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#### UltraLine II (Model A90-816030)

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## **1. PRODUCT DESCRIPTION**

Your Westell® UltraLine IIB functions as a Gateway or Router and enables you to connect multiple PCs on your LAN to the Internet. The UltraLine's 802.11 wireless interface enables you to establish a secure wireless connection with mobile computing devices.

Hereafter, the Westell® UltraLine IIB will be referred to as "Gateway" or "modem."

## 2. SAFETY INSTRUCTIONS

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

WARNING: 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. The voice over IP (VoIP) ports of the equipment are suitable for connection to intra-building or nonexposed wiring only.
- > 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.



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



# 3. REGULATORY INFORMATION

#### **3.1 FCC Compliance Note**

#### (FCC ID: CH8A9081XXYY-07)

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.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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

#### **RF EXPOSURE**

The antennas used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. End users and installers must be provided with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.

#### 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 816030) 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 816030), 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 DSL 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 816030) 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.

### 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 specification 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 816030) 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 816030) 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 816030) 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.



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



# 4. NETWORKING REQUIREMENTS

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

CONNECTION TYPE	MINIMUM SYSTEM REQUIREMENTS	
ETHERNET (E1, E2, E3, E4)	<ul> <li>Pentium® or equivalent class machines</li> <li>Microsoft® Windows® (98 SE, ME, 2000, NT 4.0, or XP) Macintosh® OS X, or Linux installed</li> <li>Microsoft® Server 2003 (all versions)</li> <li>Internet Explorer 4.x or Netscape Navigator 4.x or higher</li> <li>64 MB RAM (128 MB recommended)</li> <li>10 MB of free hard drive space</li> <li>TCP/IP Protocol stack installed</li> <li>10/100 Base-T Network Interface Card (NIC)</li> <li>Computer Operating System CD-ROM on hand</li> </ul>	
WIRELESS IEEE 802.11b/g	<ul> <li>Pentium® or equivalent class machines</li> <li>Microsoft® Windows® (98 SE, ME, 2000, or XP) or Macintosh® OS X installed</li> <li>Microsoft® Server 2003 (all versions)</li> <li>Computer Operating System CD-ROM on hand</li> <li>Internet Explorer 4.x or Netscape Navigator 4.x or higher</li> <li>64 MB RAM (128 MB recommended)</li> <li>10 MB of free hard drive space</li> <li>An available IEEE 802.11b/g PC adapter</li> </ul>	



# 5. HARDWARE FEATURES

### 5.1 LED Indicators

This section explains the LED States and Descriptions of your Gateway. LED indicators are used to verify the unit's operation and status.

LED	State	Description
	Solid Green	Gateway power is ON.
POWER (PWR)	Solid Red	POST (Power On Self Test), Failure (not bootable) or Device Malfunction. Note: The Power LED should be red no longer than two seconds after the power on self test passes.
	OFF	Gateway power is OFF.
F1 F2 F3 F4	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).
(Ethernet LAN)	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.
	Solid Green	Wireless is enabled and functioning.
WI FI	Flashing Green	Wireless LAN activity present (traffic in either direction).
WIFI	Off	Wireless is disabled or not functioning.
	Solid Green	Good DSL sync.
DSI 1	Flashing Green	DSL attempting to sync.
DSL2	Solid Red	DSL failed to sync at the physical layer. Gateway is in safeboot mode.
	Off	No DSL signal detected. Gateway power is OFF.
RONDED	Solid Green	Bonded operation is functioning properly.
DONDED	Off	No Bonding between the two DSL lines.
	Solid Green	Internet link established.
INTERNET	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	Modem power is OFF, Modem is in Bridge Mode, or the connection is not present.

#### LED States and Descriptions

NOTE: Safe Boot is reflected when the Power and Internet LED's are both Red and all other LED's are off.



UltraLine IIB (Model A90-816030)

#### 5.2 Rear Panel Components

- DSL2 connector (RJ-11)
- DSL1 connector (RJ-11)
- (4) Ethernet connector (RJ-45)
- Reset button
- Power connector (barrel)
- Power switch
- Wireless IEEE 802.11b/g SMA connector and antenna



### **5.3** Connector Descriptions

The following chart displays the connector types for the UltraLine IIB.

SYMBOL	NAME	Түре	FUNCTION
Ţ	DSL2 LINE	RJ-11	Connects to an ADSL-equipped telephone jack or DSL connection of a POTS splitter.
	DSL1 LINE	RJ-11	Connects to an ADSL-equipped telephone jack or DSL connection of a POTS splitter.
	ETHERNET (1, 2, 3, 4)	RJ-45	10/100 Base-T Ethernet Connection to PC or Hub.
12 VDC	POWER	Barrel connector	Connection to DC (12V) Power Connector.
Wireless	ANTENNA	SMA connector and antenna	Connects to wireless IEEE 802.11b/g device.



# 5.4 Pin-out Descriptions

The following table lists the Gateway's port pin-outs and descriptions.

Port	Pin-out	Description
Del 3	1,2,5,6	Not Used
DSL2	3	DSL TIP
DSL1	4	DSL Ring
	1	Rx+
ETHEDNET	2	Rx-
EI TEKINEI E1 E2 E3 E $4$	3	Tx+
E1, E2, E3, E4	4,5,7,8	Not Used
	6	Tx-



# 6. INSTALLING THE HARDWARE

### 6.1 Installation Requirements

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

- A Network Interface Card (NIC) installed in your PC
- An IEEE 802.11b/g adapter

IMPORTANT: Please wait until you have received notification from your Internet service provider (ISP) that your DSL line has been activated before installing the Gateway and the software. Internet service provider subscriber software and connection requirements may vary. Consult your ISP for installation instructions.

#### 6.2 Before you begin

Make sure your kit contains the following items:

- Westell® UltraLine IIB
- Power Supply
- RJ-45 Ethernet cable (straight-through) (yellow)
- SMA Antenna
- Westell CD-ROM containing User Guide in PDF format
- Quick Start Guide

# 6.3 Microfilters

ADSL 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 ADSL 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

NOTE: If you are using your Gateway in conjunction with an Ethernet Hub or Switch, refer to the manufacturer's instructions for proper installation and configuration. When using a Microfilter, be certain that the DSL phone cable is connected to the "DSL/HPN" non-filtered jack. Please wait until you have received notification from your ISP that your DSL line has been activated before installing the Gateway. **Westell recommends the use of a surge suppressor to protect equipment attached to the power supply.** An additional Ethernet cable may be required depending on the installation method you are using. Ethernet cables can be purchased at your local computer hardware retailer.

## 6.4.1 Installation via DSL1/DSL2



IMPORTANT: 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, you must set it to half duplex. Refer to the Ethernet card manufacturer's instructions for installing and configuring your Ethernet card.

- 1. Connect the DSL phone cable from the connector marked **DSL** on the rear panel of the Gateway to the DSLequipped telephone line jack on the wall. **IMPORTANT:** Do not use a DSL filter on this connection. You must use the phone cord that was provided with the kit.
- 2. Connect the yellow Ethernet cable (provided with your kit) from any one of the 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 your Westell Gateway**.

NOTE: When using the yellow VERSAPORT<sup>TM</sup>2 jack in **Private LAN** mode, you may connect either the yellow Ethernet cable (provided with your kit) or any other Ethernet cable to the VERSAPORT<sup>TM</sup>2 jack as the VERSAPORT<sup>TM</sup>2 jack will function as a fifth Ethernet switch. You may also connect to any of the four black Ethernet jacks on the rear panel of the Gateway as they serve as an Ethernet switch.

- 3. 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 a wall socket, and then turn on the power switch (if it is not already turned on).
- 4. Check to see if the DSL LED is solid green. If the DSL LED is solid green, the Gateway is functioning properly.
- 5. Check to see if the Ethernet LED is solid green. Solid green indicates that the Ethernet connection is functioning properly.
- 6. Check to see if the Internet LED is solid green. Solid green indicates that an Internet link has been established.

Congratulations! You have completed the DSL installation for your Gateway. No software installation is required when using only an Ethernet connection. You must now proceed to section 7, "Configuring the Gateway for Internet Connection."



# 6.4.2 Connecting PCs via Wireless

**IMPORTANT:** 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 account setup and configuration procedures. Later, for privacy you can change the SSID by following the procedures outlined in section 15.8 (Wireless Configuration).

IMPORTANT: Client PCs can use any Wireless Fidelity (Wi-Fi) 802.11b/g/g+ certified card to communicate with the Gateway. 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.

To network the Gateway to additional computers in your home or office using a wireless installation, you will need to confirm 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. Make sure the SMA antenna connector is loose. Orient the antenna in the proper configuration. Then, tighten the antenna knob to lock it into place.
- 4. Connect the DSL phone cable from the connector marked **DSL** on the rear panel of the Gateway to the DSLequipped telephone line jack on the wall. **IMPORTANT:** Do not use a DSL filter on this connection. You must use the phone cord that was provided with the Gateway kit.
- 5. 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 a wall socket, and then turn on the power switch (if it is not already turned on).
- 6. Check to see if the DSL LED is solid green. If the DSL LED is solid green, the Gateway is functioning properly.
- 7. Check to see if the Gateway's Wireless LED is solid green. This means that the Wireless interface is functioning properly.
- 8. Check to see if the Internet LED is solid green. Solid green indicates that an Internet link as been established.

Congratulations! You have completed the Wireless installation for your Gateway. You must now proceed section 7, "Configuring the Gateway for Internet Connection."



# 7. CONFIGURING THE GATEWAY FOR INTERNET CONNECTION

To browse the Internet using your UltraLine IIB, you must confirm your DSL sync, set up your account profile, and establish a PPP session with your Internet service provider (ISP).

NOTE: Internet service provider subscriber software and connection requirements may vary. Refer to the Internet service provider's installation manual to install the software required for your Internet connection.

## 7.1 Confirming a DSL Sync

After connecting the hardware for the UltraLine IIB, start your Internet browser and type http://192.168.1.1/ in the browser's address bar. Next, press 'Enter' on your keyboard. The following Connection Overview screen will be displayed.

You must have active DSL service before the UltraLine IIB can synchronize with your ISP's equipment. To determine if the Gateway has a DSL sync, view the DSL Connection Rate at the **Connection Overview** field. If the status reads **No DSL Connection**, check the DSL physical connection, explained in section 6 (INSTALLING THE HARDWARE) of this User Guide. The following screen shows the DSL connection rate with values that indicate a successful DSL SYNC has been established. The connection rate values represent the transmission speed of your DSL line. (The Gateway may take time to report these values.)

NOTE: If no DSL sync is established, the **Connection** button will not be displayed in the **Connection Overview** screen. To determine if the DSL sync is established, check the Gateway's DSL LED. If the DSL LED is not solid green, you do not have a DSL sync established. Contact your Internet service provider for further instructions. The Gateway will handle transmission rates up to 8 Mbps. Your actual DSL rates may vary depending on your Internet service provider.

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WESTELL Discover Better Broadband	Home	Status	Diagnostics	Restart	Advanced M	ode
Home Connection Connection Summary	Connect ADSL Line ADSL Line Connectio MainPPP	ttion 1 Status 2 Status in Name	PPP Status Down		Idle Idle Edit	Connection Help WAN Connect: Displays the cornection. The WAN connection The WAN connection must show a state of "Up" in order for the Gateway to communicate with your service providers' network. Connection Name: The "Connection Name: The "Connection no your loss. Connection profile contains information that the Gateway needs to establish a connection Status: The "PPP Status" or "Connection Status" (basec upon protocol) column will show a status of "Up" if the gateway is currently using that profile to communicate Connect/Disconnect "Connect/Disconnect"



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Connection Overview	Displays your ADSL connection rate.
Connection Name	The name of the connection profile you are using.
PPP Status	UP = PPP session established
	DOWN = No PPP session established.
Connect/Disconnect	Click Connect to establish a PPP session.
	Click Disconnect to disconnect a PPP session
Edit	Click Edit to edit the connection profile.

## 7.2 Setting Up a Connection Profile

After you have confirmed your DSL sync, click **Edit** in the **Connection Overview** screen to set up your connection profile. The following **Edit Connection** screen enables you to add new connection profiles or to edit existing connection profiles. 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. The **Connection Name** field allows 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 Internet service provider (ISP).

Important: Before you set up a connection profile, you must obtain your **Account ID**, **Account Password**, and **VPI/VCI** values from your Internet service provider. You will use 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.

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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iscover Better Broadband	Home Statu	Diagnostics	Restart	Advanced Mode		
Home	Connection			Conne	action Help	
Connection	Edit Connection 'Main	PPP"		This screen allows you to		
,	Connection Name	MainPPP		settings.		
	Account ID	User provided name for co	onnection profile.	Enable profile	x If checked this is enabled(Not	
	Account Password	Provided by your ISP		conne	ction page).	
	Connection	C Manual C On Dem	and 💿 Always On	Conne	ction Name:	
	MRU Negotiation	€ Enabled C Disable	d	conne	ction that the	
	LCP Echo	<ul> <li>Enabled</li> <li>Disable</li> <li>LCP Echo Failures</li> </ul>	d : (1-30)	Gatew use ar	ay will use. You may 1y name you like.	
		30 LCP Echo Duration	n (5-300) Irration (5-300)	Accou suppli	<b>nt ID:</b> The Account IE ed by your ISP.	
	Save	Back		Accou Accou phrasi verifie: ISP.	nt Password: The nt Password is a key e or text string which s your identity to the	
				Manua Demaa setting conne establ	nl/On nd/Always On: This determines how the ction to your ISP is ished. A "Manual"	



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 purposes.

IMPORTANT: Initially, you must use the factory default connection name "MainPPP" to establish a PPP session with your ISP. Then, if you want set up additional profiles, you may use connection names of your choice. The Connection Name is the name associated each connection profile. The Account ID and Account Password are provided by your Internet service provider and will be used for connection profile that you set up.

- 2) At the field labeled **Connection**, select the connection type (Manual, On Demand, Always On) that you want to use with this connection name. The factory default connection type is "Always On."
- 3) Select the MRU Negotiation and LCP settings that you want to use with this connection name. 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.

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biscover Better Broadband	Home State	us Diagnostics	Restart	Advanced Mode	
Home	Connection			Conne	ection Help
Connection Connection Summary	Edit Connection 'Mair	1PPP"		This section	creen allows you to e your connection
	Connection Name	MainPPP User provided name for con username@vourise pot	nection profile.	Enable	: If checked this
	Account Password	Provided by your ISP		profile availat conne	is enabled(Not ble on the MainPPP ction page).
	Connection MPLI Negatiation	Provided by your ISP C Manual C On Dema	nd 💿 Always On	Conne Nickna	ction Name: ame for the default
	LCP Echo	Enabled Obsabled     Enabled Obsabled     Enabled Obsabled     Enabled Obsabled	1-30)	Gatew Use ar	ay will use. You may ny name you like.
		30 LCP Echo Duration ( 5 LCP Echo Retry Dura	5-300) ation (5-300)	Accou suppli	<b>nt ID:</b> The Account ID ed by your ISP.
	Save	Back		Accou Accou phrase verifies ISP.	nt Password: The nt Password is a key e or text string which s your identity to the
				Manua Demai setting conne establ	I/On Ind/Always On: This I determines how the ction to your ISP is ished. A "Manual"



	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 Gateway 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 Gateway to automatically establish a PPP			
	session when you log on or if the PPP session goes down.			
MRU Negotiation	Factory Default = Enabled			
	When Enabled is selected, 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.			



## 7.3 Establishing a PPP Session

After you have set up your connection profile and clicked **Save**, view the **PPP Status** field at the **Connection Overview** screen. If the PPP Status displays **Down**, click the **Connect** button to establish a PPP session.

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

When the **Connection** screen displays **Up** in the **PPP Status** field, this indicates that you have established a PPP session with your ISP. As shown in the following screen, **MainPPP** is the factory default connection name used to establish a PPP session with your ISP. After you have established your PPP session, you may use other connection profiles that you have created via the **Edit** button. The name of the profile will be displayed in the **Connection Name** field. If needed, refer to section 7.2 for details on setting up a connection profile.

NOTE: If you experience problems establishing a PPP session, contact your ISP for further instructions.

