

USER GUIDE



This User Guide provides information about the Westell® LiteLineTM Ethernet (Model 6200), the LiteLineTM Combo (Model 6201), the ProLineTM Ethernet (Model 6300), the ProLineTM Combo (Model 6301), and the ProLineTM Combo Annex B (Model 6301B). The following table outlines the sections of this document that apply to each Westell product. To determine which product you have, view the label that is affixed to the bottom of the modem. The label displays a model number that identifies your product.

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1. PRODUCT DESCRIPTION

The Westell® Router provides reliable, high-speed, Internet access to your existing home or office phone line. Your ADSL connection is "always-on" ending the hassles of dial-up modems and busy signals. Installation is easy ... no tools ... no headaches. Simply connect the hardware, apply power, and perform the simple software configuration for your Router and you are on the Internet.

This Router is capable of data rates hundreds of times faster than a traditional analog modem. But unlike analog modems, Westell's Router allows you to use the same phone line for simultaneous voice/fax communications and high-speed Internet access, eliminating the need for dedicated phone lines for voice and data needs.

Hereafter, the Westell Routers discussed in this document will be referred to as "Router" or as "Modem."

2. SAFETY INSTRUCTIONS

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

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.

PART 68 - COMPLIANCE REGISTRATION

This equipment (Models 6200, 6201, 6300, 6301, 6301B) complies with Part 68 of the ACTA rules and the requirements adopted by the ACTA. A label on the bottom of this equipment contains, among other information, the Ringer Equivalence Number (REN) and the product identifier. For products approved after July 23, 2001 the product identifier is in the format US:AAAEQ##TXXXX. The digits represented by ## are the REN without a decimal point (e.g. 03 is a REN of 0.3). The REN is used to determine the number of devices that may be connected to a telephone line. For earlier products, the REN is separately shown on the label. If requested, this number must be provided to the telephone company.

Excessive RENs on a telephone line may result in the devices not ringing in response to an incoming call. In most, but no all areas, the sum of RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to a line, as determined by the total RENs, contact the local telephone company.

This equipment is designated to connect to the telephone network or premises wiring using a compatible modular jack that is Part 68 compliant. An ACTA compliant telephone cord and modular plug is provided with the equipment. See the Installation Information section of 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 ACTA 968-A 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. See installation instruction for details.

If this terminal equipment (Models 6200, 6201, 6300, 6301, 6301B) 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 ACTA if you believe such action is necessary.

If you experience trouble with this equipment (Models 6200, 6201, 6300, 6301, 6301B), do not try to repair the equipment yourself. The equipment cannot be repaired in the field. Contact Westell Technical Support at telephone no. (630) 375-4500 for instructions on product return.



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 (Models 6200, 6201, 6300, 6301, 6301B) 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 (Models 6200, 6201, 6300, 6301, 6301B) 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 (Models 6200, 6201, 6300, 6301, 6301B), 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 22 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.

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 Router via 10/100 Base-T or USB installation.

MODEL	CONNECTION TYPE	MINIMUM SYSTEM REQUIREMENTS
6200 6201 6300 6301 6301B	ETHERNET	 Pentium® or equivalent and above, or Macintosh Microsoft® Windows® (95, 98, 98 SE, 2000, ME, NT 4.0, or XP), Linux, or Macintosh® OS X installed Computer Operating System CD-ROM 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 TCP/IP Protocol stack installed 10/100 Base-T Network Interface Card (NIC)
6201 6301 6301B• Pentium® or equivalent a • Microsoft® Windows® 9 installed • Computer operating system • father et Explorer 4.x or 1 higher • 64 MB RAM (128 MB red • 10 MB of free hard drived)		 Microsoft® Windows® 98 SE, 2000, ME, or XP installed Computer operating system CD-ROM on hand Internet Explorer 4.x or Netscape Navigator 4.x or higher 64 MB RAM (128 MB recommended)



5. INSTALLING THE HARDWARE

To obtain additional information on hardware features and installation, see APPENDIX B – Hardware Features.

5.1 Installation Requirements

To install the Westell Router, you will need the following:

- A Network Interface Card (NIC) installed in your PC or
- An available USB port installed on your PC
- A DSL line (provided by your Internet service provider)

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

5.2 Before you begin

Make sure that your kit contains the following items:

NOTE: If you have purchased Model 6200 or Model 6300, a USB cable will not be provided in the kit. In addition, the 6301B (Annex B version) microfilters are often not used on Annex B services, and a master-splitter is used instead.

Models 6200, 6300	Models 6201, 6301, 6301B	
 Westell Router Power Supply RJ-45 Ethernet cable (straight-through)	 Westell Router Power Supply RJ-45 Ethernet cable (straight-through)	
(yellow) RJ-11 Phone cable Westell CD-ROM containing User Guide in	(yellow) USB cable (blue) RJ-11 Phone cable Westell CD-ROM containing USB software	
PDF format Quick Start Guide Microfilters	drivers and User Guide in PDF format Quick Start Guide Microfilters	

5.3 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 jack 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.



5.4 Recommended Modem Mounting on Hollow Drywall Surface (Optional)

Follow the steps below to mount the ADSL modem on a wall:

NOTE: Westell does not provide the hardware needed to wall mount this unit.

- 1. Obtain two #8 pan-head screws and two #8 wall anchors.
- 2. Place the modem against the wall where it is to be mounted. Using a pencil, mark one of the two corresponding screw locations. Mark the other at 4" apart horizontally.
- 3. Drill a 3/16" hole for the wall anchors and insert the anchors. Screw in the #8 screws until the face of the screws are approximately 1/8" from the wall.
- 4. Test-fit the unit on the screws and adjust the screw depth for a sliding fit.





5.5 Installations

This section explains the procedures for installing the Router via 10/100 Base-T/Ethernet only, or USB only, or both Ethernet and USB simultaneously for a dual connection.



NOTE: Please wait until you have received notification from your Internet service provider (ISP) that your DSL line has been activated before installing your Router.

NOTE: If you are using a Westell Router in conjunction with an Ethernet Hub or Switch, refer to the manufacturer's instructions for proper installation and configuration. Westell recommends the use of a surge suppressor to protect equipment attached to the AC power supply.

5.5.1 Installation via 10/100 Base-T Ethernet (All Models)



NOTE: 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 power supply cord to the power connector marked **15V** on the rear panel of the Router. Plug the other end of the power supply into a wall socket.
- 2. Connect the DSL phone cable from the connector marked on the rear panel of the Router to the jack marked **DSL/HPN** on the microfilter. (The microfilter must be plugged into a DSL-equipped phone jack on the wall.) You must use the phone cable that was provided with the kit.
- 3. Connect the yellow Ethernet cable from the Ethernet connector marked 🛄 💭 on the rear panel of the Router to the Ethernet port on your computer.

Congratulations! You have completed the Ethernet hardware installation. No software installation is required when using only an Ethernet connection. You must now proceed to section 7 for instructions on configuring the Router for Internet connection.





Figure 1. Connection via 10/100 Base-T Ethernet

5.5.2 Installation via USB (Models 6201, 6301, 6301B)

STOP: Before you begin this installation, insert the Westell CD that you received in the kit into your PC's CD-ROM drive.

NOTE: The USB installation will not function for Macintosh computers. Macintosh computers must install via Ethernet connection. See section 5.4.1 for installation instructions.

- 1. Connect the power supply cord to the power connector marked **15V** on the rear panel of the Router. Plug the other end of the power supply into a wall socket.
- 2. Connect the DSL phone cable from the connector marked on the rear panel of the Router to the jack marked **DSL/HPN** on the microfilter. (The microfilter must be plugged into a DSL-equipped phone jack on the wall.) You must use the phone cable that was provided with the kit.
- 3. Connect the blue USB cable from the USB connector marked on the rear panel of the Router to the USB port on the PC.

Congratulations! You have completed the USB hardware installation for your Router. You must now go to section 6 to begin the USB software installation.





Figure 2. Connection via USB

5.5.3 Installation via 10/100 Base-T Ethernet and USB (Simultaneous Installation for Models 6201, 6301, 6301B)

STOP: Before you begin this installation, insert the Westell CD that you received in the kit into your PC's CD-ROM drive.

Models 6201, 6301, and 6301B support simultaneous use of 10/100 Base-T Ethernet and USB ports. The following instructions explain how to install your Router for simultaneous use of Ethernet and USB ports. Refer to Figure 1 or Figure 2 for illustrations on hardware installation.

- 1. Connect the power supply cord to the power connector marked **15V** on the rear panel of the Router. Plug the other end of the power supply into a wall socket.
- Connect the DSL phone cable from connector marked on the rear panel of the Router to the jack marked DSL/HPN on the microfilter. (The microfilter must be plugged into a DSL-equipped phone jack on the wall.) You must use the phone cable that was provided with the kit.
- 3. Connect the yellow Ethernet cable from the Ethernet connector marked 🛄 🖄 on the rear panel of the Router to the Ethernet port on your PC.
- 4. Connect the blue USB cable from the USB connector marked on the rear panel of the Router to the USB port on your PC.

Congratulations! You have completed the simultaneous hardware installation. You must now go to section 6 to begin the USB software installation. (No software installation is required when using only an Ethernet connection.)



