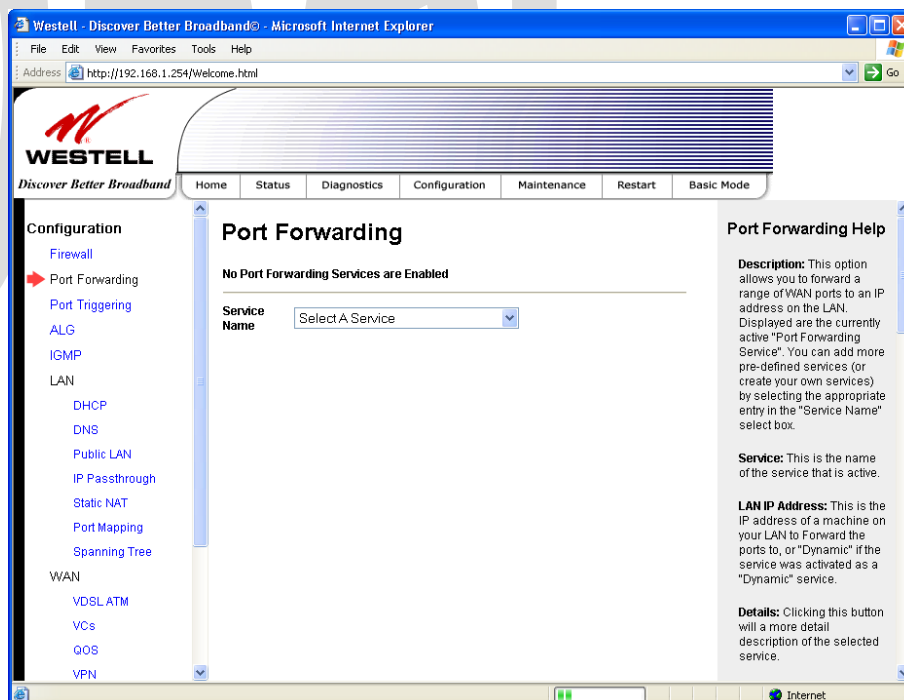
To set up port forwarding, select a service from the **Service Name** drop-down menu.

**NOTE:** You may add an unlimited numbers of services to your connection profile.
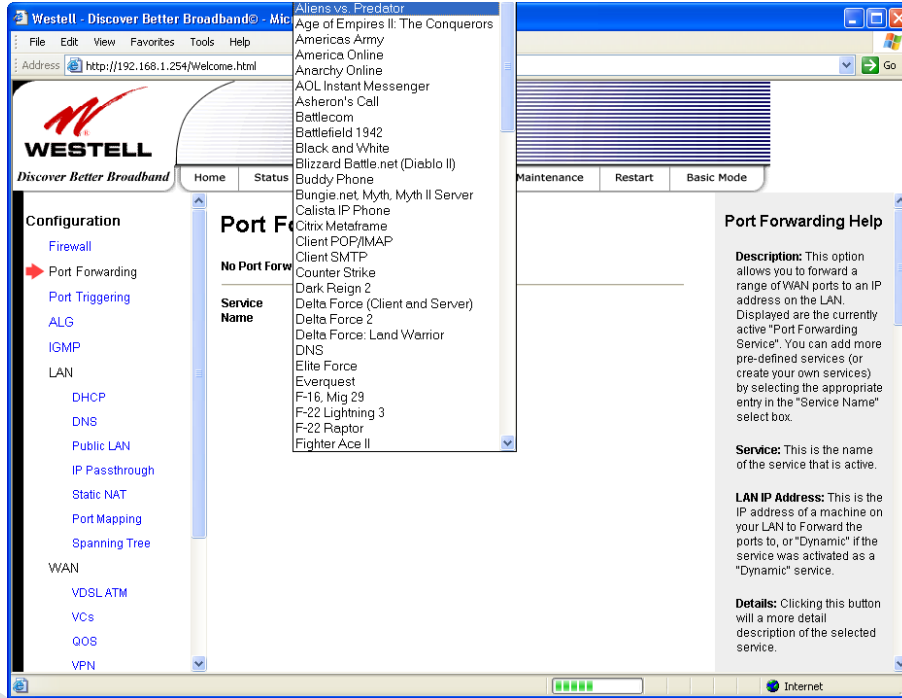
After you have selected a service name from the **Service Name** drop-down menu, the following **Port Forwarding –
*Add an Application Service*** screen will be displayed. Enter the appropriate IP address or machine name in the fields
provided and then click **Add Service.** Repeat these steps to add additional services to your profile.
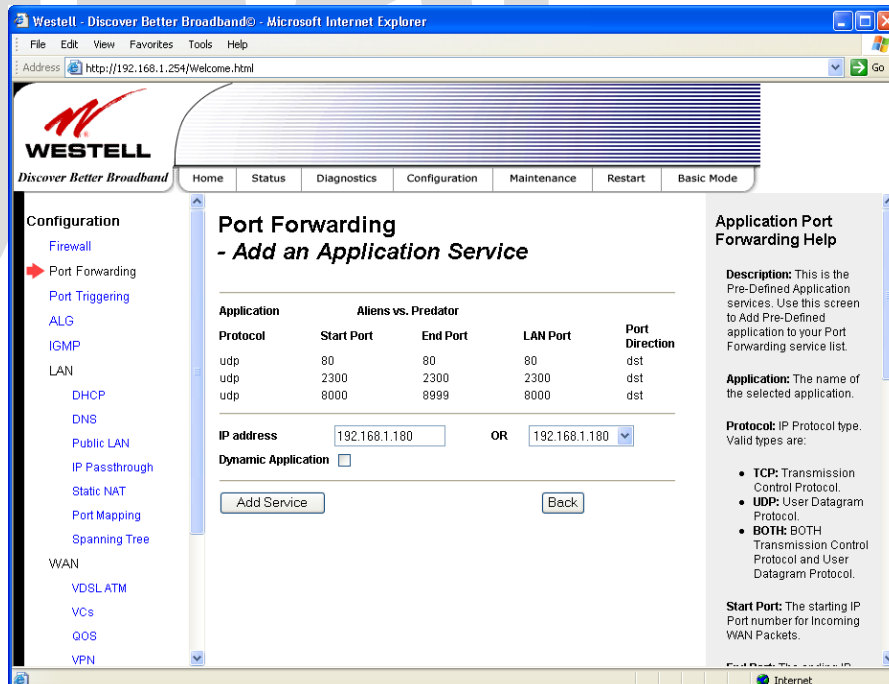
| Application Protocol	The IP Protocol type that is assigned to this service.
Start Port	The start port that is assigned to the service
End Port	The end port that is assigned to the service
LAN Port	The LAN port that is assigned to the service.
Port Direction	The traffic direction assigned to the service.
IP Address	The LAN IP address or the machine name assigned to your service
Dynamic Application	Factory Default = Disabled If Enabled (box is checked), this will only allow outgoing connections from any local PC. If Disabled, packets will be forwarded to the designated local PC.