Eile         Edit         View         Favorites         1	ools <u>H</u> elp			
WESTELL Discover Better Broadband	Home Status	Diagnostics	Restart	Advanced Mode
Home	Connection Summary			Connection
Connection				Summary Help
	ATM Bonded	E	nabled	
Connection Summary	ADSL Line 1 Status	ld	le	Internet IP Address: The IP
	Line 1 DSL Connect Rate (Do	wn/Up) 0	Mbps/OMbps	address of your Westell
	ADSL Line 2 Status	ld	le	connection to the Internet
	Line 2 DSL Connect Rate (Do	wn/Up) 0	Mbps/OMbps	as provided by your ISP.
	Aggregate DSL Rate	0	Mbps/OMbps	
	Internet IP Address	N	ot Connected	Internet IP Gateway: The IF
	Internet IP Gateway	N	ot Connected	address of your ISP's
	Primary DNS			gateway server to the
	Secondary DNS			ISP.
	User ID	us	sername@yourisp.net	Brimany DNS: The IP
	Connection Mode	PI	PPoE	address of your ISP's
	Connection State	D	own	Primary DNS server to the Internet as provided by your
	Modem's IP Address	19	92.168.1.1	ISP.
				Secondary DNS: The IP address of your ISP's Secondary DNS server to the Internet as provided by your ISP.
				User ID: (PPPoE) This is the same as your Account ID, supplied by your ISP.



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After you have established a PPP session with your ISP, you are ready to browse the Internet. For example, to visit Westell's home page, type **http://www.westell.com** in your Internet 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.



### 7.4 Disconnecting a PPP Session

If you have finished browsing the Internet and want to disconnect from your Internet service provider, click the **Disconnect** button in the **Connection Overview** screen. A pop-up screen will appear. Click **OK** to disconnect the PPP session.

IMPORTANT: If you disconnect the PPP session, this will disconnect the Gateway from the Internet, and all users will be disconnected until the PPP session is re-established.

If you clicked the **Disconnect** button in the **Connection Overview** screen, the PPP Status should display **Down**. This means that you no longer have a PPP session (no IP connection to your Internet service provider); however, your DSL session will not be affected. When you are ready to end your DSL session, simply power down the Gateway via the power switch on the Gateway's rear panel.

Westell - Discover Better Bro Eile Edit View Favorites	oadband© - Micr Iools Help	osoft Internet Exploi	er			
WESTELL Discover Better Broadband	Home	Status	Diagnostics	Restart	Advance	nd Mode
Home Connection Connection Summary	Connec ADSL Line ADSL Line Connectio MainPPP	tion 1 Status 2 Status n Name	PPP Status Down	1	ldie Edit	Connection Help WAN Connect: Displays the current status of the WAN connection. The WAN connection must show a state of "Up" in order for the Gateway to communicate with your service providers' network. Connection Name: The "Connection Name" displays the Gateway's connection profile. The connection profile. The connection profile. The connection profile contains information that the Gateway needs to establish a connection Status: The "PPP Status" or "Connection Status" (based upon protoco) column will show a status of "Up" if the gateway is currently using that profile to communicate. Connect/Disconnect "Connect/Disconnect"

When you are ready to establish a PPP session, click the **Connect** button. (If you powered down the Gateway, you must first power up the Gateway and then log on to your account profile to establish a PPP session.)

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 window will not affect your PPP Status (your PPP session will not be disconnected). You must click the **disconnect** button to disconnect your PPP session. When you are ready to restore the Gateway's interface, you must start your Internet browser and type **http://dslrouter**/ or type **http://192.168.1.1**/ in the browser's address bar and then press 'Enter' on your keyboard.



# 8. SETTING UP MACINTOSH OS X

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

NOTE: Macintosh computers must use the Modem Ethernet installation. Refer to section 6 (INSTALLING THE HARDWARE).

#### **Open the System Preference Screen**

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

📫 Grab File	e Edit Captu
About This Ma	ac
Get Mac OS X	Software
System Prefer	ences
Dock	•
Location	•
Recent Items	•
Force Quit	
Sleep	
Restart	
Shut Down	
Log Out	<b>☆</b> ₩Q

#### **Choose the Network Preferences**

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





#### **Create 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.

00	Network						
j 🛋		٨					
how All	Displays S	ound	Sta	rtup Disk	Network		
	Loca	ation 🗸	Auto	matic			
Configure:	Internal Moden	n	New Edit	Location.			
	ТС	P/IP	PPP	Proxies	Modem		

#### Name 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**.



#### Select the Ethernet Configuration

After clicking on **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 on **Save**.

NOTE: Default settings for the Built-in Ethernet configuration are sufficient to operate the Gateway.



#### **Check 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 on 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 6 for hardware installation instructions.

		2		
Show All Displays	Sound	Startup Disk	Network	
	Location:	Westell	\$	
Configure: Built-in	Ethernet	÷]		
		POF AnnieT	alk Provies	
-		or ppier		
Confi	gure: Using D	НСР	+	
		D	omain Name Serve	ers (Option
IP Address:	192.168.1.15 (Provided by DHC	P server)		
DHCR Client ID:				
DHCF Client ID.	(Optional)	S	earch Domains	(Optiona
				(optione
Ethernet Address:	00:30:65:e1:84	1:ba		
		Đ	cample: apple.com, e	arthlink.net



#### **Create a User Account**

In the address window of your Internet Explorer web browser, type http://dslrouter/, and then press 'Enter' on your keyboard.

00					0000	<u>ا</u> © ۱	VireSpee	d Dual Cor	nect			
d Back		X Stop	<b>R</b> efresh	<b>1</b> Home		AutoFill	Erint	🞽 Mail				e
Address: 🔘	) http://ds	:Irouter/										) go
() Live Home	e Page 🔞	)Apple ((	Apple Sup	port @	Apple	Store	iTools	🔘 Mac OS X	🔞 Microsoft MacTopia	Office for Macintosh	O MSN	
Fav												

The **Connection Overview** screen will be displayed. You may now begin your Account Setup. Refer to section 7 of this User Guide to configure your Westell Gateway for Internet connection.

🖉 Westell - Discover Better Bro	adband© - Micro	soft Internet Expla	rer			<u>_ 0 ×</u>
<u> </u>	[ools <u>H</u> elp					<b>**</b>
WESTELL						
Discover Better Broadband	Home	Status	Diagnostics	Restart	Advanced M	ode
Home	Connect	ion				Connection Help
Connection Connection Summary	ADSL Line ADSL Line 2	1 Status 2 Status			ldle Idle	WAN Connect: Displays the current status of the WAN connection. The WAN
	Connectior MainPPP	ı Name	<b>PPP Status</b> Down	1	Edit	connection must show a state of Up? in order for the Gateway to communicate with your service providers' network.
						Connection Name: The "Connection Name" displays the Gateway's connection profile. The connection profile contains information that the Gateway needs to establish a connection to your ISP.
						PPP/Connection Status: The "PPP Status" or "Connection Status" (based upon protocol) column will show a status of "Up" if the gateway is currently using that profile to communicate.
						Connect/Disconnect Button (PPPoE/PPPoA only): The "Connect"/"Disconnect"



# 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 Main menu 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 the screens 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 allow you to change the configurable settings of your Gateway and require that you save the settings. To save your settings, click the **Save** button. To discard any changes you have made to the screen, click the **Discard** button. If you click the **Discard** button, the screen will refresh and display the previously saved settings.

	🖉 Westell - Discover Better Br	oadband© - Microsoft Internet Explorer			
	<u>File E</u> dit <u>V</u> iew F <u>a</u> vorites	<u>I</u> ools <u>H</u> elp			
	M				
	WESTELL				
	Discover Better Broadband	Home Status Diagnostics	Restart Advance	d Mode	
7	Home	Connection Summary		Connection Summary Help	
	Connection	ATM Bonded	Enabled	Summary Heip	
Active Page	Connection Summary	ADSL Line 1 Status Line 1 DSL Connect Rate (Down11n)	ldie O Mhns ( 0 Mhns	Internet IP Address: The IP address of your Westell	Main Menu
		Submenu Options	Help Section		



# **10. HOME**

### **10.1 Connection**

After you have set up your account profile and established your PPP session with your Internet service provider (ISP), as previously discussed in section 7, you are ready to configure your Gateway. The following screen will be displayed if you select **Home > Connection** from the menu options.

**Description:** The **Connection** screen enables you to view your ADSL and PPP connection status, set up account profiles (via the Edit button), and establish your PPP session. If needed, please refer to section 7 for details on the Connection screen. View this screen after you have reset your modem, restarted your PC, or anytime you want to check the connectivity status of the UltraLine IIB connections.

NOTE: The following screen displays "**MainPPP**" as the active connection profile. This is the factory default profile that you must use to establish a PPP session with your ISP. After you have established a PPP session, you may use other connection profiles that you may have created via the **Edit** button. Refer to section 7.2 for details on setting up a connection profile.

WESTELL				
Discover Better Broadband	Home Status Diagnostics	Configuration Mainter	ance Restart	Basic Mode
Home	Connection			Connection Help
Connection	ADSL Line 1 Status ADSL Line 2 Status	G.992 Sta Idle	arted	WAN Connect: Display: current status of the W/
	Connection Name MainPPP	PPP Status Down	Edit	connection must show state of "Up" in order for Gateway to communica with your service provid network.
				Connection Name: The "Connection Name" displays the Gateway's connection profile The connection profile contr information that the Gateway needs to esta a connection to your ISI
				PPP/Connection Statu The "PPP Status" or "Connection Status" (b: upon protocol) column show a status of "Up" it gateway is currently us that profile to communi

	Connection			
ADSL Line 1 Status	Displays the connectivity status of ADSL Line 1.			
ADSL Line 2 Status	Displays the connectivity status of ADSL Line 2.			
Connection Name	The Connection Name is from the connection profile that you set up in section 7.2.			
PPP Status	Up = PPP session established			
	Down = No PPP session established.			
Connect/Disconnect	Click Connect to establish a PPP session.			
	Click Disconnect to disconnect a PPP session			
	Note: This button will not be displayed until a DSL sync has been established.			
Edit	Click Edit to add or edit a connection profile. Refer to section 7.2 for details on			
	connections profiles.			



### **10.2 Connection Summary**

The following screen will be displayed if you select **Home** > **Connection Summary** from the menu options.

**Description:** The **Connection Summary** screen displays general information about your Gateway's ADSL connection.

WESTELL						
iscover Better Broadband	Home Status	Diagnostics	Restart	Advanced Mode	7	
Home Connection Connection Summary	Connection Summary ATM Bonded ADSL Line 1 Status Line 1 DSL Connect Rate (Dow ADSL Line 2 Status Line 2 DSL Connect Rate (Dow Aggregate DSL Rate Internet IP Address Internet IP Address Internet IP Gateway Primary DNS Secondary DNS User ID Connection Mode Connection State	ուՍք) ՈւՍք)	Enabled Idle 0 Mbps / 0 Mbps Idle 0 Mbps / 0 Mbps 0 Mbps / 0 Mbps Not Connected Not Connected username@yourisp.net PPPoE Down	cs	onnection ummary Help Internet IP Address: The IP address of your Westell Gateways WAN side connection to the Internet as provided by your ISP. Internet IP Gateway: The IP address of your ISP's gateway seevre to the Internet as provided by your ISP. Primary DNS : The IP address of your ISP's Primary DNS server to the Internet as provided by your ISP.	×
	Modem's IP Address		192.166.1.1		ISP. Secondary DNS: The IP address of your ISP's Secondary DNS server to the Internet as provided by your ISP. User ID: (PPPoE) This is the same as your Account ID. supplied by your ISP.	

	Connection Summary
ATM Bonded	Indicates whether the ATM Bonded feature is enabled or disabled.
ADSL Line 1 Status	Displays the connectivity status of ADSL Line 1.
Line 1 DSL Connect Rate	The transmission speed of ADSL Line 1.
(Down/Up)	
ADSL Line 2 Status	Displays the connectivity status of ADSL Line 2.
Line 2 DSL Connect Rate	The transmission speed of ADSL Line 2.
(Down/UP)	
Aggregate DSL Rate	The combined transmission speed of the two lines (DSL1 and DSL2).
Internet IP Address	The WAN side or Gateway's IP address to the Internet. Provided by your ISP.
Internet IP Gateway	The IP address of your ISP's server to the Internet. Provided by your ISP.
Primary DNS	The IP address of your ISP's primary DNS server. Provided by your ISP.
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 ISP.
Connection Mode	The Gateway's mode of connection to your ISP. This can be PPPoE, PPPoA,
	Bridge, or IP.
Connection State	The Gateway's PPP connectivity status to the Internet. The DSL status must be up
	in order for the PPP connectivity to be up.
Modem's IP Address	The IP Address on the LAN side of your Gateway.
Ethernet Status	The Gateway's LAN-side Ethernet connection status. This is the Ethernet status
	between the Gateway and your computer.



# 11. STATUS

#### 11.1 About

The following screen will be displayed if you select **Status > About** from the menu options.

Description: The About screen displays general manufacturer's information about your Gateway.

🖉 Westell - Discover Better I	Broadband© - Micro	soft Internet Exp	lorer				×
Elle Edit View Pavorites	Lools Help	Status	Diagnostics	Restart	Advanced Mode		-
Status	About				Abou	t Help	
✦ About LAN Devices RIP Routing Tables Wireless Stations	Gateway Ty Model Num Serial Num Software V Boot Loade INI File MAC Addre Warranty D	npe Ultra ber A90 ber 000 (ersion VER r Eng Nom ss 00:6 vate 091	aLine II Bonded -816030 01 :01.00.03.00 :01:02:20 :e (None) 50:0F:00:00:01 52004		Gater mann desc Mode mani numi Seria mann numi Softv mann appli versi devic Boot mann softw for th INI Fii initia versi set u within	way Type: The Jfacturer's text ription for the unit, i.e. em, Router etc. em Number: The Jfacturer's model ber of the device. In Number: The Jfacturer's serial ber of the device. ware Version: The Jfacturer's processing cation software on number for the e. Loader: The Jfacturer's boot loader are version number e device. It The manufacturer's lization "INI" file and on number. Used to p default parameters in the device.	

About			
Gateway Type	The manufacturer's modem name.		
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 load number.		
INI File	The Gateway manufacturer's INI information.		
MAC Address	Media Access Controller (MAC) i.e., hardware address of this device.		
Warranty Date	The start date of the modem's warranty		



# **11.2 LAN Devices**

The following screen will be displayed if you select **Status > LAN Devices** from the menu options.

**Description:** The LAN Devices screen displays all the devices associated with your the LAN (via physical or wireless connections).

<u>File Edit View Favorites</u>	adband© - Micro Tools <u>H</u> elp	osoft Internet Ex	xplorer			
WESTELL Discover Better Broadband	Home	Status	Diagnostics	Restart	Advanced Mode	
Status About LAN Devices RIP Routing Tables Wireless Stations	Lan Dev IP Addres 192.168.1 192.168.1 192.168.1	rices s 89.253 89.254 .19	MAC Address 02:10:18:01:00:02 02:10:18:01:00:01 00:50:DA:B2:D9:F1	Name 192.168.189.253 192.168.189.254 SALLE-982	Lan Devices Help Description: Displays I current devices the mo has found on your LAN IP Address: This is the assigned IP address of device on your LAN. Ethernet MAC address This is the assigned Ethernet MAC (i.e., hardware) Address of device on your LAN. Name: This is the devic assigned name provid the Gateway through D lookup.	the dem fthe fthe ke ke ve's ed to NS
					Nationally Address of the device on your LAN. <b>Name:</b> This is the devic assigned name provid the Gateway through D lookup.	ed NS

	LAN Devices
IP Address	The assigned IP address of the networking device.
MAC Address	The Ethernet media access controller (MAC) address of the networking device (i.e.,
	the hardware address). This is a unique number entered into the device's permanent
	memory during production.
Name	The computer's assigned name. (The computer name or the IP address may be
	displayed in this field.)



# **11.3 RIP Routing Tables**

The following screen will be displayed if you select **Status > RIP Routing Tables** from the menu options.

**Description:** RIP (Routing Information Protocol) is a dynamic inter-network routing protocol primarily used in interior routing environments. It is a dynamic routing protocol that automatically discovers routes and builds routing tables, as opposed to a static routing protocol.

Westell - Discover Better Bro File Edit View Favorites	o <mark>adband© - Micr</mark> Iools <u>H</u> elp	osoft Internet Exp	lorer			
WESTELL						
oiscover Better Broadband	Home	Status	Diagnostics	Resta	rt Advar	nced Mode
Status About	RIP Rou	uting Tables				RIP Routing Tables Help
LAN Devices RIP Routing Tables	Destinatio	n	RIP Network Routi Netmask	ing Table Gateway	<b>Description:</b> The RIP table maintains the routes or paths of where specific	
Wireless Stations	RIP Host Routing Table Destination Netmask Gatewav Metric					types of data shall be routed across a network.
	Destinatio	•		Salendy	meate	RIP Network Routing Table: Network routes received via RIP.
						<b>Destination:</b> The Destination address of the Route.
						Netmask: IP mask of route.
						Gateway: Gateway to route.
						<b>Metric:</b> RIP metric (0-15). Lower is better.
						<b>RIP Host Routing Table:</b> Host routes received via RIP.
						<b>Destination:</b> The Destination address of the Route

RIP Routing Tables				
RIP Network Routing Table	Indicates Network routes received via RIP.			
RIP Host Routing Table	The Host routes received via RIP.			
Destination	The destination IP address of the route			
Netmask	The IP mask of the route			
Gateway	The gateway of the route			
Metric	The RIP metric (0-15). A lower value is better.			