6. INSTALLING THE USB DRIVERS (MODELS 6201, 6301, 6301B)

If you are using only Ethernet ports, USB driver installation is not necessary. The Microsoft® Plug and Play autodetect feature recognizes when new hardware has been installed. After you connect the Router to the PC, the Router will be detected automatically.

Before you begin the USB driver software installation, determine which operating system is installed on your PC. Then, follow the instructions that match your operating system (e.g., for Microsoft Windows 98 SE, refer to the instructions in section 6.2). Next, begin the USB driver software installation. When the installation has completed, proceed to section 7 to configure the modem for Internet connection. The following table provides a quick reference to the USB software driver instructions.

Your Operating System	Refer to this section for USB driver instructions
Windows 98 SE	6.2
Windows ME	6.3
Windows 2000	6.4
Windows XP	6.5

6.1 CD-ROM Installation:

- 1. Place the CD-ROM that you received in the Router kit into the CD-ROM drive of the PC that is connected to the USB port.
- 2. Go to the USB driver installation section that matches your operating system and follow the procedures outlined in that section.
- Verify the connection to the computer by observing the state of the USB LED. Once the USB drivers have been
 installed, the USB LED should be solid green. Solid green indicates a USB connection has been established.
 Refer to see APPENDIX B –Hardware Features for additional information on LED States.

6.2 Installing the USB Drivers for Windows 98 SE



IMPORTANT: Confirm that the CD-ROM provided with the Router kit is inserted in the appropriate drive before continuing this installation.

NOTE: The actual information displayed in the USB screens may vary according to product.

1. After you connect the Router to your PC, the **Found New Hardware** window will appear (Figure 3). After a brief delay, the Add **New Hardware Wizard** window will appear (Figure 4). Click **Next**.



Figure 3. Windows 98 SE





Figure 4. Windows 98 SE

2. Windows 98 SE: Select Search for the best driver for your device. (Recommended). See Figure 5. Click Next.



Figure 5. Windows 98 SE



3. Windows 98 SE: Select CD-ROM drive (Figure 6). Click Next. Windows will search for the driver.

Add New Hardware Wizard		
	Windows will search for new drivers in its driver database on your hard drive, and in any of the following selected locations. Click Next to start the search. Eloppy disk drives CD-ROM drive Microsoft Windows Update Specify a location: Browse	
	< <u>B</u> ack Next > Cancel	

Figure 6. Windows 98 SE



Note: If Figure 6 does not appear at this step, and Figure 7 appears with the text 'USB Composite device', 'C:\Windows\Inf\USB.Inf', do not continue. Click **Back** to Step 3 and specify the location of the Westell CD-ROM.

4. Windows 98 SE: Select The updated driver (Recommended) Westell USB Network Interface (Figure 7). Click Next.



Figure 7. Windows 98 SE



5. Windows 98 SE: Windows will display the location of the driver (Figure 8). Click Next. Note: The drive "letter" may vary.



Figure 8. Windows 98 SE

6. Windows 98 SE: Remove the Westell CD from the CD-ROM Drive. Next, insert the Windows operating system CD into the CD-ROM Drive (Figure 9). Click OK.



Figure 9. Windows 98 SE

7. Windows 98 SE: The system will begin copying files (Figure 10).

Copying Files
Source: Windows 98 Second Edition CD-ROM Destination: Scanning
57%
Cancel

Figure 10. Windows 98 SE



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8. Windows 98 SE: Figure 11 may pop up, depending on how Windows 98 SE was installed on the computer. The installation of the Westell Router requires files that are supplied by Microsoft for Windows 98 SE. If Figure 13 pops up, insert the Windows 98 SE Operating System CD into the computers CD-ROM drive, wait a moment for the CD to be recognized by the system, and then click on **OK**. The system should find the required files on the Windows 98 SE CD-ROM and automatically complete the installation.



Figure 11. Windows 98 SE

If the Operating System CD is not available, or if Figure 11 pops up again, you will have to manually specify the location of the files. The required files may be stored on your hard drive. A common location for these files is "C:\Windows\Options\Cabs." Try specifying this path or the path to your CD-ROM drive (usually "D:\") by clicking the **Browse...** button in the **Insert Disk** screen (Figure 12). When you have specified the correct path, click on **OK**. The system will begin copying the files.

NOTE: It is very important that the Windows 98 SE files be installed. Do not click on **Cancel** or **Skip File** in the dialogs, doing so will result in an improper installation and the Router will not function correctly.

Insert Di	sk	×
_	The file 'nettrans.cat' on Windows 98 Second Edition CD-ROM cannot be found. Setup could not find a file on the specified path. If the path appears below, make sure it is correct. Click OK to try copying again.	OK Cancel Skip File
	Copy files from:	Details Browse

Figure 12. Windows 98 SE



9. Windows 98 SE: The window below confirms that the PC has finished loading the drivers (Figure 13). Click Finish.



Figure 13. Windows 98 SE

10. Windows 98 SE: Click Yes to restart your computer (Figure 14).



Figure 14. Windows 98 SE

Congratulations! You have completed the software installation for the USB drivers. After the computer has restarted, the Router is ready for use. You must now go to section 7 for instructions on configuring the Router for Internet connection.



6.3 Installing the USB Drivers for Windows ME

NOTE: The actual information displayed in the USB screens may vary according to product.

1. Windows ME: After you connect the Router to your PC, the Found New Hardware window will appear (Figure 15). After a brief delay, the Add New Hardware Wizard will appear (Figure 16). Select The updated driver (Recommended) Westell USB Network Interface. Click Next.



Figure 15. Windows ME



Figure 16. Windows ME



2. Windows ME: Windows will display the location of the driver (Figure 17). Click Next.

Add New Hardware Wiz	zard
	Windows driver file search for the device:
	Westell USB Network Interface
	Windows is now ready to install the best driver for this device. Click Back to select a different driver, or click Next to continue.
🏽 🍪 🌧 🗌	Location of driver:
	F:WSTLUSB.INF
	< Back Next > Cancel

Figure 17. Windows ME

3. Windows ME: The window below confirms that the PC has finished loading the drivers (Figure 18). Click Finish.



Figure 18. Windows ME



4. Windows ME: When the System Settings Change screen appears, the USB drivers are installed properly (Figure 19). Click Yes.

System Settings Change		
7) To finish setting up your new hardware, you must restart your com		
1	Do you want to restart your computer now?	
	Yes <u>N</u> o	

Figure 19. Windows ME

Congratulations! You have completed the software installation for the USB drivers. After the computer has restarted, the Router is ready for use. You must now go to section 7 for instructions on configuring the Router for Internet connection.

6.4 Installing the USB Driver for Windows 2000

NOTE: The actual information displayed in the USB screens may vary according to product.

1. Windows 2000: After you connect the Router to your PC, the Found New Hardware window will appear (Figure 20). After a brief delay, the Found New Hardware Wizard will appear (Figure 21). Click Next.

Found New Hardware							
	Westell USB Network Interface						

Figure 20. Windows 2000



Figure 21. Windows 2000



2. Windows 2000: The Install Hardware Device Drivers window appears. Select Search for a suitable driver for my device (recommended). See Figure 22. Click Next.

Found New Hardware Wizard
Install Hardware Device Drivers A device driver is a software program that enables a hardware device to work with an operating system.
This wizard will complete the installation for this device:
Westell USB Network Interface
A device driver is a software program that makes a hardware device work. Windows needs driver files for your new device. To locate driver files and complete the installation click Next.
What do you want the wizard to do?
Search for a suitable driver for my device (recommended)
O Display a list of the known drivers for this device so that I can choose a specific driver
< <u>B</u> ack <u>N</u> ext > Cancel

Figure 22. Windows 2000

3. Windows 2000: The Locate Driver Files window appears. Select CD-ROM drives (Figure 23). Click Next.

Found New Hardware Wizard							
Locate Driver Files Where do you want Windows to search for driv	ver files?						
Search for driver files for the following hardware	e device:						
Westell USB Network Interface							
The wizard searches for suitable drivers in its dr any of the following optional search locations th		on your computer	and in				
To start the search, click Next. If you are search insert the floppy disk or CD before clicking Next		y disk or CD-ROM	d drive,				
Optional search locations:							
Floppy disk drives							
CD-ROM drives							
Specify a location							
Microsoft Windows Update							
	< <u>B</u> ack	<u>N</u> ext >	Cancel				

Figure 23. Windows 2000



4. Windows 2000: The Driver Files Search Results window appears (Figure 24). Click Next. Note: The drive "letter" may vary.

Found New Hardware Wizard						
Driver Files Search Results The wizard has finished searching for driver files for your hardware device.						
The wizard found a driver for the following device:						
Westell USB Network Interface						
Windows found a driver for this device. To install the driver Windows found, click Next.						
f:\wstiusb.inf						
< <u>B</u> ack <u>Next></u> Cancel						

Figure 24. Windows 2000

5. Windows 2000: The window below confirms that the PC has finished loading the drivers (Figure 25). Click Finish.



Figure 25. Windows 2000



6. Windows 2000: When the System Settings Change screen appears, the USB drivers are installed properly (Figure 26). Click Yes.