If you clicked **Add Service,** Port Forwarding will be updated and the following screen will be displayed. To view the details of a service that you have added, click the **Details** button adjacent to the service you want to view.

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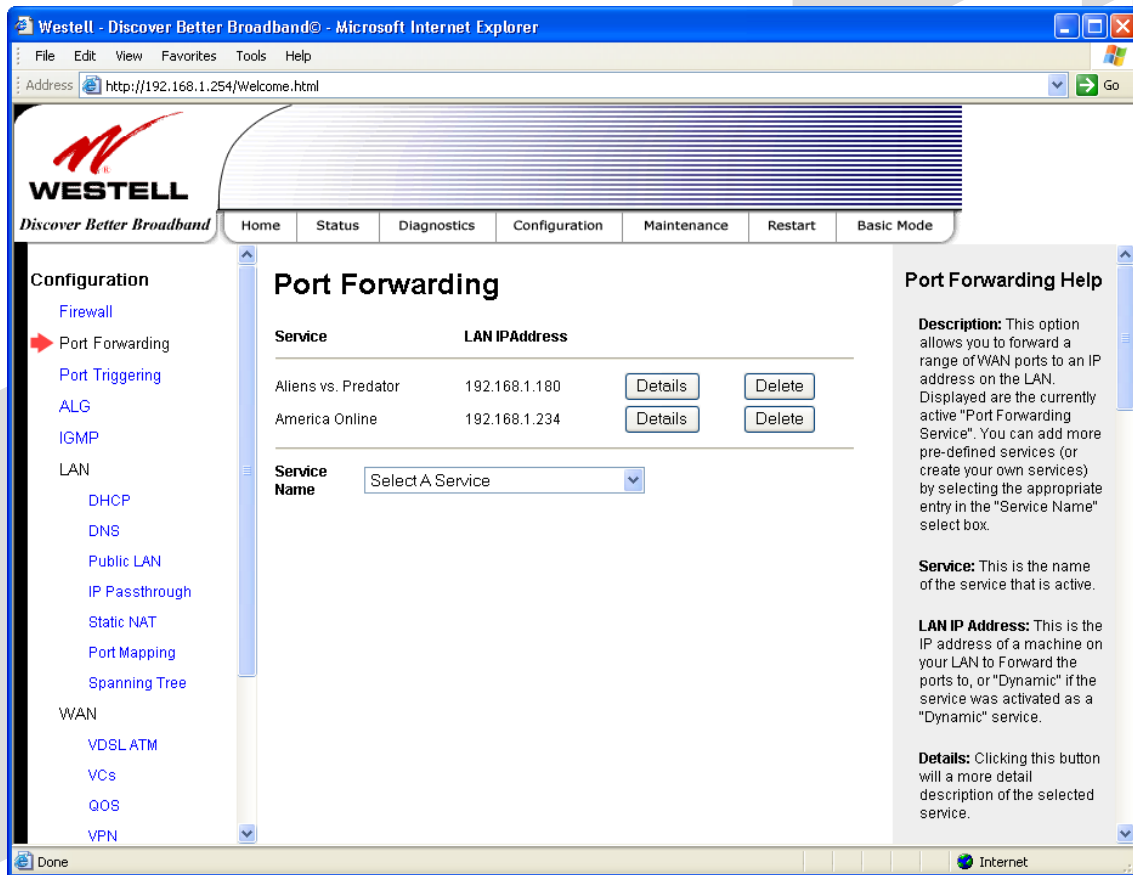
If you clicked the **Details** button, the following screen will be displayed. After viewing the details, click **Back** to return to the preceding **Port Forwarding** screen.
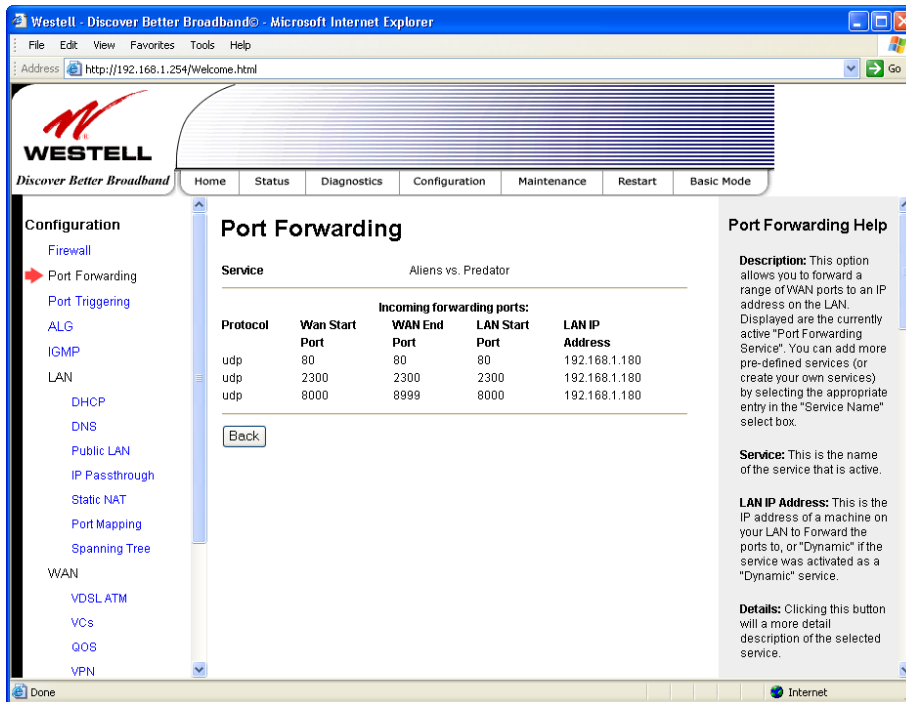
To delete a service that you have added, click the **Delete** button adjacent to the service you want to remove.