### **11.4 Wireless Stations**

The following screen will be displayed if you select **Status > Wireless Stations** from the menu options.

Description: Displays information about the wireless stations (devices) that are associated with your Gateway.

Eile Edit View Favorites	Jools Help	Internet Explo	ner					
WESTELL								
scover Better Broadband	Home	Status	Diagnostics		Restart		Advanced Mo	de
Status	Wireless St	ations						Wireless Stations Help
About	IP Address	MAC Ad	dress	Na	me	State		
LAIN Devices		00:09:5E	B:D2:CF:CB			Asso	ciated	This page displays the stations that are associated
RIP Routing Tables	192.168.1.13	00:03:C!	9:4F:12:66	SA	LLE-XP2	Asso	ciated	with the AP. To Associate is
								periods of heavy WLAN traffic, it is possible management messages will be dropped in favor of data. In such instances, it is possible for the list to show a station still associated with the AP even though the station may have roamed to another AP or is off.
								IP Address: The Internet Protocol address assigned to the station.
								Media Access Controller "MAC" Address: The manufacturer's hardware address assigned to the station. This is a unique number entered into the WLAN device's permanent memory during production.

Wireless Stations						
IP Address The IP address of the station associated with the Gateway.						
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.					
Name	The name of the station associated with the Gateway.					
State	Indicates the station's wireless connectivity state.					



# **12. DIAGNOSTICS**

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

**Description:** Allows you to perform simple diagnostics on your Gateway and to test your connectivity to other networking devices.

NOTE: This function is not be available if your Gateway is in Bridge mode.

7								
Westell - Discover Better Broad File Edit View Eavorites T	ndband© - Micro ools Heln	osoft Internet Explo	rer				<u> </u>	
WESTELL								
Discover Better Broadband	Home	Status	Diagnos	stics	Restart	Advance	ed Mode	
	Diagnos	tics			1			
Diagnostics							Diagnostics Help	
Diagnostics	DNS Test	Connec WAN Co PPPoE	tion onnection	Status Down disconr	nected	hostname	This page provides tools t diagnosing PPP connecti problems. Some tests depend on the modem status and the capabilities exercised by previous test and therefore may not be run.	or on s :s,
	PING Test	4.23.144.67				IP address or host name	Connection / Status Ethernet WAN	
	Trace I Trac	Route e 5				Trace Route max hops	The modern status check the Ethernet WAN connection. The following a list of the possible responses:	s
	Test	All	Test R	esults			Up The modem is operatin	g
						<u>*</u>	correctly and has achieved link state on th Ethernet WAN.	10
							Down	
							Explanation: The mode is operating correctly, b has not achieved link state on the Ethernet	n ut

	Connection/Status				
	The first line displays the physical interface used.				
	Possible Responses:				
	DSL				
	Ethernet WAN				
Connection	The second line displays the Protocol used to establish the session.				
Connection	Possible Responses:				
	PPPoE				
	PPPoATM				
	RoutedBridge				
	Bridge				



	The first line displays the status of the physical interface connection						
	Possible Responses:						
	UP – The interface connection is Up.						
Status	Down – The interface connection is Down.						
Status	The second line indicates the status of the Protocol used.						
	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.						
	Possible responses are:						
	Success: The Gateway has successfully obtained the resolved address. The IP address is						
	shown below the host name input box.						
	No Response: The Gateway 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 Gateway'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.						
TD A JJacob	ID Address of the Host Name						
IP Address	IF Address of the flost Malle.						
PING	Performs an IP connectivity check to a remote computer either within or beyond the						
PING (via IP Address or	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						
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.						
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:						
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.						
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.						
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.						
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 Gateway settings. Check your						
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 Gateway settings. Check your DSL sync or your PPP session. You must have both a DSL sync and a PPP connection						
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 Gateway 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.						
PING (via IP Address or Host Name) Trace Route	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 Gateway 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.						
PING (via IP Address or Host Name) Trace Route	<ul> <li>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.</li> <li>Possible responses are:</li> <li>Success: The Remote Host computer was detected.</li> <li>No Response: There was no response to the Ping from the remote computer.</li> <li>No name or address to PING: No host name or IP address was specified.</li> <li>Could not test: The test could not be executed due to the Gateway 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.</li> <li>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</li> </ul>						
PING (via IP Address or Host Name) Trace Route	<ul> <li>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.</li> <li>Possible responses are:</li> <li>Success: The Remote Host computer was detected.</li> <li>No Response: There was no response to the Ping from the remote computer.</li> <li>No name or address to PING: No host name or IP address was specified.</li> <li>Could not test: The test could not be executed due to the Gateway 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.</li> <li>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.</li> </ul>						
PING (via IP Address or Host Name) Trace Route Max hops	<ul> <li>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.</li> <li>Possible responses are:</li> <li>Success: The Remote Host computer was detected.</li> <li>No Response: There was no response to the Ping from the remote computer.</li> <li>No name or address to PING: No host name or IP address was specified.</li> <li>Could not test: The test could not be executed due to the Gateway 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.</li> <li>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.</li> </ul>						
PING (via IP Address or Host Name) Trace Route Max hops Test All	<ul> <li>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.</li> <li>Possible responses are:</li> <li>Success: The Remote Host computer was detected.</li> <li>No Response: There was no response to the Ping from the remote computer.</li> <li>No name or address to PING: No host name or IP address was specified.</li> <li>Could not test: The test could not be executed due to the Gateway 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.</li> <li>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.</li> <li>The number of hops from the Gateway to the specified destination.</li> <li>Allows you to run a full diagnostic test.</li> </ul>						
PING (via IP Address or Host Name) Trace Route Max hops Test All	<ul> <li>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.</li> <li>Possible responses are:</li> <li>Success: The Remote Host computer was detected.</li> <li>No Response: There was no response to the Ping from the remote computer.</li> <li>No name or address to PING: No host name or IP address was specified.</li> <li>Could not test: The test could not be executed due to the Gateway 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.</li> <li>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.</li> <li>The number of hops from the Gateway to the specified destination.</li> </ul>						
PING (via IP Address or Host Name) Trace Route Max hops Test All	<ul> <li>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.</li> <li>Possible responses are:</li> <li>Success: The Remote Host computer was detected.</li> <li>No Response: There was no response to the Ping from the remote computer.</li> <li>No name or address to PING: No host name or IP address was specified.</li> <li>Could not test: The test could not be executed due to the Gateway 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.</li> <li>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.</li> <li>The number of hops from the Gateway to the specified destination.</li> </ul>						
PING (via IP Address or Host Name) Trace Route Max hops Test All	<ul> <li>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.</li> <li>Possible responses are:</li> <li>Success: The Remote Host computer was detected.</li> <li>No Response: There was no response to the Ping from the remote computer.</li> <li>No name or address to PING: No host name or IP address was specified.</li> <li>Could not test: The test could not be executed due to the Gateway 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.</li> <li>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.</li> <li>The number of hops from the Gateway to the specified destination.</li> <li>Allows you to run a full diagnostic test.</li> </ul>						



- 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.

If you click Test All, the following screen will display the results in the window labeled Test Results.

<u>File Edit View Pavorites</u>	Tools Helb						
N	/						
WESTELL							
Discover Better Broadband	Home	Status	Voice Settings	Diagnostics	Restart	Advanced Mode	
	Diag	nostics					
Diagnostics			Connection	Statue			Diagnostics Help
Diagnostics			DSL PPPoE	Up connected			This page provides tools for diagnosing PPP connection problems. Some tests depend on the modem crature and the consolitities
		DNS Test			host n	ame	and therefore may not be run.
		PING	SUCCESS		IP add	ress	Connection / Status
		Trace Rout	e		or hos	t name Route	The WAN interface may be configured to be either DSL or Ethernet.
		Hade	5		max h	pps	DSL
		TestAll		Test Results			The ADSL Modern status checks the modern connection. The following is a list of the possible responses:
		PING PING 4.23 64 bytes	Test Results .144.67 (4.23.1 from 4.23.144.6	- 44.67): 56 dat 7: icmp_seq=0	a bytes ttl=252		Up The ADSL Modem is
		4.23. 1 packets	144.67 ping sta transmitted, 1	tistics packets recei	ived, 0% packe	t _	operating correctly and has achieved synchronization with the DSLAM (ISP equipment).
		round-tri	p min/avg/max =	10.8/10.8/10.	.8 ms	<u> </u>	Down
			~				



# **13. RESTART**

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

**Description:** Allows you to restart your Gateway and either keep or erase the Gateway's current configuration settings. To erase the current configuration and reset the Gateway to the factory default settings, click the check box labeled **Reset device to configuration to factory defaults** prior to clicking the **Restart** button; all custom configuration information will be erased. If you want to retain your current configurations while restarting the Gateway, leave the box unchecked and simply click **Restart**.

WESTELL											
iscover Better Broadband	Home	Status	Diagnostics	(Restart)	Advanced Mode						
Restart ▶ Restart Device	Click the	t Device Reset device configu "Restart" button to r	ration to factory default estart the device. Restart	S	Restart Device Help         Two restart options are provided. If you wish to reserve your device to its original factory settings, check the box labeled "Reset device configuration to factory defaults" and click the "Restart" button.         If you wish to perform a device restart while retaining the device's current configuration settings, leave the box unchecked and click the "Restart" button.         Clicking the "Restart" button is functionally equivalent to physically turning the power of and on to the device. Restarting may be useful to recovering from situations where the device is performing abnormally.						

After you click **Restart**, 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 for your Gateway to restart. After your Gateway has restarted, the **Edit Connection** screen will be displayed.

NOTE: You may hear a click in the modem during restart. Please do not be alarmed as this will occur whenever the Gateway restarts.



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 modem to the factory default configuration, you must set up your account profile and establish your connection as previously explained in section 7, "Configuring the Gateway for Internet Connection."

N							
WESTELL Discover Better Broudband	Home S	tatus	Voice Settings	Diagnostics	Restart	Advanced Mode	
Home	Connection						Connection Help
Connection Summary	DSL Connec Connection MainPPP	t Rate (Dov	PPP Status Up	8064 KJ	ops / 1024 Kbps	Edit	DSL connect Pate (ADS) mode/ iPthernet Connection (Uplink mod Displays the current sta of the connection with y service provides' network in ADSL mode, the stalus of the ADSL mode, the stalus of the ADSL mode, the stalus of the uplink connection is displayed (UpDown). Connection Name: The "Connection Stalus" (upon protocol) column show a status of "Up" in attervise (upper Name:


# 14. ADVANCED MODE

The following screen will be displayed if you select **Advanced** from the menu options (if you are currently in Basic Mode).

NOTE: 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) of this User Guide.





# **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.

Description:

<u>File Edit View Favorites</u>	Jools Help	
WESTELL		
Discover Better Broadband	Home Status Voice Settings Diagnostics Configuration Maintenance Restart Basic Mode	
Configuration	Firewall	Firewall Help
🔶 Firewall		
Port Forwarding	Inbound traffic may be controlled by configuring Port Forwarding.	traffic other than Mail,
Port Triggering	C High Blocks all outgoing traffic except Mail	News, Web, FTP, and IPSEC will be blocked. The
ALG	C to down Same as high and user can set custom	high security setting cannot
LAN	rules through NAT configuration.	changes to the NAT
DHCP	Only known security holes are protected.	configuration.
DNS		Medium: By default,
Public LAN	C Off All traffic is allowed.	identical to high security.
IP Passthrough	Firewall Logging	However, medium security allows customization
Static NAT		through NAT configuration, which may allow additional
Port Mapping	Log all permitted inbound traffic	traffic to pass.
Spanning Tree	Log all permitted outbound traffic	Low: The low security
WAN	Log all blocked outbound traffic	setting will allow all traffic
VersaPort	Log traffic specified in rules	Unsolicited inbound traffic
VCs	Log administrative access	on the WAN IS Still discarded.
VPN		Off: The firewall is
Routing Table	Remote Logging	disabled. All outgoing traffic
Wireless	Enable	is allowed. Unsolicited inbound traffic on the WAN
Basic	Remote IP Address Save	is still discarded.
Security		, Remote Locaina: Remote,

	Security Level	
High	High security level only allows basic Internet	et functionality. Only Mail,
	News, Web, FTP, and IPSEC are allowed. A	Il other traffic is prohibited.
Medium	Like High security, Medium security only al	lows basic Internet
	functionality by default. However, Medium	security allows
	customization through NAT configuration se	o that you can enable the
	traffic that you want to pass.	
Low	Factory Default = Low	
	The Low security setting will allow all traffi	c except for known attacks.
	If security is set to Low, the Gateway will be	e visible to other computers
020 200470 Dave A	20	Ostahar 2005



	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			
Enable	Factory Default = Disable			
	If Enabled (box is checked), the Gateway will send firewall logs to a			
	syslog server.			
Remote IP Address	The IP address of the syslog server machine to which the diagnostics logs			
	to be sent.			



# **15.2 Port Forwarding Configuration**

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



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 profile.



UltraLine IIB (Model A90-816030)



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.

Elle Edit View Favorites						
	Home Status Voice	e Settings Diagnost	ics Configuration	Maintenance	Restart Basic M	Application Port
Firewall	- Add an Ap	plication Servie	ce .			Forwarding Help
Port Forwarding	Application	Aliens	vs. Predator			<b>Description:</b> This is the Pre-Defined Application
Port mggening	Protocol	Start Port	End Port	LAN Port	Direction	services. Use this screen Add Pre-Defined
ALG	udp	80 2200	80 2200	80	dst	application to your Port
LAN	udp	8000	8999	8000	dst	Forwarding service list.
DHCP						Application: The name of
DINS Dublic LAN	IP address	192.168.1.1	9	OR SALLE-9	82 💌	the selected application.
IP Posstbraugh	Dynamic Applic	ation 🗖				Protocol: IP Protocol type Valid types are:
Static NAT	Add Convice			Peek		rand (poor are.
Port Manning	Add Service	3		DOCK		<ul> <li>TCP: Transmission Control Protocol.</li> </ul>
Spanning Tree						<ul> <li>UDP: User Datagran</li> <li>Protocol</li> </ul>
WAN						. BOTH: BOTH
VersaPort						Protocol and User
VCs						Datagram Protocol.
VPN						Start Port: The starting IP
Routing Table						Port number for Incoming WAN Packets.
Wireless						
Basic						Port number for Incoming
						WAN Packets.

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.
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**, the following screen will be displayed. To view the details of a service you have added, click the **Details** button adjacent to the service you want to view.

<b>M</b> (			
WESTELL			
scover Better Broadband	e Status Voice Settings Diagnostics Configuration	faintenance Restart Bas	sic Mode
2 Configuration	Port Forwarding		Port Forwarding Help
Firewall			Description This option
Port Forwarding			allows you to forward a
Port Triggering	Aliens vs. Predator 192.168.1.19	Details Delete	range of WAN ports to an IP address on the LAN.
ALG	America Online 192.168.1.19	Details Delete	Displayed are the currently active "Port Forwarding
LAN			Service". You can add more
DHCP	Service Name Select A Service		pre-defined services (or create your own services)
DNS			by selecting the appropriate entry in the "Service Name"
Public LAN			select box.
IP Passthrough			Service: This is the name
Static NAT			of the service that is active.
Port Mapping			LAN IP Address: This is the
Spanning Tree			IP address of a machine or your LAN to Forward the
WAN			ports to, or "Dynamic" if the
VersaPort			service was activated as a "Dynamic" service.
VCs			
VPN			will a more detail
Routing Table			description of the selected service.
Wireless			
Basic			will "delete" the currently
Security			selected service.
MAC Filter			Consistent Manager I I and their



If you clicked the **Details** button, the following screen will be displayed. After viewing the details of your service, 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.





If you clicked **Delete** in the preceding screen, the following pop-up screen will be displayed. Click **OK** in the popup screen; the service will then be removed from the list of selected services. Click **Cancel** if you do not want to delete the selected service.

Microsof	t Internet Explorer 🔀
?	Are you sure you want to delete this Service: Aliens vs. Predator?
	Cancel

# **15.3 Port Triggering**

The following screen will be displayed if you select Port Triggering from the Configuration menu. 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 provide. Click **Save** to save your settings.



	Port Triggering Configuration
Outgoing Protocol	Factory Default = TCP
	The outgoing protocol for the triggered ports.
	Possible Response:
	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 Response:
	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 ALG from the Configuration menu. This page enables you to configure ALG services for your Gateway. Click on the box of each service that you want to enable (a check mark will appear in the box), and then click **Save** to save the settings.