System Settings Change						
?	You must restart your computer before the new settings will take effect. Do you want to restart your computer now?					
	Yes No					

Figure 26. Windows 2000

Congratulations! You have completed the software installation for the USB drivers. After the computer has restarted, the Router is ready for use. You must now go to section 7 for instructions on configuring the Router for Internet connection.

6.5 Installing the USB Driver for Windows XP

NOTE: The actual information displayed in the USB screens may vary according to product.

1. Windows XP: After you connect the Router to your PC, the Found New Hardware Wizard will appear. (Figure 27). Select Install the software automatically (Recommended). Click Next.



Figure 27. Windows XP



2. Windows XP: The window below confirms that the PC has finished loading the drivers (Figure 28). Click Finish.



Figure 28. Windows XP

Congratulations! You have completed the software installation for the USB drivers. After the computer has restarted, the Router is ready for use. You must now go to section 7 for instructions on configuring the Router for Internet connection.



7. CONFIGURING THE ROUTER FOR INTERNET CONNECTION

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

NOTE: When viewing the screens, please note that the actual information displayed in the screens may vary.

7.1 Setting Up an Account Profile

In the address window of your Internet Explorer web browser, type http://dslrouter/ or type http://192.168.1.1/ and press enter on your keyboard. The Getting Started screen will appear. At the Getting Started screen, click on next.

🖉 Welcome - Microsoft Internet Explorer	_ 🗆 ×
	A
Cotting Started	
Getting Started	
Welcome to the Westell Setup wizard.	
The following screens will ask you a few	
simple set-up questions that you will need	
to answer to establish a connection profile.	
Click next to start.	
next	
next cancel	
	-



If you clicked on **Next**, the following screen will be displayed. This screen will allow you to set up your account profile.

NOTE: Before you set up your account profile, you must obtain your **Account ID**, **Account Password**, and **VPI/VCI** values from your Internet service provider. You will use this information when you set up your account parameters. If you are at a screen and need help, click on the **Help** button to learn more about the screen, or see APPENDIX A – HELP for additional information.

🚰 New User - Microsoft Internet Explorer 📃 🗖 🗙				
	User Name	4		
Connection Name	My Connection			
Account ID	User provided name for connection profile.			
Account Password	Provided by your ISP.			
	Provided by your ISP.			
	next reset			
	Help			
		_		
		•		

Type in your account parameters. (Account parameters are required before connecting to the Internet.) Account 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.)

When you enter your account parameters at the User Name screen, they will be displayed as shown in the screen below. Click **next** if you want your account parameters to take effect. Click on **reset** if you do not want the account parameters that you entered to take effect or if you want to re-enter the parameters.



🗿 New User - Microsoft I	Internet Explorer	_ 🗆 ×
	User Name	<u></u>
Connection Name	My Connection	
Account ID	User provided name for connection profile. westell@local Provided by your ISP.	
Account Password		
	next reset	
	Help	
		▼

Enter the VPI and VCI values you obtained from your Internet service provider (for example, **0** for VPI and **38** for VCI). The actual VPI/VCI values may vary according to your ISP. Click on **next**.

VPI / VCI - Microsoft Internet Explorer	l l
VPI / VCI	VPI = 0 $VCI = 38$
VPI (0-255) 0 VCI (1-65535) 38	
next reset	
Help	
<u>v</u>	

NOTE: Depending on your Internet Service Provider, the **VPI/VCI** screen may come pre-configured and it will be displayed here. In this case, you should not change any values in this screen. Click on **next** to go to the **PROTOCOL** screen.





Select the Protocol type that you obtained from your Internet Service Provider. Click on next.

When the **SET-UP COMPLETE** screen appears, you have successfully completed your Account Profile setup. Click on **done**.





If you clicked on **done** in the **SET-UP COMPLETE** screen, the following pop-up screen will be displayed. Click on **OK.**

NOTE: The following pop-up will appear only if you have changed the **VPI**, **VCI**, or **Protocol** values in the preceding screens. If you did not change any of these values, this pop-up screen will not appear and the Router will not be reset. If your Router's connection setting is set to "Always On" and you have changes any of these values, the Router will reset automatically. For instructions on editing your connection settings, see section 10.1.



If you clicked on **OK**, the following screen will be displayed. The Router will be reset and the new configuration will take effect.





7.2 Confirming a DSL Sync

View the **DSL Connection Rate** at the **Connection Overview** section in the following Home page. If this status reads **No DSL Connection**, check the DSL physical connection, which is explained in section 5 (INSTALLING THE HARDWARE).

NOTE: To determine if the DSL sync is established, check the Router's DSL LED. If the DSL LED is not solid green, you do not have a DSL link established. In addition, if no DSL sync is established, the connect/disconnect button will not be displayed in the homepage screen. Contact your ISP for details.

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 Router may take time to report these values.)

NOTE: The Router will handle transmission rates up to 8 Mbps. Your actual DSL rates may vary depending on your Internet service provider.





7.3 Establishing a PPP Session

View the **PPP Status** at the Home page. If this status reads **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 Router'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 Router's configuration. Section 10.1 provides instructions on editing the connection settings. The Router's factory default connection setting is "Always On."

For example, if the Router's connection setting is set to "Always On" or "On Demand," the following screen will be displayed. The PPP session has been established automatically (PPP Status displays **UP**).

<u>Eile E</u> dit	⊻iew F <u>a</u> vorite	s <u>I</u> ools	Heb	
N				
	TELL ster Broadband	Home	Status Configuration Maintenance Troubleshooting Help	
) Overview	
	Ga		Connect Rate (Down/Up) 8064 KBits/Sec by 1024 KBits/Sec	
		mnectio My Conr	action UP disconnect	
		,	profile editor rofile with the ° is your default profile. To make changes to your default profile click on the profile editor button.	

If your Router's connection setting is set to "Manual," the following screen will be displayed. Click on the **connect** button to establish your PPP session.

Home	ome Status Configuration Maintenance Troubleshooting Help Rion Overview SL Connect Rate (Down/Up) 8064 KBits/Sec by 1024 KBits/Sec
	tion Name PPP Status nnection DOWN connect
	Profile editor Profile with the ° is your default profile. To make changes to your default profile click on the profile editor button.



If you clicked on the **Connect** button, the following screen will appear briefly. The **PPP Status** field allows you to view the state of your ISP connection. When the **PPP Status** displays **Connecting...**, this means that you are establishing a PPP session.

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<u>Eile E</u> dit ⊻i	ew Favorites	Tools	Help				* **
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Discover Bette	r Broadband	Hom	e Status Config	uration Maintenand	e Troubleshooting	Help	
Ho	me		i otatus oomig	dration maintenan	Troubleanooung	Thep	
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	Cor	nnectio	n Overview				
		meccio	II OVEI VIEW				
		DSL	Connect Rate (Do	own/Up) 8064 KB	ts/Sec by 1024 KBits	s/Sec	
		nnectio Ay Conr	on Name	PPP Stat Connectin			
		ny com	00001	connectin	abort		
				profile editor			
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Once a PPP session has been established, the **PPP Status** will display **UP**. Congratulations! You may now surf the Internet.





7.4 Disconnecting a PPP Session

If you are ready to disconnect from your Internet service provider, click on the **Disconnect** button in the **Home** page (the preceding screen). The following pop-up screen will appear. Click on **OK** to disconnect the PPP session.



The screen below will appear briefly. When the **PPP Status** displays **Disconnecting...**, this means that you are disconnecting from your PPP session.

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Discover Better	Broadband	Hom	e Status Configuration Maintenance Troubleshooting Help	
Hon	ne			
	Cor	nnectio	on Overview	
		DSL	. Connect Rate (Down/Up) 8064 KBits/Sec by 1024 KBits/Sec	
			n Name PPP Status nection Disconnecting disconnect	
		ny com	nection Disconnecting disconnect	
			profile editor	
			Profile with the ° is your default profile. To make changes	
			to your default profile click on the profile editor button.	
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After the Router has finished disconnecting, the **PPP Status** should display **DOWN**. This means that you no longer have an ISP connection; however, your DSL session will not be affected. When you are ready to end your DSL session, simply remove power from the Router.

WireSpeed Dual Connect	- Microsoft Internet Explorer	
<u>File E</u> dit <u>V</u> iew F <u>a</u> vorites	s <u>I</u> ools <u>H</u> elp	<u>18</u>
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Discover Better Broadband	Home Status Configuration Maintenance Troubleshooting Help	
Home		
	•	
Co	nnection Overview	
	DSL Connect Rate (Down/Up) 8064 KBits/Sec by 1024 KBits/Sec	
Co	nnection Name PPP Status	
	My Connection DOWN connect	
	profile editor	
	Profile with the ° is your default profile. To make changes	
	to your default profile click on the profile editor button.	
1		Þ

To re-establish your PPP session, click on the **connect** button. (If you powered down the Router, you will need to power up the Router and log on first.)



7.5 Exiting the User Interface

When you have finished surfing the Internet and are ready to exit this interface, click on X (close) in the upper righthand corner of the **Home** page window.

NOTE: Closing this window will not affect your PPP Status (your PPP session will not be disconnected). You must click on the disconnect button if you want to disconnect your PPP session.