WESTELL

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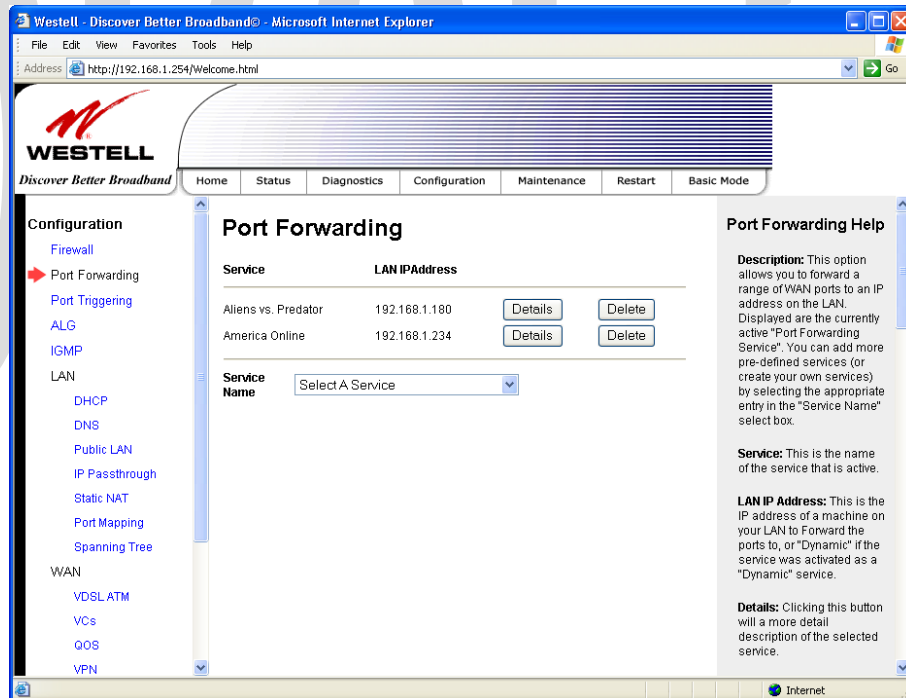
If you clicked **Delete** in the preceding screen, a pop-up screen will prompt you to confirm your decision to delete the selected service. Click **OK** in the pop-up screen; the service will be removed from the list of selected services. Click **Cancel** if you do not want to delete the service.
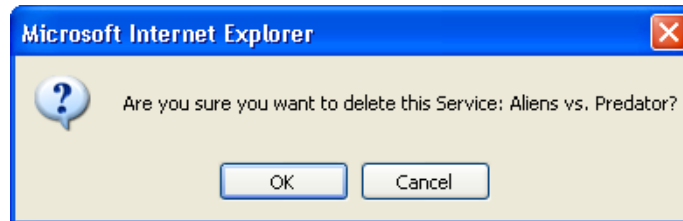
If you clicked **OK** in the preceding pop-up screen, the following **Port Forwarding** screen will show that the service has been deleted.