🖉 Westell - Discover Better Broad	band© - Microsoft Internet Explorer			
<u>F</u> ile <u>E</u> dit ⊻iew F <u>a</u> vorites <u>I</u> oo	ols <u>H</u> elp			<b>*</b>
WESTELL Discover Better Broadband Ho	me Status Voice Settings Diagnosti	cs Configuration Maintenance 1	Restart Basic Mode	
	ALG	· · · · · · · · · · · · · · · · · · ·		ALG Help
Firewall	Name	Enabled		Description: This page is
Port Forwarding				used to configure the ALG Services. Note that when
Port Triggering	FTP			the firewall level is set to
🔶 ALG	TETD			not be configurable.
LAN	рртр	<u></u> ज		Name: The Name of the
DHCP	Direct X ver 8			ALG Service.
DNS	IPSec			Enabled: Check to enable
Public LAN	Windows Media Player			the service, clear to disable.
IP Passthrough				Save: Save the ALG
Static NAT	Save			Services configuration
Port Mapping				inionnauon.
Spanning Tree				Edit: Display/modify the
WAN				for certain ALG services (if
VersaPort				preseny.
VCs				
VPN				
Routing Table	J			
Wireless				
Basic				

	ALG
Name	The name of the ALG service.
Enabled	To enable the service, click on the adjacent box (a check mark will appear in the box). To disable the service, click to uncheck the box.



# **15.5 LAN Configuration**

### 15.5.1 DHCP

The following screen will be displayed if you select LAN > DHCP from the Configuration menu. This page enables you to control how the Gateway interacts with local devices to which it is connected. Enter the appropriate values, and then click Save to save your settings.

NOTE: Westell recommends that you do not change these settings unless instructed by your Internet service provider.

<u>File E</u> dit <u>V</u> iew F <u>a</u> vorites <u>i</u>	ools <u>H</u> elp	
WESTELL	Nome Status Voice Settings Diagnostics Configuration Maintenance Restart Basic Mode	
Configuration Firewall Port Forwarding Port Triggering	DHCP for Private LAN Enable DHCP Server Modern IP Address 192.168.1.1	This page contains the settings which control how the ADSL router interacts with the local devices connected to the router. It is
LAN DHCP DNS Public LAN	Subnet Mask         255 255 255 0           Address Range         End Address           Start Address         End Address           1192 168 1 10         I192 168 1 20	not recommended that these settings be changed. Enable: Check "Enable" to enable the DHCP server. Uncheck to disable the DHCP server.
IP Passthrough Static NAT Port Mapping Spanning Tree	Lease Time (day: hr: min: sec)           1         0         0           Save         Discard	Modem IP Address: Enter the desired IP address for the modem. This address is used only by local devices.
WAN VersaPort VCs		Subnet Mask: Enter the desired Subnet Mask for the private LAN.
VPN Routing Table Wireless		Start Address: Start address of the IP address range that the modern uses to assign IP addresses to local devices.
Basic Security	*	End Address: End address of the IP address range that

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.				
	Private LAN = DHCP addresses will be saved into the Private LAN configuration.				
	Public LAN = DHCP addresses will be saved into the Public LAN configuration. (This				
	option is only available if the Public LAN DHCP server is enabled.)				
	Possible Response:				
	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 = 192.168.1.10				



	This field displays the first IP address that the DHCP server will provide. The DHCP				
	Start Address must be within the router's subnet IP and lower than the DHCP End				
	Address. You may use any number from 0 to 254 in this address.				
DHCP End Address	Factory Default = 192.168.1.20				
	This field displays the last IP address that the DHCP server will provide. The DHCP				
	End Address must be within the router's subnet IP 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. Seconds must be between 0 and 59, minutes must be				
	between 0 and 59, and hours must be between 0 and 23.				

#### 15.5.2 DNS

The following screen will be displayed if you select LAN > DNS from the Configuration menu.

🚰 Westell - Discover Better Broa	dband© - Microsoft Internet Expl	orer			- 🗆 🗵
<u>File E</u> dit <u>V</u> iew F <u>a</u> vorites <u>T</u>	ools <u>H</u> elp				<b>1</b>
		L	1 1		
Discover Better Broadband	ome Status Voice Settings D	iagnostics Configuration	Maintenance	Restart Basic Mode	)
Configuration	DNS				DNS Help
Firewall Port Forwarding	Domain Name	westell.com		Set	The ADSL router has a built-in DNS server, as well as
Port Triggering ALG	Static Host Assignment Host Name	IP Address	and a		When an IP address is assigned, the ADSL router will interrogate the new device
LAN DHCP	llaunchmodem dsirouter	192.168.1.1 192.168.1.1	Delete		for a machine name using several well-known networking protocols. Any
DNS Public LAN	deviceweb SmartDevice	192.168.1.1 192.168.1.1	Delete Delete		names learned will dynamically be added to the DNS server's table of local
IP Passthrough Static NAT	bypassipaddrmodem10	10.0.15.1	Delete Add		assignment is only needed if the new device does not support any of the well-known protocole
Spanning Tree	Discovered Local Devices Host Name	IP Address			Domain Name: The name of your network. This uses the Internet standard for delineating domain names
VersaPort VCs VPN	132,100,1,13	132.106.1.13			Static Host Assignment: This table allows for the creation and maintenance of manually
Routing Table Wireless					configured DNS entries.
Basic Security	-				Host: To add a static host, enter a host name and IP address and click the Add buttor. To delete a static host

DNS					
Domain Name	This field allows you to enter a Domain Name for the Gateway.				
NOTE: Some ISP's may require the name for identification purposes.	To add a Domain Name, in the field under User Assigned DNS, type in your new domain name and click <b>Set</b> .				
	Static Host Assignment				
Host Name	This field allows you to enter a host name for the Gateway.				
	To add a new host name, in the field under Static Host Assignment, type				
	in the Host Name and the associated IP address and then click Add.				
To delete a Host name, click the <b>Delete</b> button adjacent to the Host Nam					



and IP Address you want to delete.					
IP Address Displays the IP address that is assigned to the Host Name.					
Discovered Local Devices					
This field displays a list of the computers on the LAN that have been assigned a DHCP Address. The DNS name					
and IP address entry of each discovered device is displayed. (Note: The values in this field will be displayed					
barring any propagation delays. If 'No Discovered Devices' is displayed, manually refresh the screen.)					

### 15.5.3 Public LAN – Multiple IP Address Passthrough

The following screen will be displayed if you select LAN > Public LAN from the Configuration menu.

NOTE: Selecting Public LAN will enable the VERSAPORT<sup>TM</sup>2 port to function as an Ethernet LAN port allowing your Gateway to use LAN IP addresses that accessible from the WAN. This allows your computer to have global address ability. To use the Public LAN feature on the Gateway, your ISP must support Public LAN and Static IP. Contact your ISP for details. When VERSAPORT<sup>TM</sup>2 is configured for Public LAN, the Gateway's DSL transceiver will be enabled.



Public LAN Settings						
Enable DHCP Server	Factory Default = Disable					
	Possible Response:					
	If Enabled (box is checked), this will enable the Public LAN DHCP server and					
	allow IP address to be server from the DHCP Public LAN pool.					
	If Disabled (the box is unchecked), this will disable the Public LAN DHCP					
server.						
Modem's Public IP Address	The Gateway's public IP address					
Subnet Mask	The Subnet Mask, which determines what portion of an IP address is controlled					



	by the network and which portion is controlled by the host.		
Address Range			
DHCP Start Address	Displays the first IP address that the Public LAN DHCP Server will provide.		
	The DHCP Start Address must be within the IP address and lower than the		
	DHCP End Address.		
DHCP End Address	Displays the last IP address that the Public LAN DHCP Server will provide.		
	The DHCP End Address must be within the IP address and higher than the		
	DHCP Start Address.		
DHCP Lease Time	Factory $Default = 01:00:00:00$		
	Displays the amount of time the provided addresses will be valid, after which		
	time the Public LAN 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. Seconds must be between 0 and 59,		
	minutes must be between 0 and 59, and hours must be between 0 and 23.		

If the settings you have entered in the **Public LAN Settings** fields are incorrect, the following warnings messages may be displayed via pop-up screens. If this occurs, check the **Public 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 <b>Minutes</b> field at DHCP Lease Time			
Hours must be between 0 and 23	Check the Hours field at DHCP Lease Time			

# 15.5.4 IP Passthrough – Single IP Address Passthrough

The following screen will be displayed if you select LAN > IP Passthrough from the Configuration menu. IP Passthrough enables you to select the device on your LAN that will share your Single Static IP address. Before you begin this section, configure your PC settings to obtain an IP address from your Gateway automatically. (Refer to your computer's Windows® Help screen for instructions.)

NOTE: IP Passthrough enables you to share the WAN-assigned IP address with one device on your LAN. Network Address Translation (NAT) and Firewall rules do not apply to the device configured for IP Passthrough. Thus, the device with the single static IP address becomes visible on the Internet. If you are using Routed IP protocol, IP Passthrough configuration will not be available.



#### 15.5.4.1 Enabling IP Passthrough – Single IP Address PassThrough (Applicable for PPPoE or PPPoA Connections Only)

To enable IP Passthrough, select a device that will share your Single Static IP from the options listed in the window. Click **Enable.** 



If you clicked Enable, the following pop-up screen will be displayed. Click OK to continue.

Caution: Enabling IP Passthrough severely increases the vulnerability of the selected computer.

Microsof	t Internet Explorer
?	Enabling IP Passthrough severely increases the vulnerability of the selected computer
$\checkmark$	Do you wish to enable IP Passthrough?
	Cancel



If you clicked **OK** in the preceding pop-up screen, the Gateway will be reset and the new configuration will take effect, as shown in the following screen.



STOP! After you enable IP Passthrough, you must reboot your computer.

IMPORTANT: If you chose to enable User Configured PC, wait for the Gateway to reset and then manually enter the WAN IP, Gateway, and Subnet mask addresses you obtained from your Internet service provider into a PC.



#### 15.5.4.2 Disabling IP Passthrough – Single IP Address PassThrough

To disable IP Passthrough (if it has been previously enabled), select **IP Passthrough** from the **Configuration>LAN** menu. Click on **Disable**.



If you clicked **Disable** following pop-up screen will be displayed. Click **OK** to continue.





If you clicked **OK** in the preceding pop-up screen, the following screen will be displayed. The Gateway will be reset and the new configuration will take effect.

N (		
WESTELL		
iscover Better Broadband Ho	me Status Voice Settings Diagnostics Configuration Maintenance Restart Basic Mode	
Lonfiguration	Restart Device	Restart Device Help
Firewall		Two rectart options are
Port Forwarding	Please wait for your device to restart.	provided. If you wish to
Port Triggering		reset your device to its original factory settings,
ALG	Time remaining until restart completes:  71_seconds	check the box labeled "Reset device configuration
LAN		to factory defaults" and click the "Restart" button
DHCP		ine rrestan bullon.
DNS		if you wish to perform a device restart while
Public LAN		retaining the device's current configuration
🔶 IP Passthrough		settings, leave the box
Static NAT		"Restart" button.
Port Mapping		Clicking the "Restart" button
Spanning Tree		is functionally equivalent to physically turning the power
WAN		off and on to the device.
VersaPort		for recovering from
VCs		situations where the device is performing abnormally.
VPN		
Routing Table		
vvireless		
Basic		

#### STOP! After you disable IP Passthrough, you must reboot your computer.

IMPORTANT: If you chose to enable User Configured PC, wait for the Gateway to reset and then manually enter the WAN IP, Gateway, and Subnet mask addresses you obtained from your Internet service provider into a PC.



### 15.5.5 Static NAT

The following screen will be displayed if you select LAN > Static NAT from the Configuration menu. This screen enables you to configure your Gateway to work with the special NAT services.

NOTE: When the Gateway is configured for Static NAT, any unsolicited packets arriving at the WAN would be forwarded to this device. This feature is used in cases where the user wants to host a server for a specific application.

IMPORTANT: IP Passthough must be disabled (if it has been previously enabled) before you enable **static NAT**. Refer to section 15.5.4.2 for instructions on disabling IP Passthrough.

#### 15.5.5.1 Enabling Static NAT

To enable Static NAT, select an IP address or device name from the options listed in the **Static NAT** screen and then click **Enable**.

NOTE: The actual IP addresses or device names may differ from the those displayed in the following screen.

🕯 Westell - Discover Better B	roadband® - Microsoft Internet Explorer	
<u>F</u> ile <u>E</u> dit <u>V</u> iew F <u>a</u> vorites	Iools Help	
WESTELL Discover Better Broadband	Home Status Voice Settings Diagnostics Configuration Maintenance Restart Basic Mode	
	A	
Configuration	Static NAT	Static NAT Help
Firewall		Static NAT allows
Port Forwarding	WAN IP Address 10.16.90.5	unsolicited traffic from the WAN to be routed to a
Port Triggering	Set up an IP address to be your default NAT destination.	designated LAN device
ALG		pening the Galeway.
LAN	192.168.1.19	WAN IP Address: The IP
DHCP		allocated to the Gateway.
DNS		Selection box: The
Public LAN	Static NAT is currently disabled	selection box lists the
IP Passthrough		names listed in the
🔶 Static NAT	Enable	selection box are populated by the modem's DHCP
Port Mapping		server based on DHCP
Spanning Tree		name cannot be
WAN		determined, the current IP address of the device is
VersaPort		placed in the list.
VCs		When Static NAT is
VPN		disabled, the selection box and the "Enable" button will
Routing Table	-	be available.
vvireless		When Static NAT is
Basic		enabled, the active machine is displayed and
Security		the Instantial Links in



If you clicked **Enable**, the following screen will be displayed, with Static NAT enabled for the IP address or device name you selected.



#### 15.5.5.2 Disabling Static NAT

To disable Static NAT, click **Disable** in the **Static NAT** screen. The following screen will be displayed.

🖉 Westell - Discover Better Br	roadba	nd© - Micro	soft Internet E	xplorer					<u>- 0 ×</u>
∫ <u>F</u> ile <u>E</u> dit <u>V</u> iew F <u>a</u> vorites	<u>I</u> ools	<u>H</u> elp							<u></u>
	/								
16	/								
WESTELL									
Discover Better Broadband	Home	Status	Voice Settings	Diagnostics	Configuration	Maintenance	Restart	Basic Mode	
Configuration	<u> </u>	Static N/	٩T						Static NAT Help
Firewall									Static NAT allows
Port Forwarding				WAN	IP Address 10.1	6.90.5			unsolicited traffic from the
Port Triggering			Setu	n an IP addre	ss to be your def	ault NAT destina	tion		designated LAN device
ALG			0010	pann addre	00 10 DC 9001 001				behind the Gateway.
LAN					192.168.1.19	1			WAN IP Address: The IP
DHCP									allocated to the Gateway.
DNS									Selection how The
Public LAN				Static	NAT is currently (	lisabled			selection box lists the
IP Passthrough				Claire					available devices. The names listed in the
🔶 Static NAT					Enable				selection box are populated
Port Mapping									server based on DHCP
Spanning Tree									requests. If a device's name cannot be
WAN									determined, the current IP address of the device is
VersaPort									placed in the list.
VCs									When Static NAT is
VPN									disabled, the selection box
Routing Table									be available.
Wireless									When Static NAT is
Basic									enabled, the active
Security	•								machine is displayed and



# 15.5.6 Port Mapping

The following screen will be displayed if you select LAN > Port Mapping from the Configuration menu. This screen enables you to assign the physical ports to software groups. Select the appropriate options from the drop-down menus, and then click Save to save your settings.



	Port Mapping
Interface	The physical ports available for mapping.
Group	Factory Default: Private LAN
	The software defined virtual LAN group to which the port should be assigned:
	Possible Responses:
	Private LAN
	Public LAN
	Bridge Group One
	Bridge Group Two
	Bridge Group Three
	Bridge Group Four



# **15.6 Spanning Tree**

The following screen will be displayed if you select LAN > Spanning Tree from the Configuration menu. This screen enables you to configure Spanning Tree functionality on your modem. To activated Spanning Tree, click the box adjacent to Enable (a check mark will appear in the box). Next, click Save to save your settings.

Description: Spanning Tree provides path redundancy while preventing undesirable loops in the network.

/					
Home Status Voice Settings Diagr	ostics Configuration	Maintenance	Restart	Basic Mode	
Spanning Tree					Spanning Tree Help
Fuchts		-			Description: This page
Enable					contains the Configuration
Save					for the Spanning Tree.
					Enable: If checked, then the
					Spanning Tree is enabled.
					Save: Clicking this button
					configuration information.
	tome Status Voice Settings Diagn  Spanning Tree Enable Save	tome Status Voice Settings Diagnostics Configuration  Spanning Tree Enable Save	tome Status Voice Settings Diagnostics Configuration Maintenance  Spanning Tree Enable Save	tome Status Voice Settings Diagnostics Configuration Maintenance Restart  Spanning Tree Enable Save	tone Status Voice Settings Diagnostics Configuration Maintenance Restart Basic Mode  Spanning Tree Enable Save



### **15.7 WAN Configuration**

#### 15.7.1 VersaPort

The following screen will be displayed if you select **WAN** > **VersaPort** from the **Configuration** menu. This function will enable you to configure the VersaPort settings for your modem. Click on one of the options (Private LAN, Ethernet WAN Uplink, or Public LAN) to select how VersaPort will be used. Next, click **Save** to save your settings.