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			Con	nectio	m Overview	
				DSL	. Connect Rate (Down/Up) 8064 KBits/Sec by 1024 KBits/Sec	
			Con	nectio	n Name PPP Status	
					nection UP disconnect	
					profile editor	
					Profile with the ° is your default profile. To make changes	
					to your default profile click on the profile editor button.	
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1				<u>Markan</u>		F

To restore this interface, you must launch your Internet browser and type http://dslrouter/ or type http://192.168.1.1/ in the browser's address window. Next, press 'Enter' on your keyboard.



8. SETTING UP MACINTOSH OS X

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



NOTE: The USB installation will not function for Macintosh Computers. Macintosh computers must use the Router's Ethernet installation. Refer to section 5.5.1 for installation instructions via Ethernet.

Open the System Preference Screen

After you have connected the Westell Router 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**.

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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.

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Show All	Displays	Sound	Startup Disk	Network		
		Location 🗸	Automatic	į		
Configure:	Internal M	lodem	New Location			
			Edit Locatio			
		TCP/IP	PPP Proxi	es 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 on **OK**.

Il users of this computer will be able to hoose this location in the Apple menu ithout entering a password.	Westell	
thout entering a password.	choose this loca	ation in the Apple menu

Select the Ethernet Configuration

After clicking on **OK** in the previous step, 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 Router.



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Show All	Displays	Sound	Startup Disk	Network
		Location: (Westell	*
Configure	√ Internal M	Aodem]	
	Built-in E	thernet		~
	Advanced	Lacking 1	oxies	Modem
	Configu	re: Using	PPP	•

Check the IP Connection

To verify that the computer is communicating with the Router, 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 Router's wiring connection to the PC. If necessary, refer to section 5 for installation instructions.

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how All	Displays	Sound	Startup Disk	Netwo	rk	
		Location:	Westell		•	
Configure:	Built-in Et	hernet	•			
	ſ	CP/IP PF	PoE Apple	Talk Pre	oxies	
	Configu	e: Using	DHCP		•	
		an County		Domain N		rs (Optional)
IP	Address: 19	2.168.1.15	-	Domain Na	une serve	rs (Optional)
	(Pr	ovided by DH	CP server)			
DHCP	Client ID:					
	(0)	ptional)		Search Do	mains	(Optional)
Ethernet	Address: 00	:30:65:e1:8	4-ba			
currenter	induress. ou			Example: ap	olo com . o	ablick out
				example: ap	pie.com, ea	runnik.net



Create a user Account

In the address window of your Internet Explorer web browser, type http://dslrouter/ or type http://192.168.1.1/ and press 'Enter' on your keyboard.

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Forward	Stop	Refresh I	Home	1	AutoFill	Print	Mail				~
🔘 http:/	/dsirouter/) go
e Home Page	() Apple (Apple Suppor	t 🔘	Apple	Store	() iTools	🔘 Mao OS X	Microsoft MacTopia	Office for Macintosh	O MSN	
	i http:/		Forward Stop Refresh I	Forward Stop Refresh Home	Forward Stop Refresh Home	Forward Stop Refresh Home AutoFill	Forward Step Refresh Home AutoFill Print	Environd Step Refresh Anne AutoFill Print Mail Image: The print of the print o	Forward Stop Refresh Home AutoFill Print Mail	Forward Step Refresh Home AutoFill Print Mail	Exercised Stop Refresh Home AutoFill Print Mail

The **Getting Started** screen will be displayed. You may now begin your Account Setup. Refer to section 7 of this User Guide to configure your Router.

🖉 Welcome - Microsoft Internet Explorer	_ 🗆 X
	A
Cotting Started	
Getting Started	
Welcome to the Westell Setup wizard.	
The following screens will ask you a few	
simple set-up questions that you will need	
to answer to establish a connection profile. Click next to start	
next cancel	
<u> </u>	$\overline{\mathbf{v}}$



The following sections explain the advanced features of your Westell Router. [This Page Intentionally Left Blank]



9. SETTING UP ADVANCED CONFIGURATION

Advanced Configuration instructions are explained in Section 10 through Section 16. The instructions apply to all models unless otherwise specified. If you are an advanced user, follow the instructions provided in sections 10 through 16.

STOP! The following sections assume that you have active DSL and Internet service.

The Westell Router allows you to make changes to advanced features such as account profiles, routing configurations, and firewall settings. The following sections will explain each feature of the Router and will show you how to make changes to your Router's settings. If you are at a screen and need help, click on the **Help** button to learn more about that screen.

NOTE: As you navigate through the various screens of your Westell Router, the name of the active page that you have selected will appear in the upper-left corner of the homepage screen, as shown below. Please note that the actual values might differ from the values displayed in the screens.



10. HOME



If you have set up your account profile and established your PPP session as discussed in section 7, the following settings will be displayed when you click on your Home page. Click on **profile editor** to edit your connection profile.

NOTE: If you have created multiple account profiles, select the radio button for the active account profile.



Connection Overview	Displays your DSL connection rate.
Connection Name	This Connection Name is from the connection profile that you established in section 7.
PPP Status	UP = PPP session established
	DOWN = No PPP session established.
Connect/Disconnect	CONNECT = Establish a PPP session
	DISCONNECT = Disconnect a PPP session
Profile Editor	This allows you to make changes to the profile that you created in section 7.



10.1 Editing Account Profiles

If you select the **Profile Editor** button from your Home page, the **Advanced Home** screen will appear, as shown below. Click on the **Edit** button in the **Advanced Home** screen. The **Edit "My Connection"** screen will appear. Follow the steps in the **Edit "My Connection"** screen to change your existing connection profile, which you set up in section 7. If you do not want to change your connection profile, click on **close** in this screen. Click on **delete** if you want to delete your connection profile.

2 WireSpeed Dual Connect - Microrolt Internet Explorer	🚳 "My Connection" Connection - Microsoft Internet Explorer
j File Edit View Fayorites Icols Help	File Edit View Favorites Tools Help
WESTELL Uscord Both Booted Home States Configuration Maintenance Troubleshooting Help	Edit "My Connection"
Advanced Home	Connection
	Connection Name My Connection
	User provided name for connection profile.
	Account ID westell@local
	Provided by your ISP.
Connection Overview	Account Password
	Provided by your ISP.
DSL Connect Rate (Down/Up) 8000 KBits/Sec by 0992 KBits/Sec	Service Profile Default
	Manual C On Demand C Always On
	Time Out Enable 🗹 Save Password
Connection Name PPP Status	20 Minutes for Connection Time Out
6 My Connection UP disconnect edit	save delete close
new connection	Help
/he new connection link allows the user to add more connections.	
Done	🙆 Done 👘 👘 Internet 👘

Connection Name	This field allows you to enter a new connection name of your choice (up to 64
	characters).
Account ID	Use the same account ID that you used in section 7 if you are connecting to the
	same Service Provider. If you have multiple Service Providers, you can enter this
	information at this time.
Account Password	Use the same account password that you used in section 7 if you are connecting
	to the same Service Provider. If you have multiple Service Providers, you can
	enter this information at this time.
Service Profile	Westell recommends that you use the Default parameter.
Manual	Factory default = MANUAL
	Selecting this feature allows you to manually establish your PPP session.
On Demand	Selecting this feature allows the Router to automatically re-establish your PPP
	session on demand anytime your PC requests Internet activity (that is, surfing the
	Internet, email, etc).
Always On	Selecting this feature allows the Router to automatically establish a PPP session
-	when you log on, or if the PPP session goes down.
Save Password	Selecting this feature allows you to save the password for your new connection
	profile in your Router so that you will not have to re-enter it in case of a reboot.



10.2 Adding Account Profiles

If you select the **Profile Editor** button from your **Home** page, the **Advanced Home** screen will appear, as shown below. Click on the **new connection** button in the **Advanced Home** screen. The **New Connection** screen will appear. Enter your account profile information and click on **New**. Next, click on **OK** in the pop-up screen to save your new connection. If you do not want to add a connection profile, click on **Close** in the **New Connection** screen.

NOTE: NAT Profiles allow you to create specific service settings. A NAT Profile may be associated with a certain connection setting, or NAT services. This allows you to customize the profile for specific users. You may store up to eight unique user profiles in your Router.

WirdSpeed Dual Connect - Historool Internet Explorer Eb Lot Yew Farontes Look Heb	New Connection - Microsoft Internet Explorer File Edit View Favorites Tools Help
WESTELL Docume freie Bruddaud Advanced Hame	Connection Name My Connection User provided name for connection profile.
Connection Overview DSL Connect Rale (Duwn/Up) 8000 Kbits/Sec by 0992 KBits/Sec	Provided by your ISP. Account Password Provided by your ISP. Service Profile On Demand C Always On Time Out Enable R Save Password 20 Minutes for Connection Time Out
Connection Name PPP Status © My Connection UP disconnect edit new connection The new connection link allows (the oser (to add more connections.	new Close Help
Ø Donc	🗿 Done 🔮 Internet

If you clicked on **new** in the preceding **New Connection** screen, and then clicked on **OK** in the pop-up screen, the following screen will be displayed. This screen will allow you to edit a connection profile. If you have created multiple profiles, select the radio button of the profile you want to edit, and then click the adjacent **edit** button.