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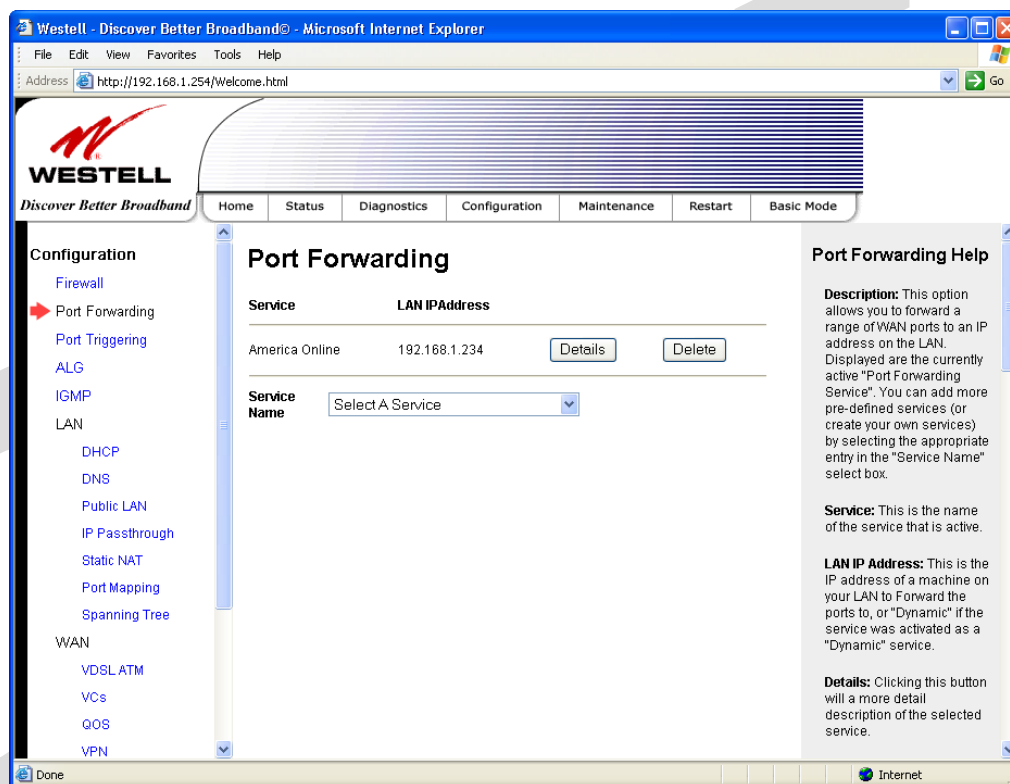
15.3 Port Triggering Configuration

The following screen will be displayed if you select **Configuration > Port Triggering** from the menu options. To create a trigger port, click **New.**
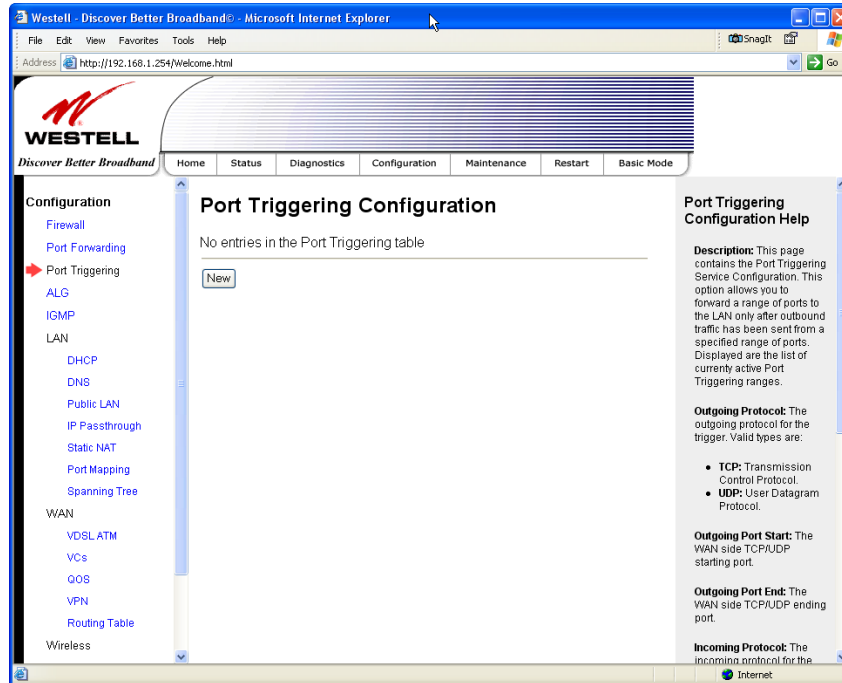
If you clicked **New**, the following screen will be displayed. Select the desired options from the drop-down menus, and then enter the appropriate values in the fields provided. Click **Save** to save your settings.