Private LAN	Eactory Default = Private LAN
	If soleted the VEDS A DODTTM2 port will function as a fifth Ethernet I AN port
	is selected, the VERSAFOR 1 2 point will function as a fifth Etherheit EAN point.
	When using Private LAN, the router's DSL transceiver will be <b>Enabled</b> .
Ethernet WAN Uplink	If selected, the VERSAPORT <sup>™</sup> 2 port will function as an Ethernet WAN Uplink
	port, and the router's DSL transceiver will be <b>Disabled</b> .
Public LAN	If selected, the VERSAPORT <sup>™</sup> 2 port will function as a second segment. When
	using Public LAN, the router's DSL transceiver will be <b>Enabled</b> . Use the Public
	LAN Configuration menus to configure the LAN settings.



# 15.7.2 Private LAN – Configuring NAT

If you select **Private LAN** in the **VersaPort** screen, the following screen will be displayed. Private LAN enables you to set up a network behind the Gateway. After you have entered the appropriate values, click **Save** to save your settings.

NOTE: When your Gateway is configured for Private LAN, the VERSAPORT<sup>TM</sup>2 port functions as fifth Ethernet LAN port. Private LAN is the factory default configuration for the VersaPort screen.

Westell - Discover Better B File Edit ⊻iew Favorites	roadband© - Microsoft Internet Explorer 	
WESTELL		
scover Better Broadband	Home Status Voice Settings Diagnostics Configuration Maintenance Restart Basic Mode	
Configuration	VersaPort	VersaPort Help
Firewall	Select how VersaPort will be used	Description: The VersaPort
Port Forwarding	© Private LAN	is an Networking port the
Port Triggering	C Ethernet WAN uplink	can be configured by the user. Possiable
ALG	C Public LAN	configurations are:
LAN	Save Discard	<ul> <li>Private LAN: Used as a Private LAN port.</li> </ul>
DHCP		Ethernet WAN uplink:     Used as an Ethernet
DNS		WAN uplink port.
Public LAN		<ul> <li>Public LAN: Used as a Public LAN port.</li> </ul>
IP Passthrough		
Static NAT		Settings: These settings
Port Mapping		are available if the "Ethernet
Spanning Tree		
WAN		Protocol: The protocol to use on the VersaPort.
VersaPort		Possiable configurations
VCs		aic.
VPN		<ul> <li>PPPoE: Point-To-Point over Ethernet</li> </ul>
Routing Table	-	<ul> <li>Routed IP: Routed IP.</li> </ul>
VVireless		Tunneling: Use Tunneling
Basic		(or Not). This option is only
Security	<u> </u>	available if the Protocol is



# 15.7.3 Ethernet WAN Uplink

If you select Ethernet WAN Uplink in the VersaPort Configuration screen, the following screen will be displayed.

NOTE: Selecting **Ethernet WAN Uplink** will allow the Gateway's WAN interface to use the VERSAPORT<sup>TM</sup>2 port. This will disable the Gateway's DSL transceiver.

<u>Eile E</u> dit <u>V</u> iew F <u>a</u> vorites	Iools <u>H</u> elp	
WESTELL		
scover Better Broadband	Home         Status         Voice Settings         Diagnostics         Configuration         Maintenance         Restart         Basic Mode	
Configuration	VersaPort	VersaPort Help
Firewall	Select how VersaPort will be used	Description: The VersaPor
Port Forwarding	O Private LAN	is an Networking port the
Port Triggering	C Ethernet WAN uplink	user. Possiable
ALG	C Public LAN	configurations are:
LAN	Ethornet WAN unlink Settings	• Private LAN: Used as
DHCP	Ethernet WAN uplink Settings	a Private LAN port.
DNS	Protocol PPPoE 💌	Used as an Ethernet
Public LAN	Tunneling C Enable C Disable	<ul> <li>VVAN uplink port.</li> <li>Public LAN: Used as</li> </ul>
IP Passthrough		Public LAN port.
Static NAT	Save	Ethernet WAN uplink
Port Mapping		Settings: These settings
Spanning Tree		WAN uplink" is selected.
WAN		Protocol: The protocol to
▶ VersaPort		use on the VersaPort.
VCs		Possiable configurations are:
VPN		DDD-F. Daint To Dain
Routing Table		over Ethernet.
Wireless		Routed IP: Routed IP.
Basic		Tunneling: Use Tunneling
0		(or Not). This option is only



If you select **PPPoE** as the protocol for your Ethernet WAN Uplink setting, the following screen will be displayed. Click **Save** to save your settings.

<u>File Edit View Favorites To</u>	nols <u>H</u> elp	12		
WESTELL				
scover Better Broadband	The status voice Settings Diagnostics Configuration Maintenance Restart Basic Mode	)		
configuration	VersaPort	VersaPort Help		
Firewall	Select how VersaPort will be used	Description: The VersePort		
Port Forwarding	O Private LAN	is an Networking port the		
Port Triggering	C Ethernet WAN uplink	user. Possiable		
ALG	O Public LAN	configurations are:		
LAN	Ethernet WAN unlink Settings	• Private LAN: Used as		
DHCP		a Private LAN port. • Ethernet WAN uplink:		
DNS	Protocol PPPoE	Used as an Ethernet		
Public LAN	Tunneling  © Enable  C Disable	• Public LAN: Used as a		
IP Passthrough	Discout	Public LAN port.		
Static NAT		Ethernet WAN uplink		
Port Mapping		are available if the "Ethernet		
Spanning Tree		WAN uplink" is selected.		
WAN		Protocol: The protocol to		
🔶 VersaPort		use on the VersaPort. Possiable configurations		
VCs		are:		
VPN		• PPPoE: Point-To-Point		
Routing Table		over Ethernet.		
Wireless		• Touce IF. Nouled II .		
Basic		Tunneling: Use Tunneling (or Not) This option is only		
Security	•	available if the Protocol is		

If you select **Routed IP** as the protocol for your Ethernet WAN Uplink setting, the following screen will be displayed. Enter the appropriate values in the fields provided, and then click **Save** to save your settings.

🖉 Westell - Discover Better B	oadband© - Microsoft Internet Explorer	_ [] ×
	Tool Beb	32 
Discover Better Broadband	Home Status Voice Settings Diagnostics Configuration Maintenance Restart Basic Mode	
Configuration	VersaPort	VersaPort Help
Firewall	Select how VersaPort will be used	Description: The VersaPort
Port Forwarding	C Private LAN	is an Networking port the
Port Triggering	C Ethernet WAN uplink	user. Possiable
ALG	C Public LAN	configurations are:
LAN DHCP	Ethernet WAN uplink Settings	<ul> <li>Private LAN: Used as a Private LAN port.</li> <li>Ethernet WAN uplink:</li> </ul>
DNS	Protocol Routed IP 💌	Used as an Ethernet
Public LAN IP Passthrough	Routed IP Settings	<ul> <li>Public LAN: Used as a Public LAN port.</li> </ul>
Static NAT	<ul> <li>Obtain addresses automatically (enable DHCP Client)</li> </ul>	Ethernet WAN uplink
Port Mapping	C Use the following static addresses (disable DHCP Client)	Settings: These settings are available if the "Ethernet
Spanning Tree	IP Address 0.0.0.0	WAN uplink" is selected.
WAN	Subnet 255.255.255	Protocol: The protocol to
🔶 VersaPort	Gateway 0.0.0.0	use on the VersaPort.
VCs	DNS Primary	are:
VPN	DNS Secondary	• PPPoE: Point-To-Point
Routing Table		over Ethernet.
Wireless	Save	<ul> <li>Routed IP: Routed IP.</li> </ul>
Basic		Tunneling: Use Tunneling (or Not). This option is only



### 15.7.4 Public LAN – Multiple IP Address Passthrough

If you select **Public LAN** in the **VersaPort Configuration** screen, the following screen will be displayed.

NOTE: Selecting Public LAN will enable the VersaPort will function as a second Ethernet LAN port. When VersaPort is configured for Public LAN, the Gateway's DSL transceiver will be enabled.

Use the Public LAN configuration menu to configure the LAN settings.

Westell - Discover Better Bro	dband© - Microsoft Internet Explorer	
	оог. Теb	
iscover Better Broadband	ome Status Voice Settings Diagnostics Configuration Maintenance Restart Basic Mode	
Configuration	VersaPort	VersaPort Help
Firewall	Select how VersaPort will be used	Description: The VersaPort
Port Forwarding	O Private LAN	is an Networking port the
Port Triggering	C Ethernet WAN uplink	user. Possiable
ALG	C Public LAN	configurations are:
	Save Discard	<ul> <li>Private LAN: Used as a Private LAN port.</li> <li>Ethernet WAN uplink: Used as an Ethernet</li> </ul>
DINS Public LAN		WAN uplink port.
IP Passtbrough		Public LAN port.
Static NAT		Ethernet WAN unlink
Port Mapping		Settings: These settings
Spanning Tree		WAN uplink" is selected.
WAN		Protocol: The protocol to
🔶 VersaPort		use on the VersaPort.
VCs		are:
VPN		• <b>PPPoE</b> Point-To-Point
Routing Table		over Ethernet.
Wireless		<ul> <li>Routed IP: Routed IP.</li> </ul>
Basic		Tunneling: Use Tunneling
Security	-	available if the Protocol is



### 15.7.5 VCs

The following screen will be displayed if you select **WAN > VCs** from the **Configuration** screen.

NOTE: The VCs cannot be modified if the VersaPort<sup>™</sup>2 port is configured as the WAN port.

The Edit button enables you to change the VC configuration settings of the Gateway. Details on the edit button are explained later in this section.

NOTE: The actual information displayed in this screen may vary, depending on the network connection established.



Status	Allows you to enable or disable your VC (Virtual Connection)
VDI	Displays the VPI (Virtual Path Indicator) value for a particular VC, which is
VPI	defined by your Service Provider.
VCI	Displays the VCI (Virtual Channel Indicator) value for a particular VC,
VCI	which is defined by your Service Provider.
Protocol	Displays the Protocol for each VC, which is specified by your Service
	Provider.
	Possible Response:
NOTE: The configuration	PPPoA = Point to Point Protocol over ATM (Asynchronous Transfer Mode)
specified by your Service	PPPoE = Point to Point Protocol over Ethernet
Provider will determine which	Bridge = Bridge Protocol
Protocols are available to you.	Routed $IP = IP$ over ATM



If you click **edit** in the **VCs Configuration** screen, the following screen will be displayed. Enter the appropriate values, and then click **Save** to save your settings.



	VC 1 Configuration
VPI	This setting allows you to change your VPI (Virtual Path Indicator) value for a
	particular VC, which is defined by your Service Provider.
VCI	This setting allows you to change your VCI (Virtual Channel Indicator) value for a
	particular VC, which is defined by your Service Provider.
PCR	Factory Default = 100%
	Peak Cell Rate (PCR)-The maximum rate at which cells can be transmitted across a
	virtual circuit, specified in cells per second and defined by the interval between the
	transmission of the last bit of one cell and the first bit of the next.
	This value is a percentage of the current data rate.
	100 allows this VC to use 100% of the available bandwidth.
	80 allows this VC to use 80% of the available bandwidth.
QoS	Select the Quality of Service, which is determined by your Service Provider.
	Possible Responses:
	UBR = Unspecified Bit Rate
	CBR = Constant Bit Rate
	rt-VBR = real-time Variable Bit Rate
	nrt-VBR = non-real-time Variable Bit Rate
Protocol	The Protocol for each VC, which is specified by your Service Provider.
	Possible Responses:
	PPPoA = Point to Point Protocol over ATM (Asynchronous Transfer Mode)
	PPPoE = Point to Point Protocol over Ethernet
	Bridge = Bridge Protocol



	Routed $IP = IP$ over $ATM$
Tunneling	Factory Default = Enable
	If Enabled, this option enables PPP traffic from the LAN to be bridged to the WAN.
	This feature enables you to use a PPPoE shim on the host computer to connect to the
	Internet service provider, by bypassing the Gateway's capability to do this.
	Note: Tunneling is available in PPPoE mode only.

#### 15.7.5.1 Configuring WAN VC Protocol for PPPoE mode

To configure the WAN VC Protocol for PPPoE mode, select **PPPoE** from the **Protocol** drop-down menu, the following screen will be displayed. Enter the appropriate values, and then click **Save** to save your settings.

Discover Better Broadband	Home Status	Voice Settings	Diagnostics	Configuration	Maintenance	Restart	Basic Mode		
Configuration	1 VC 1 C	onfiguration						VC Configuration	1
Firewall								Settings Help	
Port Forwarding	VC Statu	s Enable	d					Owneiner This samen is	
Port Triggering	VPI	JU [	_					an advanced screen.	
ALG	VCI	35	_					Modifiying parameters identified on this screen	-
LAN	PCR	100						can cause severe	
DHCP	QoS	JUBR						On a DSL connection VC	
DNS	Tunnelir	а <u>б</u> ги	itt 🔟	blad				stands for "virtual connection." A "VC"	
Public LAN		g to En	ableu 🗢 Disa	ibied				identifies a connection through the service	
IP Passthrough			Save				Discard	providers ATM network to	
Static NAT								recommended that	
Port Mapping								anything is changed on this page unless explicitly	
Spanning Tree								instructed by your service	
WAN								provider.	
VersaPort								VPI: Virtual Path Identifier, the virtual nath to which the	
🔶 VCs								cell belongs as it makes its	
VPN								way through an ATM network.	
Routing Table									
Wireless								Identifier, cell's next	
Basic								destination as it makes its way through through an	
Recurity	*							ATM network. The logical	



#### 15.7.5.2 Configuring WAN VC Protocol for PPPoA mode

To configure the WAN VC Protocol for PPPoA mode, select **PPPoA** from the **Protocol** drop-down menu, the following screen will be displayed. Enter the appropriate values, and then click **Save** to save your settings.

<u>F</u> ile <u>E</u> dit ⊻iew F <u>a</u> vorites	Iools Help	100 A
WESTELL		
iscover Better Broadband	Home Status Voice Settings Diagnostics Configuration Maintenance Restart Basic	Mode
Configuration	VC 1 Configuration	VC Configuration
Firewall	VC Status Enabled	Settings Help
Port Forwarding	VPI 0	Overview: This screen is
Port Triggering	VCI 35	Modifiying parameters
ALG	PCR 100	identified on this screen
LAN	QoS UBR 💌	disruption of your service.
DHCP	Protocol PPPoA 💌	stands for "virtual
DNS		connection." A "VC" identifies a connection
Public LAN	Save	d through the service
IP Passthrough		your ISP. It is not
Static NAT		recommended that anything is changed on this
Port Mapping		page unless explicitly
Spanning Tree		provider.
WAN		WPI: Virtual Path Identifier
VersaPort		the virtual path to which the
🔶 VCs		way through an ATM
VPN		network.
Routing Table		VCI: Virtual Channel
Wireless		Identifier, cell's next destination as it makes its
Basic		way through through an
Security		connection between two

15.7.5.3 Configuring WAN VC Protocol for Bridge mode - (MAC Bridge)

To configure the WAN VC Protocol for Bridge mode, select **Bridge** from the **Protocol** drop-down menu, the following screen will be displayed. Enter the appropriate values, and then click **Save** to save your settings.

🖉 Westell - Discover Better B	roadband© - Microsoft Internet Explorer	_ 🗆 🗵
<u>File_Edit_View_Favorites</u>	Iools Help	<b>B</b>
WESTELL		
Discover Better Broadband	Home Status Voice Settings Diagnostics Configuration Maintenance Restart Basic Mode	1000
Configuration Firewall	VC 1 Configuration	VC Configuration Settings Help
Port Forwarding	VPI 0	Overview: This screen is
Port Triggering	VCI 35	an advanced screen. Modifiying parameters
ALG	PCR 100	identified on this screen can cause severe
LAN	QoS UBR 💌	disruption of your service.
DHCP	Protocol Bridge	stands for "virtual
DNS	Discord	identifies a connection
Public LAN	Discard	through the service providers ATM network to
IP Passthrough		your ISP. It is not
Static NAT		anything is changed on this
Port Mapping		page unless explicitly instructed by your service
Spanning Tree		provider.
WAN		VPI: Virtual Path Identifier,
VersaPort		the virtual path to which the cell belongs as it makes its
VCs		way through an ATM
VPN Deutles Table		network.
Wireless		VCI: Virtual Channel Identifier, cell's next
Basic		destination as it makes its way through through an
Security		ATM network. The logical



#### 15.7.5.4 Configuring WAN VC Protocol for Routed IP mode

If you select **Routed IP** from the **Protocol** drop-down menu, the following screen will be displayed. Enter the appropriate values, and then click **Save** to save your settings.