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16		
Discover Better Broadband	ome Status Configuration Maintenance Troubleshooting Help	
Advanced Home	the status configuration maintenance mouseshooting help	
Advanced Home		
Connec	tion Overview	
D	SL Connect Rate (Down/Up) 8064 KBits/Sec by 1024 KBits/Sec	
Company	tion Name PPP Status	
	Connection UP disconnect edit	
0.00	ConnectionD DOWN edit	
C My C		
	new connection	
	he new connection link allows the user to add more connections.	
<i>"</i>	te new connection link allows the user to add more connections.	
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11. STATUS

11.1 Connection Summary

The following settings will be displayed if you select **Connection Summary** from the **Status** menu.

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BTELL Better Broadband Home Statu ponnection ummary	s Configuration M	aintenance Troubleshooting Help	
The actual	information d	isplayed in this screen may vary.	
DSL Connection Info	rmation		
Connection Rate	(Down/Up):	8064 KBits/Sec by 1024 KBits/Sec	
Connection Status	In Packets Out Packets	217 218	
	In Error Packets Out Error Packets	0 2	
IP Network Address	PPP Primary DNS Secondary DNS	172.24.48.3 10.16.88.116 10.16.16.8	
Ethernet Status	In Packets Out Packets	2668 3572	
ATM NetworkAddress	VPI VCI	0 38	
Firewall Status	Passed Dropped	In: 152 Out: 154 In: 3 Out: 0	
Connection Informat	ion		
Connection Name	Connection Dur	ation Status Number of Reconnects	
My Connection	00:12:46	UP 2	
~			ſ

DSL Connection Information				
This field will let you know if you have a DSL Sync (UP/DOWN) and the DSL rate				
at which you are connected.				
This field will display how much information was received (IN) or sent (OUT) in				
packets.				
PPP = An IP address identifies your device on the Internet				
Primary DNS = Provided by your Service Provider				
Secondary DNS = Provided by your Service Provider				
This field will display your Ethernet information that was received (IN) or sent				
(OUT) in packets on your Ethernet port.				
This field will display your VPI and VCI values, which are provided by your Internet				
Service Provider.				
This field will display your firewall traffic in packets.				
Passed: Monitors information traffic that was successfully received (IN) or				
transmitted (OUT) in packets.				
Dropped: Monitors information traffic that was not successfully received (IN) or				



transmitted (OUT) due to your firewall settings.						
PPP Connection Information						
Connection Name	This is from the connection profile that you established in section 7.					
Connection Duration	This field will display how long your PPP session has been connected.					
Status	This field will display the status of your PPP session.					
	UP=Connected					
	DOWN=Disconnected					
Number of Reconnects	This field will display the number of attempts that were made to establish a PPP					
	session.					

11.2 About

The following information will be displayed if you select About from the Status menu.

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	About										
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				M	AC Address ftware Version	00:60:0f:00					
				So	ftware Model	NAT Combo					
					scription ot Loader	WireSpeed I unt:03.00.4	Dual Connect 8+				
										'	

Model Number	Router manufacturer's model number.
Serial Number	Router manufacturer's serial number.
MAC Address	MAC (Media Access Controller) address of this device.
Software Version	Version of Application Software.
Software Model	Router application type.
Description	Product description.
Boot Loader	Version of boot loader software



12. CONFIGURATION

12.1 VC Configuration

The following settings will be displayed if you select **VC Configuration** from the **Configuration** menu. A Virtual Connection (VC) identifies a connection a through the service provider's ATM network to your ISP. Unlike physical hardware connections, VC connections are defined by data.

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

If you change any settings in this screen, click on **save filter settings**.

Edit	View	Favorites	Tools	<u>H</u> elp							
		FLL roadband	Hom	e Status	Configur	ation	Maintenance	Troubleshooting	Help)	
CC	onfigu	ration									
				Status	VPI	VCI	Protocol				
				Enable 💌] 0	38	PPPoE	edit			
				Disable 💌	0	43	Bridge	edit			
				Disable 💌	0	37	Bridge	edit			
				Disable 💌	0	35	Bridge	edit			
				Disable 💌	0	39	Bridge	edit			
				Disable 💌	0	40	Bridge	edit			
				Disable 💌	0	41	Bridge	edit			
					Brid	ge Mu	oadcast Iticast Free Protoco	प प			
						save fi	ilter settings				

NOTE: If you experience any problems, please reset your Router via the external hardware reset button or via the procedure defined in section 14.1 (Backup/Restore) under the **Maintenance** menu.

Status	Allows you to enable or disable your VC (Virtual Connection)
VPI	Displays the VPI (Virtual Path Indicator) value for a particular VC, which is
	defined by your Service Provider.
VCI	Displays the VCI (Virtual Channel Indicator) value for a particular VC,
	which is defined by your Service Provider.
Protocol	Displays the Protocol for each VC. The protocol is provided by your Service
	Provider.



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.	Classical IPoA = Internet Protocol over ATM (Asynchronous Transfer
	Mode). This is an ATM encapsulation of the IP protocol.
Bridge Broadcast	Factory Default = CHECKED
5	When this setting is CHECKED, the Router will allow Broadcast IP packets
	to/from the WAN.
	When this setting is NOT CHECKED, the router will block Broadcast IP
	packets to/from the WAN.
	This setting is only valid if one of the Virtual Channels is configured for
	Bridge mode.
Bridge Multicast	Factory Default = CHECKED
_	When this setting is CHECKED, the Router will allow Multicast IP packets
	to/from the WAN.
	When this setting is NOT CHECKED, the Router will block Multicast IP
	packets to/from the WAN.
	This setting is only valid if one of the Virtual Channels is configured for
	Bridge mode.
Spanning Tree Protocol	Factory Default = DISABLED
	Spanning Tree Protocol is a link management protocol that provides path
	redundancy while preventing undesirable loops in the network. For Ethernet
	network to function properly, only one active path can exist between two
	stations.
	When ENABLED, two bridges are used to interconnect the same two
	computer network segments. Spanning Tree Protocol will allow the bridges to
	exchange information so that only one of them will handle a given message
	that is being sent between two computers within the network.



12.1.1 Configuring the Router's VC settings for PPPoE

The VC 1 configuration screen will be displayed if you select the edit button adjacent to any of your existing VC (Virtual Connections) settings shown in the VC Configuration screen.

NOTE: The actual information displayed in the VC 1 Configuration screen may vary, depending on network connection established. You must use the settings provided by your ISP.

To configure your Router to work with the PPPoE protocol, at VC 1 Configuration screen select PPPoE from the **Protocol** drop-down arrow.

VC 1
Configuration
VPI 0
VCI 38
PCR 100
QoS UBR 🔽
Protocol PPPoE
Status Enabled
VC 1 - PPPoE Settings
IP Address 0.0.0.0
Gateway 0.0.0.0
DNS Primary 0.0.0.0
DNS Secondary 0.0.0.0
Subnet Mask
MRU Negotiation 🗖 LCP Echo Disable 🗖
LCP Echo Failures 6
"Must be between 1 and 30 inclusive."
LCP Echo Duration 60
"Must be between 5 and 300 seconds inclusive
and greater or equal to Retry Duration." LCP Echo Retry Duration 10
"Must be between 5 and 300 seconds inclusive."
Tunneling © Enable O Disable
set VC cancel
<u>Help</u>



If you have made any changes to your VC settings, you need to save them. To save the new VC settings, click on **OK** when asked **Set this PPPoE VC configuration?** If you click on **cancel**, the new VC settings will not be saved.

Microsoft Internet Ex	plorer	×
Set this PPP	oE VC configura	ation?
OK]	Cancel	

If you clicked on **OK**, the following pop-up screen will be displayed. Click on **OK** to reset the Router. After a brief delay, the new configuration will take effect.

	× ×
?	The modem must be reset in order for the new configuration to take affect. Do you wish to reset now?
	Cancel

	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	Quality of Service (QOS) is determined by your Service Provider.
	QOS provides the capability to partition network traffic into multiple priority levels
	or classes of service.
	CBR = Constant Bit Rate
	UBR = Unspecified Bit Rate
	VBR = Variable Bit Rate
Protocol	The Protocol for each VC, which is specified by your Service Provider.
	PPPoA = Point to Point Protocol over ATM (Asynchronous Transfer Mode) PPPoE = Point to Point Protocol over Ethernet
	Bridge = Bridge Protocol Classical IPoA = Internet Protocol over ATM (Asynchronous Transfer Mode). This
	is an ATM encapsulation of the IP protocol.
Status	The protocol status.
Status	VC x PPPoE Settings
IP Address	Displays the IP network address that your Router is on.
Gateway	Displays the router IP Gateway address
DNS Primary	Provided by your Service Provider
DNS Secondary	Provided by your Service Provider
MRU Negotiation	Factory Default = DISABLED
_	If ENABLED, the Maximum Received Unit (MRU) would enforce MRU
	negotiations. (NOTE: enable this option only at your ISP's request.)
LCP Echo Disable	Factory Default = Enable



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	If checked, this option will disable the Router LCP Echo transmissions.
LCP Echo Failures	Indicates number of continuous LCP echo non-responses received before the PPP
	session is terminated.
LCP Echo Retry Duration	Indicates the interval between LCP Echo transmissions with responses.
LCP Echo Retry Duration	Indicates the interval between LCP. Echo after no response.
Tunneling	Factory Default = ENABLE
	If ENABLED, this option allows PPP traffic to be bridged to the WAN. This feature
	allows you to use a PPPoE shim on the host computer to connect to the Internet
	Service Provider, by bypassing the Router's capability to do this.
	NOTE: Tunneling is available in PPPoE mode only.