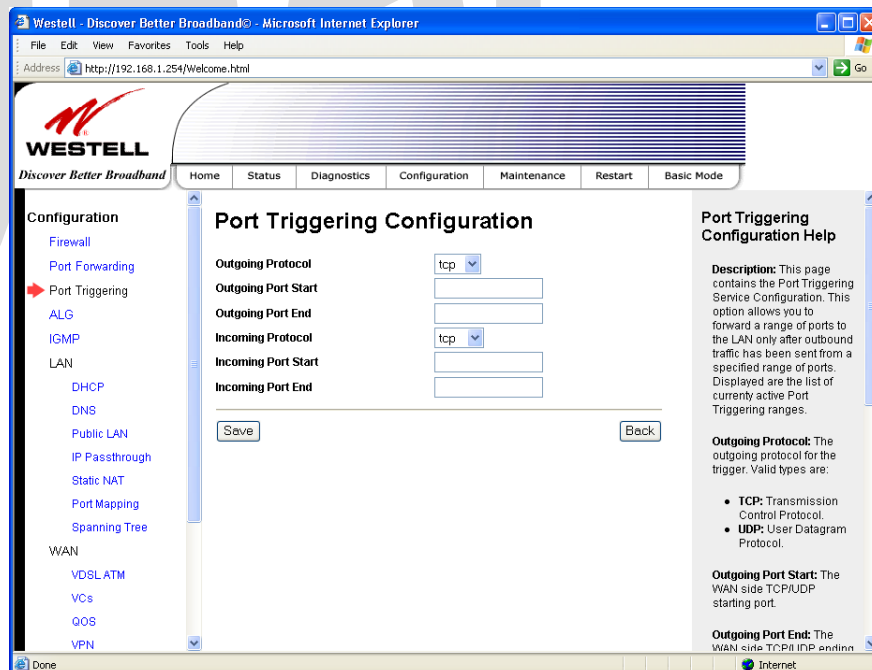| Port Triggering Configuration	
Outgoing Protocol	Factory Default = TCP The outgoing protocol for the triggered ports. Possible Responses: TCP – Transmission Control Protocol UDP – User Datagram Protocol
Outgoing Port Start	The WAN-side TCP/UDP starting port
Outgoing Port End	The WAN-side TCP/UDP ending port
Incoming Protocol	Factory Default = TCP The incoming protocol for the triggered ports. Possible Responses: TCP- Transmission Control Protocol UDP- User Datagram Protocol Both – TCP and UDP
Incoming Port Start	The local LAN-side starting port.
Incoming Port End	The local LAN-side ending port.

15.4 ALG Configuration

The following screen will be displayed if you select **Configuration > ALG** from the menu options. This screen enables you to configure the application level gateway (ALG) services for your Gateway.

To enable ALG services, click the box of each service that you want to activate (a check mark will appear in the box). Then, click **Save** to save the settings. To edit your SIP ALG settings, click **Edit.**

NOTE: When the firewall level is set to "High," some services may not be configurable.
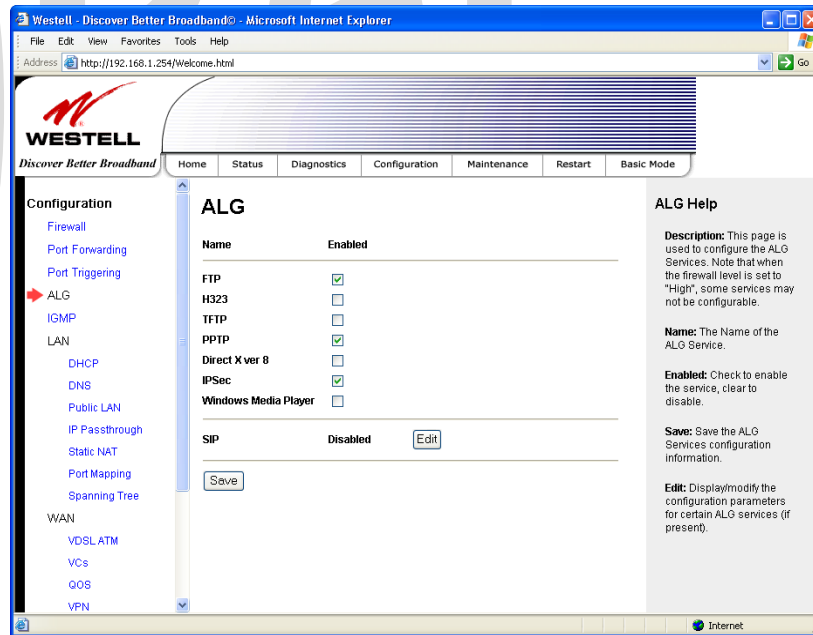
ALG	
Name	The name of the ALG service.
Enabled	To enable the service, click the adjacent check box (a check mark will appear in the box). To disable the service, click to uncheck the box.