VC 1 Routed IP Settings				
DHCP Client	Factory Default = Enable			
	If enabled the router will obtain its IP address, gateway address and DNS server			
	address automatically from the network. If disabled you must manually enter the			
	information.			
	Possible Response:			
	Select Enable to activate the DHCP client.			
	Select Disable to deactivate the DHCP client.			
IP Address	Displays the Gateway's IP network address.			
Subnet	Displays the Gateway's subnet mask settings.			
Gateway	Displays the Gateway's IP gateway address			
DNS Primary	Displays the IP address of primary Domain Name Service (DNS) server your router			
	is using.			
DNS Secondary	Displays the IP address of secondary DNS server your router is using.			

#### 15.7.6 VPN



The following settings will be displayed if you select WAN > VPN from the Configuration menu. Enter the appropriate values, and then click Save to save your settings.



PPTP Passthrough	Factory Default = Enabled		
	If enabled (a check mark will appear in the box), PPTP will work through the		
	Gateway's NAT function.		
L2TP Passthrough	Factory Default = Enabled		
	If enabled, IPSec using ESP and L2TP can be supported via an ALG.		
IPSec Passthrough	Factory Default = Enabled		
	If enabled, IPSec using ESP can be supported via an ALG. IPSec using AH cannot		
	be supported through NAT.		



# 15.7.7 Routing Table

The following settings will be displayed if you select **WAN > Routing Table** from the **Configuration** menu. To add a route to the Network Routing Table, enter the appropriate values, and then click **Add Route**.

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<u></u> Eile <u>E</u> dit <u>V</u> iew F <u>a</u> vorites <u>T</u> ool	ls <u>H</u> elp						
WESTELL		Cathlans Diagon	ation Configuration	an Majataan	an Desta	Paolo Mad	
Discover Beller Broadband	ile Status Voice	Settings Diagno	conngurati	Maintenan	ce Resta	nt Basic Mou	▲
Configuration	Routing Ta	ble					Routing Table Help
Firewall			IP Interfa	res			
Port Forwarding	Address	Subnet	Mask	Name		Metric	Description: The Route
P i T i i i	10.16.90.7 192.168.1.1	255.255	5.255.255 5.255.0	pppu Private	LAN	1	or paths of where specific
Port Triggering	127.0.0.1	255.0.0	.0	lo		1	types of data shall be
ALG			Network Rout	ing Table			
LAN	Destination: 0.0.0.0	Subnet Ma: 0.0.0.0	sk Gate 10.1	<b>way in</b> 6.90.7 pj	terface op0	Metric 0	IP Interfaces: The list of the
DHCP	192.168.1.0	255.255.25	5.0 0.0.0	.0 P	rivate LAN	0	active interfaces on the
DNS	Destination:	6	Host Routin	g Table Interface	Me	tric	address and mask, eth0 is
Public LAN	10.16.90.1	0.	0.0.0	ppp0	0		is the loopback interface.
IP Passthrough			Inactive R	outes			
Static NAT	Address	Netmask	Gateway	Interface	Туре	Metric	- Network Routing Table: The list of the network
Deat Meaning	Route via:						routes. These can be either
Port Mapping	Interface OB		Select Int	erface	-		routes for directly
Spanning Tree	IP Gateway		0.0.0.0				static routes. Static routes
WAN	Destination						have a DELETE button to
VersaPort	Type		Host	•			Static routes that have not
VCs	IP Address		0.0.0.0				been saved to flash also
VPN	IP Netmask		255.255.25	55.255			nave a SAVE button, which make the static route
🔶 Routing Table	Metric		1				permanent. The 0.0.0.0 route is the default route:
Wireless	RIP Advertised						any packet with a
Bacin	Save Io⊦íash						destination not explicitly listed in the route table
Daoit	Add Route						would be routed using the
Security							default route. Each route
Mac Filler							

IP Interfaces			
The list of active interfaces on the modem, their IP addresses and subnet masks.			
Address	The IP interface address of the interface.		
Subnet Mask	The subnet mask of the interface.		
Name	The name assigned to the interface.		
	Possible names are:		
	ppp0 – The WAN interface when the router is in PPPoE or PPPoA mode.		
	DSLVC1 – The WAN interface when the router is in DSL Routed IP mode.		
	VersaPort – The WAN interface when the router is in uplink Routed IP mode.		
	Private LAN – The main Ethernet interface.		
	Public LAN – The second Ethernet interface.		
	10 – The local loopback interface.		
Metric	The numeric value assigned to this interface used to calculate the best route to a		
	destination address.		
Networking Routing Table			
The list of the network routes. These can be either routes for directly connected networks, or static routes that have			
been entered.			



User Guide

Destination	The IP subnet of the destination network.			
Subnet Mask	The subnet mask of the destination network.			
Gateway	The IP address of the default gateway for this route.			
Interface	Indicates the name of the router's interface to use for this route.			
Metric	The numeric value assigned to this route, used to calculate the best route to a			
	destination network.			
Host Routing Table				
The list of host routes. A h	ost route is an IP route with a 32-bit mask.			
Destination	The IP address of the destination host.			
Gateway	The IP address of the default gateway for this route.			
Interface	Indicates the name of the router's interface to use for this route.			
Metric	The numeric value assigned to this route, used to calculate the best route to a			
	destination network.			
	Inactive Routes			
The list of routes whose in	terface is currently not in service.			
Address	The IP address of the destination network.			
Netmask	The subnet mask of the destination network.			
Gateway	The IP address of the default gateway for this route.			
Interface	The name of the router's interface associated with this route.			
Type	Indicates if this route is a network route, a host route, or a default route			
Metric	The numeric value assigned to this route used to calculate the best route to a			
Wethe	destination network			
The following sections allo	by you to add static routes to the gateway's routing table.			
	Route Via			
Allows you to specify eithe	er the interface or the default gateway that the router should use for this static route. If an			
interface is not specified, t	he correct interface will be automatically chosen, based on the gateway addresses.			
Interface Select the interface that will be used for this static route. If you enter an interface you				
	cannot specify a default gateway.			
IP Gateway	Enter the IP address of the default gateway used for this static route. The specified			
	gateway must be reachable; this means that the modem must have a route to the			
gateway. You must specify either an interface or a gateway for each static route.				
	Destination			
Allows you to specify the	destination network or host.			
Туре	Factory Default = Host			
51	Possible Response:			
	Host – The static route maps to a single IP host.			
	Network – The static route maps to a network.			
	Default – The static route maps to a default route.			
IP Address	The IP subnet of the destination network or host.			
IP Netmask	The subnet mask of the destination network. If the route type was a host, a 32-bit			
	subnet mask will be automatically populated.			
Metric	The numeric value assigned to this route, used to calculate the best route to a			
	destination network.			
RIP Advertised	This determines whether or not to advertise the static route using RIP. (RIP must also			
	be enabled before the route will be advertised.)			
	If Enabled (box is checked), RIP Advertised will be activated.			
	If Disabled, RIP Advertised will not be activated.			
Save to Flash	If Enabled (box is checked), the route will be made permanent by saving it to flash			
	memory.			
	If Disabled, the route will disappear the next time the modem restarts.			
Add Route	This button enables you to add a new static route in the modem. Note: When adding a			
	route, you may need to reload the page for the route to appear in the "active" Routes.			



# **15.8 Wireless Configuration**

#### 15.8.1 Basic

The following settings will be displayed if you select **Wireless > Basic** from the **Configuration** menu. Enter the appropriate values, and then click **Save** to save your settings.

🚰 Westell - Discover Better Broadt	and© - Microsoft Internet Explorer			
∫ <u>F</u> ile <u>E</u> dit <u>V</u> iew F <u>a</u> vorites <u>T</u> ool	: <u>H</u> elp			<b>**</b>
WESTELL Discover Better Broadband Hon	e Status Voice Settings Diagnostics	Configuration Maintenance	Restart Basic Mode	)
Configuration	Basic			ABasic Help
Firewall Port Forwarding Port Triggering ALG LAN DHCP DNS Public LAN IP Passthrough Static NAT Port Mapping Spanning Tree WAN VersaPort VCs VPN Routing Table Wireless ➡ Basic	Wireless Operation Enable Network Name (SSID) 05B405 Channel 6 Mode Mixed Frameburst Mode Disabl Hide SSID Disabl Save		Discard	Wireless Operation: The wireless operation can be enabled or disabled. When disabled, wireless stations will not be able to connect to the modem. Network Name (SSID): The wireless name associated with the modem. To connect to the modem, the SSID on a Station card must match the SSID on the modem or be set to "ANY." Channel: The modem transmits and receives wireless data on this channel may affect the wireless signal strength. Frameburst Mode: When enabled, additional algorithms are used for increased throughput. Hide SSID: By default, the modem broadcasts its

Wireless Basic Configuration			
Wireless Operation	Factory Default = Enabled		
	When disabled, no wireless stations will be able to connect to the Gateway.		
Network Name (SSID)	This string (32 characters or less) is the name associated with the AP. To connect to the		
	AP, the SSID on a Station card must match the SSID on the AP card or be set to "ANY."		
Channel	Factory Default = 6		
	The AP transmits and receives data on this channel. The number of channels to choose		
	from is pre-programmed into the AP card. Station cards do not have to be set to the same		
	channel as the AP; the Stations scan all channels and look for an AP to connect to.		
	Possible Response:		
	1 through 11		
Mode	Factory Default = Mixed		
	This setting allows station to communicate with the Gateway.		
	Possible Response:		
	Mixed: Station using any of the 802.11b, 802.11b+, and 802.11g rates can communicate		
	with the Gateway.		


	Legacy Mixed: Same as Mixed, but also allows older 802.11b cards to communicate with the Gateway. 11b only: Communication with the Gateway is limited to 802.11b	
	11g only: Communication with the Gateway is limited to 802.11g	
Frameburst Mode	Factory Default = Disable	
	If enabled, additional algorithms are used for increased throughput.	
Hide SSID	Factory Default = Disable	
	If enabled, the Gateway will not broadcast the SSID. To connect to the Gateway, each	
	Station must configure its SSIDs so that it matches the Gateway's Network Name	
	(SSID).	

### **15.8.2** Wireless Security

The following screen will be displayed if you select **Wireless > Security** from the **Configuration** menu. Select the desired security option from the **Wireless Security** drop-down menu. After you configured your wireless security settings, click **Save** to save the settings.

IMPORTANT: Client PCs can use any Wireless Fidelity (Wi-Fi) 802.11b/g/g+ certified card to communicate with the Gateway. 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 the wireless network adapter.



Wireless Security		
Disable	Factory Default = Disable	
	If Disable is selected, wireless security will not be activated on your Gateway.	
WEP	Selecting WEP enables you set up Wired Equivalent Privacy (WEP) on your	
	Gateway. WEP uses encryption based on a 64- or 128-bit key for privacy.	
WPA-PSK	Selecting WPA-PSK enables you set up Wi-Fi Protected Access-Pre-Shared Key	
	on your Gateway. WPA-PSK uses enhanced encryption methods for privacy. A	
	shared key is used as a starting point, and then the key can be regularly changed	
	and rotated automatically so that the same encryption key is never used twice.	



## 15.8.2.1 Enabling WEP Security

If you select **WEP** from the **Wireless Security** drop-down menu, the following screen will be displayed. Enter the appropriate values, and then click **Save** to save the settings.

NOTE: The WEP key must be 64 bit (5 text characters or 10 hexadecimal digits in length) or 128 bit (13 text characters or 26 hexadecimal digits in length).

WESTELL			
Discover Better Broadband Ho	he Status Voice Settings Diagnostics Configuration Mainter	nance Restart Basic Mode	
Configuration	Security		Security Help
Firewall			
Port Forwarding	Wireless Security WEP		Wireless Security
Port Triggering	Authoritization Trans		Disabled: Any wireless
ALG	Key Select		station can connect to the modem as long as its SSID
LAN		64 bit	matches the modem's
DHCP	Key 2	64 bit	
DNS		C4.bit	WEP: The modem uses encryption based off of a 64
Public LAN		64 bit -	or 128 bit key for privacy.
IP Passthrough	64 bit (5 text or 10 bexadecimal digits	(2)	WPA-PSK: The modem
Static NAT	*WEP keys: 128 bit (13 text or 26 hexadecimal die	yits)	uses enhanced encryption methods for privacy. A
Port Mapping	Save	Discard	shared key is used as a starting point, then the key
Spanning Tree			can be regularly changed
WAN			so that the same encryption
VersaPort			key is never used twice.
VCs			WEP Parameters
VPN			Authentication Type:
Routing Table			Shared Key authentication
Wireless			during the authentication
Basic			process.
- security			Key Select: Selects which

where's security (wer)		
WEP has been selected.		
Factory Default = Open System		
Possible Response:		
Open System: Open System authentication allows any station to associate with the		
wireless network but only stations with the valid WEP key can send or receive data		
from the router. Open System authentication is considered to be more secure than		
Shared Key authentication.		
Shared Key: Shared Key authentication requires the station to authenticate with the		
router using the WEP key before it can associate with the wireless network.		
Factory Default = Key 1		
Selects which WEP key the router should use.		
Note: The WEP key must be the same value and type for both the Gateway and the		
wireless network adapter.		
Select the length of the WEP key from the pull down menu and enter key WEP Key in		
the box. A 64-bit key must be either 5 text characters or 10 hexadecimal characters. A		
128-bit key must be 13 text characters or 26 hexadecimal characters. The only		
allowable hexadecimal characters are 0-9 and A-F.		
Note: The WEP key must be the same value and type for both the Gateway and the		
wireless network adapter.		

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# 15.8.2.2 Enabling WPA-PSK Security

If you select **WPA-PSK** from the **Wireless Security** drop-down menu, the following screen will be displayed. Enter the appropriate values, and then click **Save** to save the settings.

🗿 Westell - Discover Better Broa	dband© - Microsoft Internet Explorer	
<u>File Edit View Favorites I</u> d	ools <u>H</u> elp	<u> (1</u>
WESTELL Discover Better Broudband	ome Status Voice Settings Diagnostics Configuration Maintenance Restart Basic Mode	
Configuration	Security	Security Help
Firewall	Wireless Security WPA-PSK	Wireless Security
Port Forwarding		
Port Triggering	WPA Shared Key	Disabled: Any wireless station can connect to the
ALG	WPA Group Rekey Interval 3600	modem as long as its SSID matches the modem's
LAN	Data Encryption	SSID.
DHCP	*WPA key: must be 8 to 63 text characters or 64 hexadecimal digits in length	WFP: The modem uses
DNS	Save	encryption based off of a 64
Public LAN	Disculu	
IP Passthrough		WPA-PSK: The modem
Static NAT		methods for privacy. A
Port Mapping		shared key is used as a starting point, then the key
Spanning Tree		can be regularly changed and rotated automatically
WAN		so that the same encryption
VersaPort		NEY IS HEVELUSED IVILE.
VCs		WEP Parameters
VPN		Authentication Type:
Routing Table		Shared Key authentication
Wireless		during the authentication
Basic		process.

Wireless Security (WPA-PSK)		
Wireless Security	WPA-PSK has been selected.	
WPA Shared Key	This is a passphrase (also called a shared secret) that must be entered in both the wireless router and the wireless client. This shared secret can be between 8 to 63 text characters and can include special characters and spaces. The more random your WPA Shared Key, the more secure it is.	
WPA Group	Factory Default = 3600	
Rekey Interval	The number of seconds between rekeying the WPA group key. Zero "0" means that rekeying is disabled.	
Data Encryption	Factory Default = TKIP	
	Possible Response:	
	TKIP- Selecting this option enables the Temporal Key Integrity Protocol for data encryption.	
	AES- Selecting this option enables the Advanced Encryption Standard for data encryption.	
	TKIP/AES- Selecting this option enables the Gateway to accept either TKIP or AES encryption	



## 15.8.3 MAC Filter

The following settings will be displayed if you select **Wireless > MAC Filter** from the **Configuration** menu. This screen enables you to configure the MAC filter settings for your Gateway.

After you have finished adding, editing or deleting MAC addresses from the MAC Filter table (as explained in the following paragraphs), click the box adjacent to **Enable MAC Address Filtering** (a check mark will appear in the box), and then click **Save** to save your settings.

NOTE: When the MAC address Filter is enabled (box is checked), only the stations that are in the MAC Filter table and that are set to *Allowed* will be accepted by the Gateway. All other stations will be blocked.