NOTE: The values for IP Address, Gateway, DNS Primary, and DNS Secondary are all "Override of the value obtained from the PPP connection," They default to "0.0.0.0," in which case the override is ignored. Westell recommends that you do not change the values unless your Internet Service Provider instructs you to change them.

12.1.2 Configuring the Router's VC settings for PPPoA

The VC 1 configuration screen will be displayed if you select the edit button adjacent to any of your existing VC (Virtual Connections) settings shown in the VC Configuration screen.

NOTE: The actual information displayed in the VC 1 Configuration screen may vary, depending on network connection established. You must use the settings provided by your ISP.

To configure your Router to work with the PPPoA protocol, at the VC 1 Configuration screen select PPPoA from the Protocol drop-down menu.





If you selected the **PPPoA** protocol, the following screen will be displayed.



If you have made any changes to your PPPoA settings, you must save them. To save the new VC settings, click on **OK** when asked **Set this PPPoA VC configuration?** If you click on **cancel**, the new VC settings will not be saved.

Microsoft Internet E	xplorer 🛛 🔀
Set this PPF	PoA VC configuration?
OK	Cancel



If you clicked on **OK**, the following pop-up screen will be displayed. Click on **OK** to reset the Router. After a brief delay, the new configuration will take effect.

	×
?	The modem must be reset in order for the new configuration to take affect. Do you wish to reset now?
	OK Cancel

After the Router has been reset, confirm that you have a DSL sync and that the PPP status displays UP.

12.1.3 Configuring the Router's VC settings for Bridge

To configure your Router to work with the Bridge protocol, at the VC 1 Configuration screen select Bridge from the Protocol drop-down menu.





Select a mode from the options displayed at the Mode drop-down arrow under VC 1 – Bridge Settings.



12.1.3.1 Bridge

If you select **Bridge** from the **Mode** drop-down box, the following screen will be displayed. If you change any values in this screen, click on **set VC** to save your VC settings.

VC 1 Cor	onfiguration - Microsoft Internet Explorer	×
<u>F</u> ile <u>E</u> dit	lit ⊻iew F <u>a</u> vorites <u>I</u> ools <u>H</u> elp	
		*
	VC 1	
	Configuration	
	VPI 0	
	VCI 38	
	PCR 100	
	Qos UBR	
	Protocol Bridge	
V V	C 1 - Bridge Settings	
	Mode Bridge	
	set VC cancel	
	Help	
		7
🕘 Done	📄 📄 🔂 Internet	



		VC 1 Configuration
VPI		This setting allows you to change your VPI (Virtual Path Indicator) value for a
VCI		particular VC, which is defined by your Service Provider. 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		Quality of Service, which is determined by your Service Provider.
		CBR = Constant Bit Rate UBR = Unspecified Bit Rate VBR = Variable Bit Rate
Protocol		The Protocol for each VC, which is specified by your Service Provider.
		PPPoA = Point to Point Protocol over ATM (Asynchronous Transfer Mode) PPPoE = Point to Point Protocol over Ethernet Bridge = Bridge Protocol Classical IPoA = Internet Protocol over ATM (Asynchronous Transfer Mode). This is an ATM energy lation of the ID protocol
Status		is an ATM encapsulation of the IP protocol. The protocol status.
		VC 1 Bridge Settings
Mode	same protoco client PC wi statically. Routed Brid is terminated Ethernet hea RFC1483 br address throu the Router. Proxy Bridg	bridge is a layer 2 device that connects two segments of the same LAN that use the ol such as Ethernet. The Router does not have a WAN IP address in this mode. The II typically get an IP address from a DHCP server in the network or it can be assigned $ge = Routed Bridged Encapsulation (RBE)$ is the process by which a bridged segment d on a routed interface. Specifically, the router is routing on an IEEE 802.3 or der carried over RFC 1483 bridged ATM. RBE was developed to address the known idging issues, including broadcast storms and security. The Router will get a WAN IP ugh DHCP or can be assigned statically. NAT will use the global address assigned to $e = Proxy Bridge$ is the process in which the Router acts as a proxy ARP agent for a subnet. The Router will be assigned an IP address from within that public subnet.
	The Router we must not res MAC address	will direct all traffic to a gateway, which is configured statically. The gateway address ide within the Router's assigned public subnet. All traffic will be sent via the gateway ss. The LAN may also have a private NAT'ed network. NAT will use the global gned to the Router.



12.1.3.2 Routed Bridge

If you select **Routed Bridge** from the **Mode** drop-down box, the following screen will be displayed. If you change any values in this screen, click on **set VC** to save your VC settings.

VC 1 Configuration - Microsoft Internet Explorer	_ 🗆 🗡
<u>File E</u> dit <u>V</u> iew F <u>a</u> vorites <u>T</u> ools <u>H</u> elp	
	4
VC 1	
Configuration	
VPI 0	
VCI 38	
PCR 100	
QoS UBR 🔽	
Protocol Bridge 💌	
Status Enabled	
VC 1 - Bridge Settings	
Mode Routed Bridge 💌	
DHCP Client CEnable CDisable	
IP Address 0.0.0.0	
Gateway 0.0.0.0	
DNS Primary 0.0.0.0	
DNS Secondary 0.0.0.0	
set VC cancel	
culture culture	
Usla	
<u>Help</u>	
🙆 Done 🛛 🚺 🚺 Internet	

If you clicked on **set VC**, the following pop-up screen will be displayed. Click on **OK** when asked **Set this Bridge VC configuration?** If you click on **cancel**, the new VC settings will not be saved.

Microsoft Internet	Explorer 🛛 🔀
? Set this Br	idge VC configuration?
OK	Cancel

If you clicked on **OK**, the following pop-up screen will be displayed. Click on **OK** to reset the Router. After a brief delay, the new configuration will take effect.





After the Router has been reset, confirm that you have a DSL sync and that the PPP status displays UP.

12.1.3.3 Proxy Bridge

If you select **Proxy Bridge** from the **Mode** drop-down box, the following screen will be displayed. If you change any values in this screen, click on **set VC** to save your VC settings.

🚰 VC 1 Configuration - Microsoft Internet Explorer 📃 🔲 🗙
<u>File E</u> dit <u>V</u> iew F <u>a</u> vorites <u>T</u> ools <u>H</u> elp
VC 1
Configuration
VPI 0
VCI 38
PCR 100
Qos UBR 💌
Protocol Bridge
Status Enabled
VC 1 - Brid <u>ge Setting</u> s
Mode Proxy Bridge 💌
Gateway 0.0.0.0
DNS Primary 0.0.0.0
DNS Secondary 0.0.0.0
set VC cancel
Help
🙆 Done

If you clicked on **set VC**, the following pop-up screen will be displayed. Click on **OK** when asked **Set this Bridge VC configuration?** If you click on **cancel**, the new VC settings will not be saved.

Microsoft	nternet Ex	olorer	×
?	Set this Bridg	e VC configural	ion?
	OK]	Cancel	

If you clicked on **OK**, the following pop-up screen will be displayed. Click on **OK** to reset the Router. After a brief delay, the new configuration will take effect.



After the Router has been reset, confirm that you have a DSL sync and that the PPP status displays UP.



12.2 DNS Configuration

The following settings will be displayed if you select **DNS Configuration** from the **Configuration** menu.

View Favorites Iools Help	
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Home Status Configuratio	n Maintenance Troubleshooting Help
onfiguration	
User Assigned DNS	
Domain Name myhome.westell.	com set
Static Host Assignment	
Host Name	IP Address
dsirouter	192.168.1.1
deviceweb	192,168,1,1 delete
deviceweb	192,100,1,1
deviceweb SmartDevice	192.168.1.1 delete
	192,100,1,1
SmartDevice	192.168.1.1 delete
	192.168.1.1 delete
SmartDevice	192.168.1.1 delete
SmartDevice	192.168.1.1 delete

User Assigned DNS							
Domain Name	This field allows you to enter a Domain Name for your Router.						
NOTE: Some ISP's may	To add a Domain Name, in the field under User Assigned DNS, type in your new						
require the name for	domain name and click Set.						
identification purposes.							
	Static Host Assignment						
Host Name	This field allows you to enter a HOST name for your Router.						
	To add a new Host name, in the field under Static Host Assignment, type in the						
	Host Name and the IP address and click Set.						
IP Address	Displays the IP address that is assigned to the Host Name.						
	Discover Local Devices						
This field displays a list of th	ne computers on the LAN that were assigned a DHCP Address. The computer name,						
MAC address, and IP addres	s of each discovered device is displayed.						