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If you clicked **Edit**, the following page will be displayed. To enable SIP ALG service configuration, click the box labeled **Enable** (a check mark will appear in the box). Next, enter the desired values in the fields provided and click **Save** to save your settings.
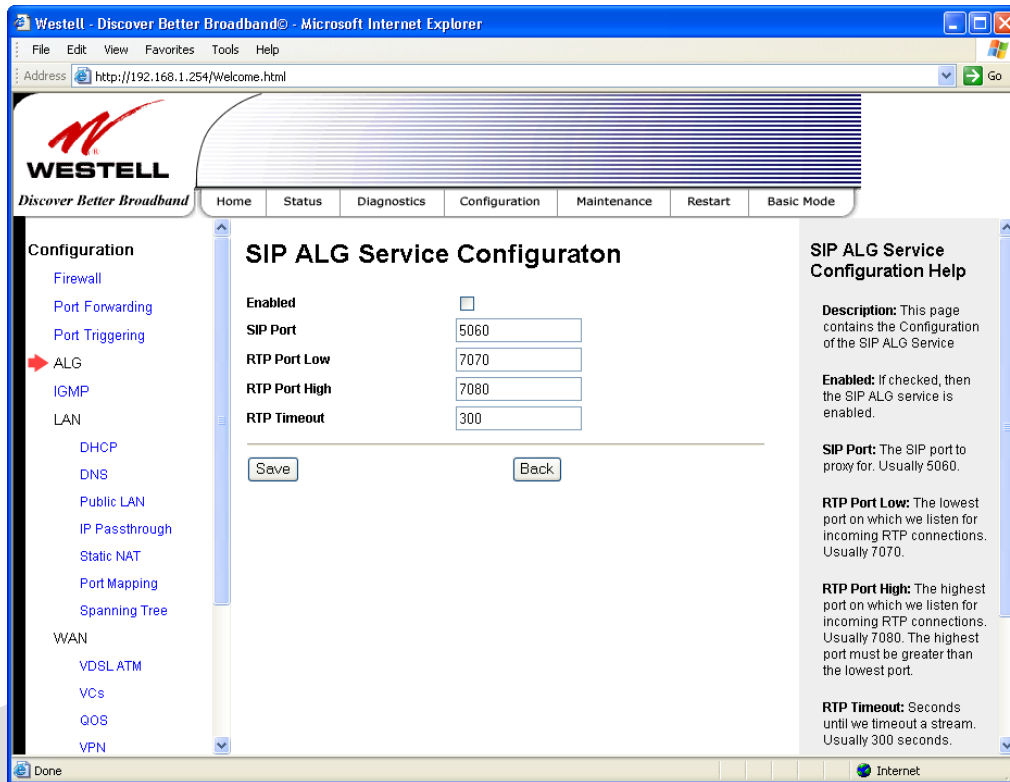
SIP ALG Service Configuration	
Enabled	Factory Default = Disabled When enabled (box is checked), SIP ALG service will be activated. If disabled, SIP ALG service will be deactivated.
SIP Port	The SIP port to proxy.
RTP Port Low	The lowest port for incoming RTP connections.
RTP Port High	The highest port for incoming RTP connection. The highest port must be greater than the lowest port.
RTP Timeout	The number of seconds until a stream will timeout (in seconds).