<b>N</b> (		
WESTELL		
iscover Better Broadband Ho	me Status Voice Settings Diagnostics Configuration Maintenance Restart Basic Mode	
A	MACEIkar	
Configuration		MAC Filter Help
Firewall	Enable MAC Address Filtering	Enable MAC Address
Port Forwarding		Filtering: When enabled, only the stations in the MAC
Port Triggering	When the MAC Address Filter is enabled, only the stations that are in this table, and set to Allowed, will be accented.	Filter Table can connect to
ALG	All others will be blocked.	ure AF.
LAN	Currently the MBC Address table is empty	Save Button: Save change
DHCP	currency the way. Address table is empty.	Address Filtering' checkbox.
DNS	Add	Allowed: Stations that are
Public LAN		allowed access.
IP Passthrough		Blocked: Stations left in the
Static NAT		table, but are not allowed
Port Mapping		access.
Spanning Tree		
WAN		Add Button: Add a wirelace
VersaPort		station to the table.
VCs		Edit Button: Edit a wireless
VPN		station in the table.
Routing Table		Delete Button: Delete a
Wireless		wireless station from the
Basic		table.
Security		



To add stations to the MAC Address table, click the add button.



If you clicked **add**, the following screen will be displayed. Enter the appropriate values in the fields provided, and then click **Save** to save your settings.





MAC Address Settings		
Traffic	Factory Default = Allowed	
	If Blocked is selected, the station will be blocked (it cannot access the Gateway).	
MAC Address	Factory Default = 00:00:00:00:00:00	
	The MAC address of the wireless station you want to add.	
Station Name	The name of the wireless station you want to add.	

If you clicked **Save**, the following pop-up screen will be displayed. Click **OK** to continue.

NOTE: Wireless access will be interrupted and the wireless stations may require reconfiguration.

Microsof	t Internet Explorer
?	Wireless access will be interrupted and the wireless stations may require reconfiguration, continue?
	Cancel

If you clicked **OK**, in the preceding pop-up screen, the following screen will be displayed. The screen displays the list of MAC addresses added to the **MAC Address Filter Table**. You may now **add**, **edit**, or **delete** MAC addresses from the table by clicking on the desired MAC address (displayed in the window) and then by clicking either **Add**, **Edit**, or **Delete**. Next, click **OK** in the pop-up screen.

Westell - Discover Better Broad	Iband© - Microsoft Internet Explorer	
<u>File E</u> dit ⊻iew F <u>a</u> vorites <u>I</u> o	ols <u>H</u> elp	
WESTELL Discover Better Broadband	ome Status Voice Settings Diagnostics Configuration Maintenance Restart Basic Mode	
Firewaii		
Port Forwarding	MAC Filter	MAC Filter Help
Port Triggering	Enable MAC Address Filtering Save	Enable MAC Address
LAN		only the stations in the MAC
DHCP	When the MAC Address Filter is enabled, only the stations that are in this table, and set to Allowed, will be accepted.	Filter Table can connect to the AP.
DNS	All outer 5 will be blocked.	Save Button: Save change
Public LAN	Allowed 00:00:00:00:00	made to the 'Enable MAC
IP Passthrough	Blocked 00:00:00:00:002	Address Filtening checkbox.
Static NAT		Allowed: Stations that are allowed access
Port Mapping		
Spanning Tree		Blocked: Stations left in the table, but are not allowed
WAN		access.
VersaPort		
VCs	Add Edit Delete	
VPN		Add Button: Add a wireless station to the table.
Routing Table		E-IN D-IN - E-IN - In Inc.
Wireless		station in the table.
Basic		Delete Butten: Delete a
Security		wireless station from the
🔶 MAC Filter		table.
Advanced		

After you have finished adding, editing or deleting MAC addresses in the MAC Filter table, click the box adjacent to **Enable MAC Address Filtering** (a check mark will appear in the box). Click **Save** to save your settings.

NOTE: When the MAC address Filter is enabled (box is checked), only the stations that are in MAC Filter table and that are set to *Allowed* will be accepted by the Gateway. All other stations will be blocked.



## **15.8.4 Advanced Wireless Settings**

The following settings will be displayed if you select **Wireless > Advanced** from the **Configuration** menu. Enter the appropriate values, and then click **Save** to save the settings.

<u>File E</u> dit ⊻iew F <u>a</u> vorites <u>I</u>	ools Help	
WESTELL	Nome Status Voice Settings Diagnostics Configuration Maintenance Restart Basic Mode	
Port Forwarding	Advanced	Advanced Help
Port Triggering		
ALG	Beacon Period 200 msecs (range:1-65535)	Beacon Period: The time
LAN	RTS Threshold 2347 bytes (range:0-2347)	frame transmissions.
DHCP	Fragmentation Threshold 2346 bytes (range:256-2346)	capability information and
DNS	DTIM Interval 2 bytes (range:1-255)	are used to identify the access points in the area.
Public LAN		RTS Threshold: RTS(CTS
IP Passthrough	Supported Rates (Mbps)   B 1   B 2   B 5.5   B 11	handshaking will be
Static NAT	Y - supported	performed for any data or management packet
Port Mapping	B - basic supported	containing a number of bytes greater than the
Spanning Tree	902 11g Sunnorted Pates (Mins)	threshold. If this value is
WAN	N - not supported	(typically set by the
VersaPort	Y - supported	fragmentation threshold), no handshaking will be
VCs	B-basic supported	performed. A value of zero will enable handshaking for
VPN	<u> </u>	all MPDUs (MAC Protocol
Routing Table	Save	Data Offit).
Wireless		Fragmentation Threshold:
Basic		value will be fragmented
Security		into multiple packets of the specified size or smaller.
MAC Filter		DTH4 luters with The
Advanced	·	of Beacon intervals hetween DTIM

Wireless Advanced Configuration		
Beacon Period	The time interval between beacon frame transmissions. Beacons contain rate and	
	capability information. Beacons received by stations can be used to identify the access	
	points in the area.	
RTS Threshold	RTS/CTS handshaking will be performed for any data or management MPDU	
	containing a number of bytes greater than the threshold. If this value is larger than the	
	MSDU size (typically set by the fragmentation threshold), no handshaking will be	
	performed. A value of zero will enable handshaking for all MPDUs.	
Fragmented Threshold	nted Threshold Any MSDU or MPDU larger than this value will be fragmented into an MPDU of the	
	specified size.	
DTIM Interval	The number of Beacon intervals between DTIM transmissions. Multicast and broadcast	
	frames are delivered after every DTIM.	
Supported Rates	These are the allowable communication rates that the Gateway will attempt to use. The	
802.11b Rates (Mbps)	rates are also broadcast within the connection protocol as the rates supported by the	
802.11g Rates (Mbps)	Gateway.	

If you clicked Save, the following pop-up screen will be displayed. Click OK to continue.

Microsof	t Internet Explorer 🔀
?	Wireless access will be interrupted and the wireless stations may require reconfiguration, continue?
	Cancel



## **16. MAINTENANCE**

### 16.1 Login Administration

The following screen will be displayed if you select **Login Administration** from the **Maintenance** menu. Enter the appropriate values, and then click **Save** to save the settings.

NOTE: Password must be at least 6 characters and must not exceed 12 characters long. Alphanumeric values are permitted. The **Password** and **Confirm Password** fields are masked with "\*" for security measures.

M.		
WESTELL	Home Status Voice Settings Diagnostics Configuration Maintenance Restart Basic	Mode
Maintenance	Login Administration	Login Administration
🔶 Login Administration		Help
Event Log	Username admin	In order to access or write
Firewall Log	Password	the device's configurable parameters, it is necessary
Update Device	Confirm Password	to first log in using this
Remote Access		This login is used when
Statistics		accessing the device's website from a PC
Ethernet		connected to the device's
Switch Ports		
Transceiver		Username: Free-format character string between 5
USB		and 12 characters long,
Voice	Save	z, A-Z, 0-9.
ATM		Password: Free-format
Wireless		character string between 6
		and 12 characters long, no spaces or double-quotes.
		Confirm Decemord: Same
		as Password.

Login Administration		
Username	The administrator's username. This is a free-format character string between 5 and 12	
	characters long, no spaces.	
Password	The administrator's password. This is a free-format character string between 6 and 12	
	characters long, no spaces.	
Confirm Password	The identical value that was entered in the password field.	



## 16.2 Event Log

The following screen will be displayed if you select **Event Log** from the **Maintenance** menu. The Remote Logging function enables event logs to be sent to a machine running a syslog server. To enable Remote Logging, click the box adjacent to **Enable** (a check mark will appear in the box) and then enter an IP address in the **Remote IP Address** field. Click **Save** to save your settings.

🗿 Westell - Discover Better Broadband® - Microsoft Internet Explorer			
∫ <u>F</u> ile <u>E</u> dit <u>V</u> iew F <u>a</u> vorites	<u>I</u> ools <u>H</u> elp		
WESTELL Discover Better Broadband	Home Status Voice Settings	Diagnostics Configuration Maintenance Restart	Basic Mode
Maintenance	Event Log		Event Log Help
Login Administration			Available Logs: From the
🔶 Event Log	Thu Jan 1 24:02:52 4070	Available Select a Log	Drop Down box select one
Firewall Log	21.02.32 1970	2008,	of the following options:
Update Device	User ID: DSL State:	username@yourisp.net Up	All: List all logged events
Remote Access	Connection Mode: Connection State:	PPPoE Printable	Connection: List all events
Statistics	Ethernet WAN:	Down	(Any traffic on the USB,
Ethernet			Ethernet or DSL ports).
Switch Ports	Remote Logging		System: List all events related to system activity
Transceiver	Enable		(Time, Errors, Boot
USB	Remote IP Address	save	Information, etc).
Voice			Diagnostics: List all events related to the tests
ATM			performed on the
Wireless			Diagnostics page.
			Voice: List all events related to the voice subsystem.
			Wireless: List all events
			related to the wireless interface.
			Remote Logging: Contains the configuration for remote event logging. Remote

Event Log		
User ID	Jser ID The name of your connection.	
DSL State	The state of the DSL connection.	
Connection Mode	The mode of connection used to connect to your ISP.	
Connection State	The state of the PPP connection.	
Ethernet WAN	The state of the Ethernet WAN connection.	
Remote Logging		
Enable	Enables remote logging of Event Logs	
Remote IP Address	The IP address of the syslog server machine on the local area network to which the	
Event Logs are sent.		



To view logged events, select an option from the Available LOGS drop-down menu.



If you select **All**, the following screen will be displayed. To obtain a printable version of the Event logs, click on **Printable**.





## 16.3 Firewall Log

The following screen will be displayed if you select **Firewall Log** from the **Maintenance** menu. To obtain a printable version of the firewall logs, click on **Printable**. Click on **Refresh** to refresh the screen. To enable Remote Logging, click the box adjacent to **Enable** (a check mark will appear in the box) and then enter an IP address in the **Remote IP Address** field. Click **Save** to save your settings.

Westell - Discover Better Bro Eile Edit <u>V</u> iew Favorites <u>1</u>	adband© - Microsoft Internet [ools <u>H</u> elp	Explorer			
WESTELL	Home Status Voice Settings	Diagnostics Configuration	Maintenance	Restart Basic Mod	e )
Maintenance	Firewall Log	1	I		Firewall Log Help
Event Log	Printable	Refresh	1		This screen is an advanced diagnostics screen. It alerts
Firewall Log		No Log Entry			you of noteworthy information sent to your
Update Device	Remote Loaaina				modem from the Internet. It may also contain entries
Remote Access					that indicate Local Administrative Access
Statistics	Enable				and/or Remote Access
Ethernet	Remote IP Address			Save	login a oriandrea.
Switch Ports					Print/Savable Format: Selecting this will present a
Transceiver					list of all logged packets in
USB					printing or saving.
Voice					Remote Longing: Contains
ATM					the configuration for remote
Wireless					firewall logging. Remote
					logs to be sent to a machine running a syslog
					server*. If saving of the
					remote logging should be
					enabled and the IP address of the syslog server must be configured.
					Enabling or disabling
					()

Remote Logging		
Enable	Factory Default = Disable	
	If enabled (a check mark will appear in the box), the Gateway will send firewall logs to a syslog server.	
Remote IP Address	The IP address of the syslog server machine to which the diagnostics logs	
	to be sent.	



## 16.4 Update Device

The following screen will be displayed if you select **Update Device** from the **Maintenance** menu. This screen enables you to identify the version of software in your device. You can also update the software in your device to the latest version supported.

To update your modem to the latest software version supported, perform the following steps:

- 1. Download the update file and store it to a location on your PC.
- 2. Click the Browse button in the Update Modem screen to navigate to the update file on your PC.
- 3. Click on the update file and then click **Open.** The path to the update file will appear in the **Browse** bar.
- 4. Click **Begin upgrade process** to begin the software update for your modem.
- 5. After your modem has been updated, wait a brief moment for the modem to reset and establish a DSL sync.
- 6. Confirm that the DSL LED on your modem is solid green before continuing your modem's configuration.





### 16.5 Remote Access

The following screen will be displayed if you select **Remote Access** from the **Maintenance** menu. This screen enables you to configure Remote Access for your Gateway. Enter the appropriates values in the fields provided and then click **Save** to save the settings.



	Remote Access
User Name	The name used for Remote Access session. The only valid characters are
	(a-z, A-Z, 0-9). The User Name must be at least 6 characters and must
	not exceed 12 characters long.
Password	The password used for Remote Access session. Do not use spaces or
	double-quotes in the password. The password must be at least 6
	characters and must not exceed 12 characters long.
Confirm Password	Enter the same values as the password.
Timeout	The interval (in minutes) after which the Remote Access session will
	disconnect, if it is idle.
Enable Timeout	Factory Default = Enable
	If Enabled (box is checked) this will activate the Remote Access timeout
	function.
	If Disabled, the Remote Access timeout function will be deactivated.
Enable Remote Access	Factory Default = Disable
	If Enabled (box is checked), Remote Access will be activated.
	If Disabled, Remote Access will be deactivated.
Remote URL	Displays the URL for the Remote Access session.



### **16.6 Statistics**

## **16.6.1 Ethernet Port Statistics**

The following settings will be displayed if you select **Statistics** > **Ethernet** from the **Maintenance** menu.



	Ethernet Port Statistics
Interface Description	The description of the Ethernet interface on the Gateway.
VersaPort	The VersaPort <sup>TM</sup> 2 on the rear of the Gateway. Note: When VersaPort is configured for
	Private LAN mode via the modem's VersaPort configuration screen, section 15.7.1,
	VersaPort <sup>™</sup> 2 functions as a fifth Ethernet switch, (E5).
Switch	The Ethernet ports (E1, E2, E3, E4). Each functions as an Ethernet switch on the
	Gateway.
In Errors	The number of error packets received on the Ethernet interface.
In Discard Packets	The number of discarded packets received.
In Unicast Packets	The number of Unicast packets received on the Ethernet interface.
In Octets	The number of bytes received on the Ethernet interface.
Out Errors	The number of outbound packets that could not be transmitted due to errors.
Out Discard Packets	The number of outbound packets discarded.
Out Unicast Packets	The number of Unicast packets transmitted on the Ethernet interface.
Out Octets	The number of bytes transmitted on the Ethernet interface.



### **16.6.2 Switch Ports Statistics**

The following settings will be displayed if you select **Statistics** < **Switch Ports** from the **Maintenance** menu.



Speed	The negotiated speed of the Ethernet link.
Duplex	The communication mode of the switch port.
Transmit Packets	The number of Ethernet packets transmitted from this port
Receive Packets	The number of Ethernet packets received on this port.



## **16.6.3 Transceiver Statistics**

The following settings will be displayed if you select **Statistics** < **Transceiver** from the **Maintenance** menu.



I ransceiver Statistics			
Transceiver Revision	The transceiver software version number.		
Vendor ID Code	The CPE Vendor's ID code for their chipset.		
Line Mode	The operational mode. Modes supported are No Mode, Multi Mode, T.1413		
	Mode, G.DMT Mode, and G.LITE Mode.		
Data Path	The data path used (either Fast or Interleaved).		
Transceiver Information-Down Stream/Up Stream Path			
Down Stream Path	The path from the network to your Gateway.		
Up Stream Path	The path from your Gateway to the network.		
DSL Speed (Kbits/Sec)	The transmission rate that is provided by your Internet service provider (ISP).		
SNR Margin (db)	The Signal-to-Noise Ratio (S/N) where $0 \text{ db} = a \text{ BER of } 1 \times 10^{-7}$ , which inhibits		
	your DSL speed.		
Line Attenuation (dB)	The DSL line loss.		
Transmit Power (db/Hz)	The transmitted signal strength.		



### 16.6.4 ATM Statistics

The following settings will be displayed if you select Statistics < ATM from the Maintenance menu.