If you want to add a new Host Name and an IP address to your DNS server, enter your Router's **Host Name** and **IP Address** in the fields provided in the **Static Host Assignment** section.

	ation - Microsoft Internet Explorer		_ 0
∃ile <u>E</u> dit ⊻ie	sw Fgvorites Iools Help		
N			
ß			
iscover Better	Broadband Home Status Configuration	Maintenance Troubleshooting Help]
DNS Confi	iguration		
	User Assigned DN8		
	Domain Name myhome.westell.co	om set	
	1.2		
	Static Host Assignment		
	Host Name	IP Address	
	dstrouter	192.168.1.1	
	deviceweb	192.100.1.1	
	smartdevice	192.168.1.1 delete	
	dnsnamehere	192.168.1.25 delete	
\sim		0.0.0.0	
<		0.0.0.0	
<	Discovered Local Devices	0.0.0	
<		0.0.0 add	
<	Discovered Local Devices	0.0 0.0	

The following screen displays a Host Name and an IP Address in the fields. Now click on add.

-	/		
N			
EST	Broadband Home Statue Configuration	-	
	guration	Maintenance Troubleshooting Help	
No com	guidton		
	User Assigned DNS		
	Domain Name myhome.westell.c	om set	
	Static Host Assignment		
	Host Name	IP Address	
	dstrouter	192.168.1.1 set	
	deviceweb	192.168.1.1 delete	
	SmartDevice	192.168.1.1 delete	
	dnsnamehere	192.168.1.25	
	Discovered Local Devices		
	No Discovered Devices		



If you clicked on **add**, the following screen will be displayed. The **Host Name** and **IP Address** have been added to the Static Host Assignment.

	ation - Microsoft Internet Explorer			
Eile <u>E</u> dit ⊻ie	w Favorites Iools Help			
	/			
N				
VEST	E11			
liscover Better	Broadband Home Status Configuration	Maintenance Troubleshootin	ig Help	
DNS Confi	guration			
	User Assigned DNS			
	User Assigned DNS			
	Domain Name myhome.westell.com	n 🦷	set	
	Static Host Assignment			
	Host Name	IP Address		
	dslrouter	192.168.1.1	set	
	deviceweb	192.168.1.1	delete	
	smartdevice	192.168.1.1	delete	
	dnsnamehere	192.168.1.25	delete	
		0.0.0.0	add	
	Discovered Local Devices			
	No Discovered Devices			
	No Discovered Devices		J	

12.3 DHCP Configuration (Private LAN)

The following settings will be displayed if you select DHCP Configuration from the Configuration menu.





DHCP Server	This setting allows the ADSL router to automatically assign IP addresses to local devices connected on the LAN. Westell advises setting this to enabled for the private LAN.
	Off = DHCP Server is disabled
	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.
	NOTE: These addresses will be overwritten if the Internet Service Provider
DHCP Start Address	supports dynamic setting of these values.
DHCP Start Address	Factory Default = 192.168.1.15 This field displays the first IP address that the DHCP server will provide. The
	DHCP Start Address must be within the IP address and lower than the DHCP
	End Address. You may use any number from 0 to 254 in this address.
DHCP End Address	Factory Default = 192.168.1.47
	This field displays the last IP address that the DHCP server will provide. The DHCP End Address must be within the IP address 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 (dd:hh:mm:ss)*. 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.
	*(dd = days, hh = hours, mm = minutes, ss = seconds)

12.3.1 Disabling the DHCP Server

If you click on the drop-down arrow at **DHCP Server:**, a list of options will be displayed. If you want to disable your DHCP server, select **Off** from the **DHCP Server** drop-down arrow. Click on **save**.

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ress 🧃 H	http://dskrouter/	/dhcp.h	ntm?dhcp	Opt=1									Links 🙋 Wire	Speed Dual Connect	
	B TELI Inter Broadba		Home	Status	Configu	ration M	aintena	nce Tro	ubleshoot	ting Hel	p)				
							_						- K.		
					P		e L	i ivate LAN AN D	HCP	Setti	ngs				
					P DHCP :	rivat		ivate LAN AN D 32.168.1.15	HCP	Setti	ngs				
					P DHCP : DHCP I	rivat	lress 19 ess 19 ne 1	i ivate LAN AN D							



- I × DHCP Configuration - Microsoft Internet Ex File Edit View Favorites I ools Help WEST ELL Home Status Configuration Maintenance Troubleshooting Help DLICP (DHCP Server: Off • reset save 🛓 Done 🙁 Intern

If you selected **Off** at **DHCP Server:**, the following screen will be displayed. Click on **save** to save the **DHCP Server** setting.

If you clicked on **save**, in the preceding **DHCP Configuration** screen, the following pop-up screen will appear. Click on **OK**.





12.3.2 Enabling the DHCP Server

If you want to enable your DHCP Server, select Private LAN at the DHCP Server drop-down arrow.



If you selected **Private LAN**, the following screen will be displayed. Click on **save** to save your DHCP Server setting. If you click on **reset**, your DHCP Server will be reset to factory default. (Private LAN is the factory default for the DHCP Server.)

DHCP Configuration - Micro	soft Internet Explorer	- 🗆 🗵
<u>File Edit View Favorites</u>	Iools Help	
Discover Better Broadband	Home Status Configuration Maintenance Troubleshooting Help	A
	DHCP Server Private LAN	
	DHCP Start Address 192.168.1.15 DHCP End Address 192.168.1.47 DHCP Lease Time 1 : 0 : 0 : 0 Days Hours Minutes Seconds	
		E E



If you clicked on **save**, in the preceding **DHCP Configuration** screen, the following pop-up screen will appear. Click on **OK**.



12.4 Private LAN Configuration – Configuring NAT

The following settings will be displayed if you select **Private LAN Configuration** from the **Configuration** menu. (Private LAN is the default configuration for this Router.)

NOTE: Private LAN allows you to set up a network behind your Router.

If you change the settings in this screen, click on save. If you click on reset, the changes will not take effect.

Private LAN Configuration - M Ele Edit View Favorites I			_ _ X
			_
Discover Better Broadhand	Home S	atus Configuration Maintenance Troubleshooting Help	
Private LAN Configuration			
		Private LAN DHCP Server Enable 🔽	
		Private LAN Enable 🔽	
		Modem IP Address 192.168.1.1	
		Subnet Mask 255.255.0	
		Private LAN DHCP Settings	
		DHCP Start Address 192.168.1.15	
		DHCP End Address 192 168 1 47	
		DHCP Lease Time 1 : 0 : 0 : 0	
		Days Hours Minutes Seconds	
		save reset	
2 Done			💌



If you made changes and clicked on **save**, the following pop-up screen will be displayed. Click on **OK**. This will save your **Private LAN Configuration** settings. If you click **Cancel**, your new settings will not take effect.

Microsoft	Internet Exp	lorer	×
?	Load new Priv	ate LAN configu	ration?
	OK j	Cancel	

Private LAN DHCP Server Enable	Default = CHECKED
	If this box is CHECKED, it enables DHCP addresses to be served
	from the Private LAN pool.
Private LAN Enable	Default = CHECKED
	If this box is CHECKED, it enables the addresses from the Private
	LAN to use the NAT interface.
Modem IP Address	Displays the Router's IP address
Subnet Mask	Displays the Subnet Mask, which determines what portion of an IP
	address is controlled by the network and which portion is controlled
	by the host.
DHCP Start Address	Displays the first IP address that the DHCP server will provide.
DHCP End Address	Displays the last IP address that the DHCP server will provide.
DHCP Lease Time	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 following format: $(dd:hh:mm:ss)^*$ This value must be greater than 10 seconds. The default = 01:00:00:00. Seconds must be between 0 and 59, minutes must be between 0 and 59, and hours must be between 0 and 23.

*(dd = days, hh = hours, mm = minutes, ss = seconds).

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

Warning Message	Check Private 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 53	Check the Seconds value in the DHCP Lease Time field
Minutes must be between 0 and 59	Check the Minutes value in the DHCP Lease Time field
Hours must be between 0 and 23	Check the Hours value in the DHCP Lease Time field



12.5 Public LAN Configuration – Multiple IP Address PassThrough

The following screen will be displayed if you select **Public LAN Configuration** from the **Configuration** menu. Click in the **Public LAN DHCP Server Enable** box. A check mark will appear in the box.

NOTE: The Public LAN feature, if available from your service provider, allows the Router to use LAN IP addresses that are accessible from the WAN. Public LAN allows your computer to have global address ability. To utilize the Public LAN feature on your Router, your ISP must support Public LAN and Static IP. Contact your ISP for details.

<u>File E</u> dit	<u>V</u> iew F <u>a</u> vorites	Tools	Help											-
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	http://dslrouter/pub			Home	ocucii	Tavoinco	rnatory	indi	1 HER	Luk	▼ @Go		eSpeed Dual Connect	,
Discover 8	http://dshouter/pub				Public LA P Pi	N DHCP S ublic LAN ublic LAN ublic LAN	Server En. Enable IP Addres		68.2.1		▼ ~ 60 		espeed Dual Connect	2
8													🚛 Local intrane	t.