15.5 IGMP Service

The following screen will be displayed if you select **Configuration > IGMP** from the menu options. This screen enables you to configure the IGMP services for your Gateway. Enter the appropriate settings and then click **Save Settings** to save the settings. To view the status of the settings, click **Show Status.**
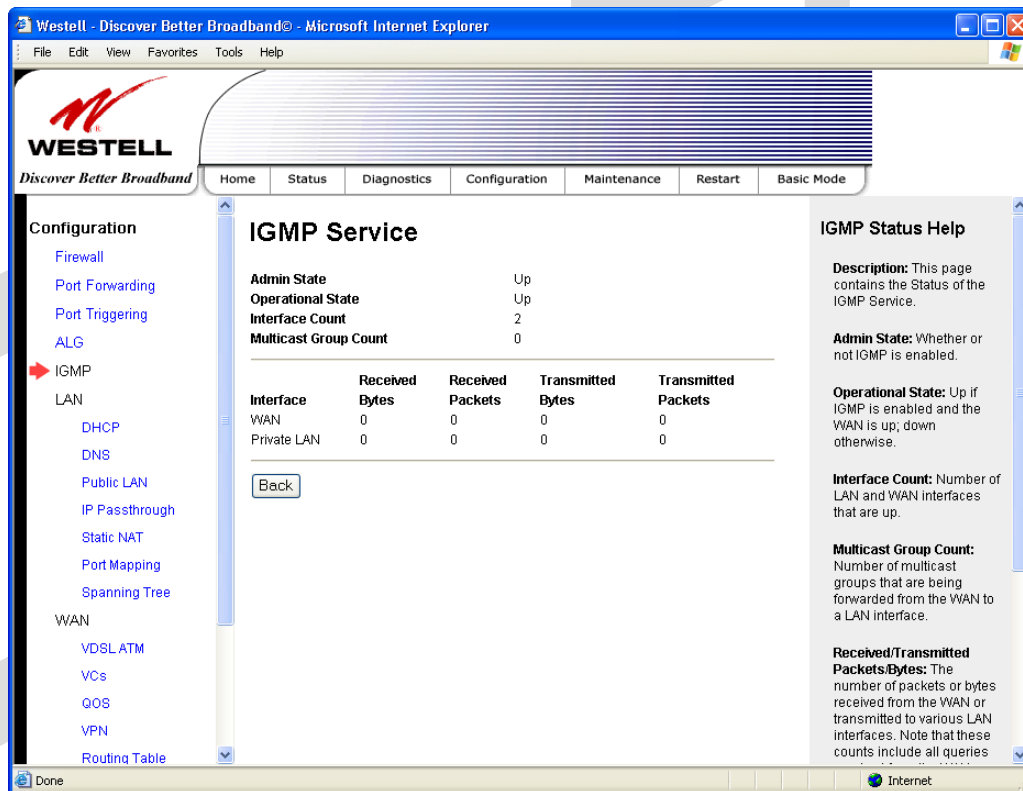

IGMP Service	
Internet Group Management Protocol (IGMP) enables you to configure IGMP services for your Gateway.	
Enabled	Factory Default = Enabled When this box is checked, IGMP service will be activated. To disable IGMP service, click to uncheck the box.
Use Secondary WAN	Factory Default = Enabled When this box is checked, the Gateway will use the secondary WAN interface for Multicast traffic. This applies only when PPPoE is configured as the Primary WAN protocol and the Secondary WAN is enabled when configuring PPPoE.
General Query Interval	The Interval between general queries (30-180, in seconds).
Query Response Interval	The maximum response time for general queries (1-10 in seconds).
LAN Robustness Variable	The number of times to send a message (1-4) on the LAN, for reliability.
WAN Robustness Variable	The number of times to leave a message (1-4) on the WAN, for reliability.
Leave Repeat Interval	The interval between leave messages sent on a WAN (1-50, in tenths of a second).
Unsolicited Report Count	The number of unsolicited member reports (1-4) sent on a WAN when first joining the group.

Unsolicited Report Interval	The interval between unsolicited reports on a WAN when first going a group (1-100, in tenths of a second).
Last member Query Interval	The interval between group-specific query messages sent in response to Leave messages. This value is also used as the time-out for group-specific query messages (1-50, in tenths of a second).
Multicast Filters	
Filter Enabled	Factory Default = Disable When enabled (box is checked), Multicast Filter is activated. When disabled, any requests from LAN devices for multicast content will be allowed.
Range 1 and 2	When multicast filtering is enabled, you may configure up to two ranges of prohibited multicast traffic. A filter address of zero inhibits that filter.
Address and Mask	The address and mask for each multicast filter range describe the prohibited multicast content. Note: Any address bits outside of the mask are ignored.

If you clicked **Show Status** in the preceding screen, the following screen will be displayed. This screen provides details status of your IGMP service. After viewing this screen, click **Back** to return to the main IGMP screen.

IGMP Service	
Internet Group Management Protocol (IGMP) enables you to configure IGMP services for your Gateway.	
Enabled	This field displays the status of the IGMP service. If IGMP has been enabled in the main IGMP Service screen, this field will display Up.
Operational State	This field will display Up only when IGMP Service has been enabled and the WAN is Up.
Interface Count	The number of LAN and WAN interfaces that are up.
Multicast Group Count	The number of multicast groups that are being forwarded from the WAN to the LAN interface.
Received/Transmitted	The number of packets or bytes received from the WAN or transmitted to various

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Packets/Bytes	LAN interfaces. Note: These counts include all queries received from the WAN or sent to a LAN interface, so the received counts may not match the transmitted counts if the rate of queries is not the same for both interfaces. Also, if multicast streams are gong to more than one LAN interface, comparing LAN and WAN counts may be impossible due to possible overlap in the LAN interface counts (i.e., two LAN interfaces with the same stream will double count).