Gateway is the source. Data instea in the investment for any port non the		
Internet; the Gateway is the destination.		
VPI/VCI	Displays the VPI/VCI values obtained from your Internet Service Provider.	
In Errors	The number of error packets received on the ATM port.	
In Discard Packets	The number of discarded packets received.	
In Unicast Packets	The number of Unicast packets received on the ATM port.	
In Octets	The number of bytes received on the ATM port.	
Out Errors	The number of outbound packets that could not be transmitted due to errors.	
Out Discard Packets	The number of outbound packets discarded.	
Out Unicast Packets The number of Unicast packets transmitted on the ATM port.		
Out Octets The number of bytes transmitted on the ATM port.		



### 16.6.5 Wireless Statistics

The following screen will be displayed if you select **Statistics** < **Wireless** from the **Maintenance** menu.



Wireless Statistics		
NOTE: Data listed in the <b>OUT</b> column pertains to transmissions from the AP to a station; the AP is the source. Data		
listed in the IN column pertains to data received by the AP; the AP is the destination.		
MAC Address (BSSID)	This is the Media Access Controller (the hardware address of the Gateway).	
	It is also the Basic Service Set Identifier (BSSID) for your Gateway.	
FW Version	The version of application firmware.	
In-Packets	The number of successfully received packets.	
In-Bytes	The number of successfully received bytes.	
In-Errors	The number of received packets with an error.	
Out-Packets	The number of successfully transmitted packets.	
Out-Bytes	The number of successfully transmitted bytes.	
Out-Errors	The number of packets that did not transmit due to an error.	



## **17. NAT SERVICES**

For your convenience, the Gateway supports protocols for Applications, Games, and VPN-specific programs. The following chart provides port and protocol information for the services supported by the Gateway.

NOTE: To configure the Gateway for a service or application, follow the steps in section 15.2 (Port Forwarding) of this User Guide.

Applications/Games/VPN Support		
Application/Game	Port/Protocol	
Aliens vs. Predator	80 UDP, 2300 UDP, 8000-8999 UDP	
Age of Empires II: The Conquerors	6073 UDP, 47624 TCP, 2300-2400 TCP/UDP	
	This service will open up ports for both traffic directions.	
Americas Army	TCP – 20045	
	UDP – 1716 to 1718, 8777, 27900	
America Online	5190 TCP/UDP	
Anarchy Online	TCP/UDP - 7012,7013, 7500 -7505	
AOL Instant Messenger	4099 TCP, 5190 TCP	
Asheron's Call	9000-9013 UDP, 28800-29000 TCP	
Battlecom	2300-2400 TCP/UDP, 47624 TCP/UDP	
Battlefield 1942	UDP - 14567, 22000, 23000 to 23009, 27900, 28900	
Black and White	2611-2612 TCP, 6667 TCP, 6500 UDP, 27900 UDP	
Blizzard Battle.net (Diablo II)	4000 TCP, 6112 TCP/UDP	
Buddy Phone	700, 701 UDP	
Bungie.net, Myth, Myth II Server	3453 TCP	
Calista IP Phone	3000 UDP, 5190 TCP	
Citrix Metaframe	1494 TCP	
Client POP/IMAP	110 TCP	
Client SMTP	25 TCP	
Counter Strike	27015 TCP/UDP, 27016 TCP/UDP	
Dark Reign 2	26214 TCP/UDP	
Delta Force (Client and Server)	3568 UDP. 3100-3999 TCP/UDP	
Delta Force 2	3568-3569 UDP	
DeltaForce: Land Warrior	UDP 53	
	TCP 21	
	TCP 7430	
	TCP 80	
	UDP 1029	
	UDP 1144	
	UDP 65436	
	UDP 17478	
DNS	53 UDP	
Elite Force	2600 UDP, 27500 UDP, 27910 UDP, 27960 UDP	
Everquest	1024-7000 TCP/UDP	
F-16, Mig 29	3863 UDP	
F-22 Lightning 3	4660-4670 TCP/UDP, 3875 UDP, 4533-4534 UDP, 4660-4670 UDP	
F-22 Raptor	3874-3875 UDP	
Fighter Ace II	50000-50100 TCP/UDP	
Fighter Ace II for DX play	50000-50100 TCP/UDP, 47624 TCP, 2300-2400 TCP/UDP	
FTP	20 TCP, 21 TCP	
GameSpy Online	UDP 3783	



	UDP 6515
	TCP 6667
	UDP 12203
	TCP/UDP 13139
	UDP 27900
	UDP 28900
	UDP 29900
	UDP 29901
Ghost Recon	TCP 80
	UDP 1038
	UDP 1032
	UDP 53
	UDP 2347
	UDP 2346
GNUtella	6346 TCP/UDP. 1214 TCP
Half Life Server	27005 UDP(client only)
	27015 UDP
Heretic II Server	28010 TCP
	26000 (11) each player needs their own port. Increment by one for
Hexell II	20900 (+1) each player needs then own port. Increment by one for
Hatling Common	5500 5502 TCD 5400 LUDD
Hotline Server	5500, 5503 TCP 5499 UDP
HIIPS	
ICMP Echo	4 ICMP
ICQ OLD	4000 UDP, 20000-20019 TCP
ICQ 2001b	4099 TCP, 5190 TCP
ICUII Client	2000-2038 TCP, 2050-2051 TCP, 2069 TCP, 2085 TCP, 3010-3030
	ТСР
ICUII Client Version 4.xx	1024-5000 TCP, 2050-2051 TCP, 2069 TCP, 2085 TCP, 3010-3030
	TCP, 2000-2038 TCP6700-6702 TCP, 6880 TCP, 1200-16090 TCP
IMAP	119 TCP/UDP
IMAP v.3	220 TCP/UDP
Internet Phone	22555 UDP
IPSEC ALG	IPSEC ALG
IPSEC ESP	PROTOCOL 50
IPSEC IKE	500 UDP
Ivisit	9943 UDP, 56768 UDP
JKII:JO (Jedi Knight II: Jedi Outcast)	UDP - 28070 (default)
	UDP- 27000 to 29000
KALL Doom & Doom II	2213 UDP. 6666 UDP (EACH PC USING KALI MUST USE A
	DIFFERENT PORT NUMBER STARTING WITH 2213 + 1)
KaZaA	1214 TCP/UDP
Limewire	6346 TCP/UDP. 1214 TCP
Medal Of Honor: Allied Assault	TCP 80
Modul Of Honor. Amou Assuur	LIDP 53
	LIDP 2093
	UDP 12201
	TCP 12300
	LIDP 2135
	UDP 2139
	TCP/UDP 28900
mIRC Chat	6660-6669 TCP
Motorhead Server	16000 TCP/UDP 16010-16030 TCP/UDP
MSN Game Zone	6667 TCP 28800-29000 TCP
MSN Game Zone (DV 7 & 8 play)	6667 TCD 6073 TCD 28800 2000 TCD 47624 TCD 2200 2400
1 $1$ $1$ $1$ $1$ $1$ $1$ $1$ $1$ $1$	10007 1C1, $0075$ 1Cr, $20000$ - $27000$ 1Cr, $47024$ 1Cr, $25000$ - $2400$



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	TCP/UDP This service will open up ports for both traffic directions.
MSN Messenger	6891-6900 TCP, 1863 TCP/UDP, 5190 UDP, 6901 TCP/UDP
Napster	6699 TCP
Need for Speed 3, Hot Pursuit	1030 TCP
Need for Speed, Porsche	9442 UDP
Net2Phone	6801 UDP
NNTP	119 TCP/UDP
Operation FlashPoint	47624 UDP 6073 UDP 2300-2400 TCP/UDP 2234 TCP
Outlaws	5310 TCP/UDP
Pal Talk	2090-2091 TCP/UDP 2095 TCP 5001 TCP 8200-8700 TCP/UDP
i ui i uik	1025-2500 UDP
pcAnywhere host	5631 TCP, 5632 UDP, 22 UDP
Phone Free	1034-1035 TCP/UDP, 9900-9901 UDP, 2644 TCP, 8000 TCP
Quake 2	27910 UDP
Quake 3	27660 UDP
	Each computer playing QuakeIII must use a different port number,
	starting at 27660 and incrementing by 1. You'll also need to do the
	following:
	1. Right click on the QIII icon
	2. Choose "Properties"
	3. In the Target field you'll see a line like "C:\Program Files\Quake
	III Arena\quake3.exe"
	4. Add the Quake III net_port command to specify a unique
	communication port for each system. The complete field should look
	like this: "C:\Program Files\Quake III Arena\quake3.exe" +set
	net_port 27660
	5. Click OK.
	6. Repeat for each system behind the NAT, adding one to the
	net_port selected (27660,27661,27662)
Quicktime 4/Real Audio	6970-32000 UDP, 554 TCP/UDP
Rainbow Six & Rogue Spear	2346 TCP
RealOne Player	TCP - 554, 7070 to 7071
	UDP - 6970 to 7170
Real Audio	6970-7170 UDP
Return To Castle Wolfenstein	Default -27960 TCP/UDP
	UDP - 27950 to 27980
Roger Wilco	TCP/UDP 3782
	UDP 3783 (BaseStation)
SIP ALG	SIP ALG
ShoutCast Server	8000-8005 TCP
Spinner Radio/Netscape Music	TCP - 554
SSH Secure Shell	22 TCP/UDP
Starcraft	2346 TCP
Starfleet Command	2300-2400 TCP/UDP. 47624 TCP/UDP
SOF/SOFIL (Soldier of Fortune /	UDP - 28910 to 28915
Soldier of Fortune II)	
Telnet	23 TCP
Tiberian Sun & Dune 2000	1140-1234, 4000 TCP/UDP
Tribes?	TCP - 15104 15204 15206 6660 to 6699
1110002	UDP - 27999 to 28002
Ultima Online	5001-5010 TCP 7775-7777 TCP 8800-8900 TCP 9999 LIDP 7875
	UDP
Unreal Tournament server	7777 (default gameplay port)
	7778 (server query port)
	· · · · · · · · · · · · · · · · · · ·



	<ul> <li>7779,7779+ are allocated dynamically for each helper UdpLink objects, including UdpServerUplin objects. Try starting with 7779-7781 and add ports if needed.</li> <li>27900 server query, if master server uplink is enabled. Home master servers use other ports like 27500.</li> <li>Port 8080 is for UT Server Admin. In the [UWeb.WebServer] section of the server.ini file, set the ListenPort to 8080 and ServerName to the IP assigned to the router from your ISP.</li> </ul>
USENET News Service	143 TCP
VNC, Virtual Network Computing	5500 TCP, 5800 TCP, 5900 TCP
Westwood Online, C&C	4000 TCP/UDP, 1140-1234 TCP/UDP
World Wide Web (HTTP)	80 TCP
	443 TCP (SSL)
	8008 or 8080 TCP (PROXY)
Yahoo Messenger Chat	5000-5001 TCP
Yahoo Messenger Phone	5055 UDP
Xbox Live	88 TCP/UDP, 3074 TCP/UDP
IPSec Encryption	IPSec using AH can not be supported through NAT. IPSec using
	ESP and L2TP can be supported via an ALG
L2TP	IPSec using ESP and L2TP can be supported via an ALG.
PPTP	Works through NAT.



UltraLine IIB (Model A90-816030)

# **18. PRODUCT SPECIFICATIONS**

### **Data Features**

- Network Address Port Translation
- DHCP client/server
- DNS server/relay
- Static Routes
- Dynamic Routing with RIP v1 and v2
- PPTP/L2TP/IPSEC VPN NAPT passthrough
- NAT ALG support for common applications
- Stateful Inspection Firewall with logging
- Diffserv IP QOS

### ADSL WAN

#### **DSL Standards**

- ANSI T1.413 issue 2
- ITU G.992.1 (G.DMT) and S=1/2
- ITU G.992.2 (G.lite)
- ITU G.992.3 (ADSL2 DMT)
- ITU G.992.3 Annex L READSL
- ITU G.992.5 (ADSL2+)
- ITU G.994.1 (G.HS)

#### **WAN Protocol Features**

- Bridge Encapsulation per RFC 1483
- Routed IP over ATM per RFC 2684
- PPP over Ethernet per RFC 2516
- PPP over ATM per RFC 2364
- Auto Protocol Detect

#### ATM Features

- Multi PVC support
- Auto PVC detect
- CBR, VBR-rt, VBR-nrt and UBR traffic shaping
- OAM F4/F5 Loop-back

#### **Public LAN Features**

- Dedicated DMZ port
- DHCP server
- Bridge mode mapped to a separate PVC

#### **Ethernet LAN**

- Four port 10/100 Base-T Ethernet switch
- Auto MDI/MDI-X detection
- VLAN tagging

#### Wireless LAN

- IEEE 802.11b/g with frame bursting
- WEP and WPA-PSK security

- MAC address filtering
- Upgradable to 802.11i, 802.11e, WME
- High gain removable external antenna

#### Management

- Web-based GUI
- Remote management via TR-069 or WT-087

### System Requirements

#### Ethernet

- Pentium® or equivalent and above machines
- Microsoft Windows (98 SE, 2000, ME, NT 4.0, or XP), Macintosh OS X, or Linux installed
- Internet Explorer 4.x or Netscape Navigator 4.x or higher
- Ethernet 10/100 Base-T interface
- TCP/IP Protocol stack installed

#### Wireless

- Pentium<sup>®</sup> or equivalent and above class machines
- Microsoft® Windows® (98 ME, 2000, or XP) or Macintosh® OS X installed
- Operating System CD on hand
- Internet Explorer 4.x or Netscape Navigator 4.x or higher
- 64 MB RAM (128 MB recommended)
- 10 MB of free hard drive space
- IEEE 802.11b/g/g+ PC adapter

### **Physical Specifications**

### Dimensions/Weight

- Height: 1.5 in (3.81 cm)
- Width: 10.0 in (25.4 cm)
- Depth: 6.50 in (16.5 cm)
- Weight: Approx. 1.26 lbs. (0.57 kg)

#### Environmental

- Ambient Operating Temperature: +32° to +104° F (0° to +40° C)
- Relative Humidity: 5 to 95%, non-condensing

### **Network Interface**

- WAN: DSL RJ-11 port (to ADSL-provisioned jack)
- LAN: 10/100 Base-T RJ-45 port (to PC or Hub)



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#### Power

- Power Adapter:
  - Input: AC 120V/
  - Output: DC +12V
- Power Consumption: Less than 14W typical from 120 VAC

### **LED Indicators**

- PWR
- Ethernet (E1, E2, E3, E4)
- WiFi
- DSL (DSL2, DSL1)
- BONDED
- INTERNET

### Connectors

- Two DSL: 6-pin (RJ-11)
- Four Ethernet: 8-pin RJ-45

### UltraLine IIB (Model A90-816030)

- Power: Barrel connector
- Wireless IEEE 802.11b/g SMA connector/antenna

### Compliance

### EMC

• FCC Part 15 Class B, subpart C

### Safety

- ANSI/UL 60950-1
- CAN/CSA C22.2 No. 60950-1 First Edition dated April 1, 2003 with revisions through November 26, 2003

### **Regulatory Approval**

• UL, CSA, FCC Part 68, ACTA 968-A-3 Industry Canada CS03, GR-1089-CORE



# **19. TECHNICAL SUPPORT INFORMATION**

### Westell Technical Support

If technical assistance is required, contact your Internet service provider first for support. Westell technical support can be reached by calling:

North America Phone: 1-630-375-4500 <u>U.K./Europe</u> Phone: (44) 01256 843311

Visit Westell at www.Westell.com to view frequently asked questions and enter on-line service requests, or send email to global\_support@westell.com to obtain additional information.

## **20. WARRANTY AND REPAIRS**

### Warranty

Westell warrants this product free from defects at the time of shipment. Westell also warrants this product fully functional for the period specified by the terms of the warranty. Any attempt to repair or modify the equipment by anyone other than an authorized representative will void the warranty.

### Repairs

Westell will repair any defective Westell equipment without cost during the warranty period if the unit is defective for any reason other than abuse, improper use, or improper installation, or acts of nature. Before returning the defective equipment, request a **Return Material Authorization (RMA)** number from Westell. An RMA number must be quoted on all returns. When requesting an RMA, please provide the following information:

- Product model number (on product base)
- Product serial number (on product base)
- Customer ship-to address
- Contact name
- Problem description
- Purchase date

After an RMA number is obtained, return the defective unit, freight prepaid, along with a brief description of the problem to one of the following options:

North America Westell, Inc. ATTN: R.G.M Department 750 N. Commons Drive Aurora, IL 60504-7940 USA <u>U.K./Europe</u> Westell, Ltd. Ringway House Bell Road Daneshill Basingstoke RG24 8FB United Kingdom

Westell will continue to repair faulty equipment beyond the warranty period for a nominal charge. Contact a Westell Technical Support Representative for details.



UltraLine IIB (Model A90-816030)

# **21. PUBLICATION INFORMATION**

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