15.6 LAN Configuration

This section explains how to configure your Gateway's LAN settings.
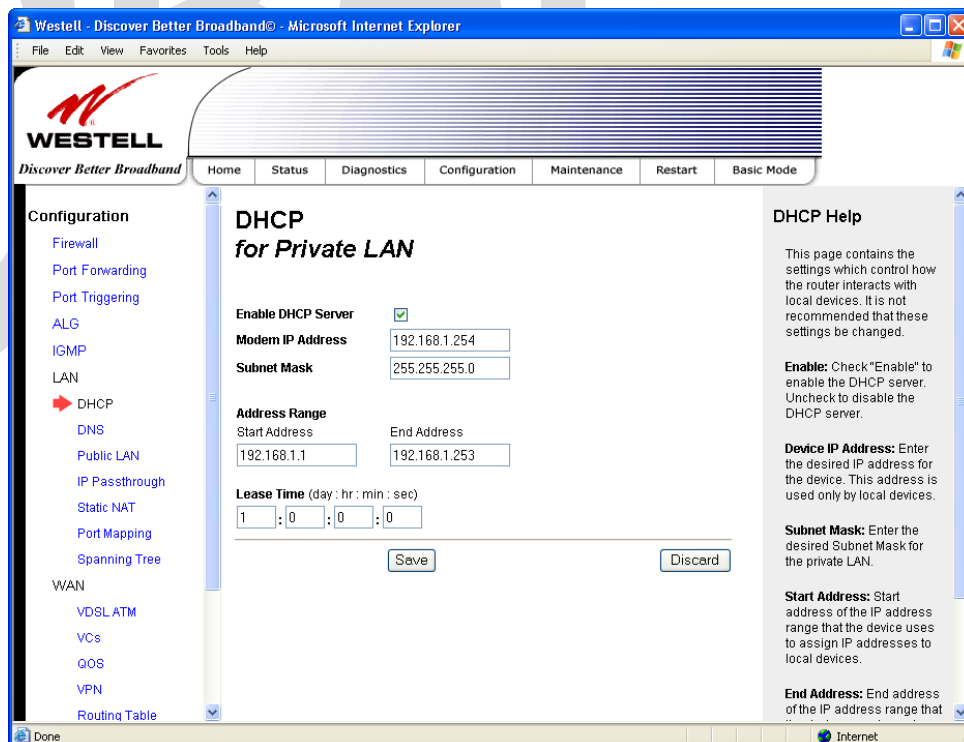
15.6.1   DHCP for Private LAN

The following screen will be displayed if you select **Configuration > LAN > DHCP** from the menu options. This screen allows you to control how the Gateway interacts with local devices to which it is connected.

NOTE: Westell recommends that you do not change these settings unless your service provider instructs you to do so.

To enable DHCP for Private LAN, do the following:

1. Click the **Enable DHCP Server** check box (a check mark will appear in the box). Note: By factory default this box will already contain a check mark.
2. Enter the appropriate address values in the fields provided. (Refer to the following table for information about the Private LAN settings.)
3. Enter the desired lease time values.
4. Click **Save** to save the settings.

DHCP Configuration for Private LAN	
Enable DHCP Server	Factory Default = Enable This setting allows the Gateway to automatically assign IP addresses to local devices connected on the LAN. Westell advises setting this to Enabled for the private LAN. Note: When Enabled (box is checked), DHCP addresses will be saved into the Private LAN configuration. Possible Responses: If this box is checked, the DHCP server will be turned On. If this box is unchecked, the DHCP server will be turned Off. Note: These addresses will be overwritten if the Internet Service Provider supports dynamic setting of these values.
Modem IP Address	The IP Address of the Gateway.
Subnet Mask	The Subnet Mask of the Gateway.
Address Range	
DHCP Start Address	Factory Default = 192.168.1.1 This field displays the first IP address that the DHCP server will provide. The DHCP Start Address must be within the Gateway's IP subnet and lower than the DHCP End Address. You may use any number from 0 to 254 in this address.
DHCP End Address	Factory Default = 192.168.1.253 This field displays the last IP address that the DHCP server will provide. The DHCP End Address must be within the Gateway's IP subnet and higher than the DHCP Start Address. You may use any number from 0 to 254 in this address.
DHCP Lease Time	Factory Default = 01:00:00:00 Displays the amount of time the provided addresses will be valid, after which the DHCP client will usually re-submit a request. Note: DHCP Lease Time is displayed in the format (day:hour:min:sec). This value must be greater than 10 seconds. (Hours must be between 0 and 23; Minutes must be between 0 and 59; and Seconds must be between 0 and 59.)

If the settings you have entered in the **DHCP for Private LAN** screen are incorrect, the following warnings messages may be displayed via pop-up screens. If this occurs, check the **Private LAN** settings.

Warning Message	Check Public LAN DHCP Settings
Start Address is not part of the Subnet	Check the value in the DHCP Start Address field
End Address is not part of the Subnet	Check the value in the DHCP End Address field
End Address is below the Start Address	Check the value in the DHCP End Address field
Lease time must be greater than 10 seconds	Check the values in the DHCP Lease Time fields
Seconds must be between 0 and 59	Check the **Seconds** field at DHCP Lease Time
Minutes must be between 0 and 59	Check the **Minutes** field at DHCP Lease Time
Hours must be between 0 and 23	Check the **Hours** field at DHCP Lease Time