Public LAN DHCP Server Enable	Default = NOT CHECKED
	If this box is CHECKED, it enables DHCP addresses to be served
	from the Public LAN pool.
Public LAN Enable	Default = NOT CHECKED
	If this box is CHECKED, it enables the addresses from the Public
	LAN to bypass the NAT interface.
Public LAN IP Address	Provides a Public IP Address if the service provider does not
	automatically provide one.
Public LAN Subnet Mask	Provides a Public Subnet Mask if the service provider does not
	automatically provide one.

If you clicked on the **Public LAN DHCP Server Enable** box, the following screen will be displayed. Click on the **Public LAN Enable** box to enable Public LAN.

NOTE: By enabling the Public DHCP Server, you automatically disable the Private LAN DHCP Server on your Router.



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	er Broadband	Home	Status	Configuration	n Maintenance	Troubleshooting	Help	
	lic LAN juration							
			AN DHCP Public LAI	Server Enable	9 9 0			
				N IP Address	192.168.2.1			
				N Subnet Mask				
			Put	olic LAN	I DHCP	Settings		
			DHCP	Start Address	192.168.2.15			
				Start Address End Address				
			DHCP			: 0 : 0		
			DHCP	End Address	192.168.2.215		conds	
			DHCP	End Address	192.168.2.215 1 : 0 Days Hou		conds	

If you clicked on the Public LAN Enable box, the following screen will be displayed. Click on save.

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	N								
	ст.	=1.1							
cover	Better B	roadband	Home	Status	Configuratio	n Maintenance	Troubleshooting	g Help	
	Public I Infigura								
						_			
					Server Enable				
				Public LA					
					N IP Address	192.168.2.1			
				Public LAI	N Subnet Mask	255.255.255.0			
				D1			Cattinga		
				Pul		DHCP	Settings		
				DHCP	Start Address	192.168.2.15			
					End Address	192.168.2.215			
					Lease Time	1 : 0	: 0 : 0	-	
				51101	20030 11110				
						Days Hou	rs Minutes S	econas	
					save	reset			
		1							1

April 2004



If you made changes and clicked on **save** in the **preceding** screen, the following pop-up screen will be displayed. Click on **OK**. This will save you **Public LAN Configuration** settings. If you click on **Cancel**, your new settings will not take effect.

Microsoft	Internet Explorer	<
?	Load new Public LAN configuration?	
	Cancel	

NOTE: DHCP Lease Time is displayed in the following format: $(dd:hh:mm:ss)^*$. This value must be greater than 10 seconds. The default = 01:00:00:00. Seconds must be between 0 and 59, minutes must be between 0 and 59, and hours must be between 0 and 23. *(dd = days, hh = hours, mm = minutes, ss = seconds).

If the settings you have entered in the **Public LAN Configuration** screen are incorrect, the following warning messages may be displayed via pop-up screens. If this occurs, check settings in the **Public LAN Configuration** screen.

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 53	Check the Seconds field at DHCP Lease Time
Minutes must be between 0 and 59	Check the Minutes field at DHCP Lease Time
Hours must be between 0 and 23	Check the Hours field at DHCP Lease Time

If you clicked on **OK** in the **Load new Public LAN configuration?** screen, the following pop-up screen will be displayed. This will allow the Router to be reset and the new configuration will take effect. Click on **OK**.

Microsof	t Internet Explorer 🛛 🗙
?	The modem must be reset in order for the new configuration to take affect. Do you wish to reset now?
	Cancel



If you clicked on **OK** in the preceding screen, the following screen will be displayed. The Router will be reset and the new configuration will take effect. After the Router has been reset, confirm that you have a DSL sync and that the PPP Status displays **UP**.



NOTE: Whenever the PPP Status displays **DOWN**, you do not have a PPP session established. If your Router's connection setting is set to "Always On," 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 Router's configuration.

WireSpeed Dual Connect - Micro		- 🗆 ×
_ <u>E</u> lle <u>E</u> dit <u>V</u> iew F <u>a</u> vorites <u>I</u> ools	н Нер	-
Discover Better Broadband Hor	me Status Configuration Maintenance Troubleshooting Help	
Home		
Connecti	on Overview	
DS	L Connect Rate (Down/Up) 8064 KBits/Sec by 1024 KBits/Sec	
Connecti	on Name PPP Status	
° My Con		
	profile editor	
	Profile with the ° is your default profile. To make changes	
	to your default profile click on the profile editor button.	
•		F


12.6 Single Static IP Configuration – Single IP Address PassThrough

The following settings will be displayed if you select **Single Static IP Configuration** from the **Configuration** menu. The Single Static IP Configuration screen allows you to select the device on your LAN that will share your Single Static IP. Before you begin this section, configure your PC settings to obtain an IP address from your Router automatically. (Refer to your Windows Help screen for instructions.)

NOTE: Single Static IP (SSI) allows the user to share the WAN assigned IP address with one device on the LAN. By doing this, the device with the SSI becomes visible on the Internet. Network Address Translation (NAT) and Firewall rules do not apply to the device configured for SSI.

STOP: Static NAT must be disabled before you can enable **Single Static IP**. To disable Static NAT, select **Service Configuration** from the **Configuration** menu. Next, click on the **static NAT** button. Select the device from the **Static NAT Device** drop-down menu and click on **disable**. Return to Single Static IP Configuration by selecting **Single Static IP Configuration** from the **Configuration** menu.





12.6.1 Enabling Single Static IP – Single IP Address PassThrough

To enable your PC for Single Static IP, click on the PC's device name or the IP address (from the options listed in the window) that will share your WAN IP address. Click on **enable**.

Single Static IP br>Configuration - Microsoft Internet Explorer	_ D ×
<u>Ele Edit ⊻iew</u> F <u>a</u> vorites <u>I</u> ools <u>H</u> elp	1
Home Status Configuration Maintenance Troubleshooting Help Single Static IP Configuration	
Please select which device will share your Single Static IP.	
If "User Configured PC" is selected, a local PC must be manually configured to have the Single Static IP address.	
WAN IP Address : 172.24.48.3	
User Configured PC 192,1681.47	
Single Static IP is currently disabled.	
enable	
	T A

If you clicked on **enable**, the following pop-up screen will appear. Click on **OK** to enable this device for Single Static IP. Click on **Cancel** if you do not want to enable Single Static IP.

NOTE: The actual information displayed in this screen may vary.

 Microsoft Internet Explorer

 Image: Cancel



If you clicked on **OK** in the preceding pop-up screen, the following pop-up screen will appear. The Router must be reset in order for the new configuration to take effect. Click on **OK**.

Microsof	t Internet Explorer 🛛 🔀
?	The modern must be reset in order for the new configuration to take affect. Do you wish to reset now?
	Cancel

If you clicked on **OK** in the preceding screen, the following screen will be displayed. The Router will be reset and the new configuration will take effect. After the Router has been reset, confirm that you have a DSL sync and that the PPP Status displays **UP**.



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

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



12.6.2 Disabling Single Static IP – Single IP Address PassThrough

If you have enabled Single Static IP and now want to disable it, select **Single Static IP Configuration** from the **Configuration** menu. Click on **disable**.

Single Static IP Configur	ation - Microsoft I	nternet Explorer				
_ <u>Fi</u> le <u>E</u> dit <u>V</u> iew F <u>a</u> vorites	<u>I</u> ools <u>H</u> elp					10
WESTELL Discover Better Broadband Single Static IP Configuration	Home Status	Configuration	Maintenance	Troubleshooting	Help	
	Please sele	ct which devic	e will share yo	ur Single Static IP.		
If "Us	er Configured P		a local PC mus le Static IP adi	t be manually cont dress.	figured to	
		WAN IP Addre	ess : Not Conn	ected		
		User C	onfigured PC			
	9	ingle Static IP Se	is currently en alle-982.	abled for		
			disable			
-						-

If you clicked on disable in the preceding screen, the following pop-up screen will be displayed. Click on OK.

Microsoft Interne	t Explorer 🛛 🛛	1
Disable	IP Passthrough?	
OK .	Cancel	

If you clicked on **OK** in the **Disable IP Passthrough?** screen, the following pop-up screen will be displayed. This screen will allow the Router to be reset and the new configuration will take effect. Click on **OK**.





If you clicked on **OK** in the preceding screen, the following screen will be displayed. The Router will be reset and the new configuration will take effect. After the Router has been reset, confirm that you have a DSL sync and that the PPP Status displays **UP**.



STOP! After you disable Single Static IP, you must reboot your computer.

12.7 Service Configuration

The following settings will be displayed if you select Service Configuration from the Configuration menu.

Westell has developed an extensive list of NAT services and you may select any service from this list. The Router supports protocols for applications, games, and VPN-specific programs. By selecting your specific NAT service and setting up a NAT profile, you will ensure that the appropriate ports on your Router are open and that the required application traffic can pass through your LAN. For a list of supported services, go to section 16 (NAT Services).



rvice Configura : Edit ⊻iew				llorer						
cover Better Bri Servic Configurat	e	Home	Status	Configuratio	on Maintena	nce Trout	leshooting	Help		
Current	t Profile:	Defau	it 💌			(new	edit		
	ce Name NP Enable	'*'De	A Servic enotes C	e Custom Service	9		enable	delete	edit	
defi	ce Name ne custo ic NAT	m serv	ice	Servio	ce Mode		Ho	t Device		

Current Profile	Displays the NAT (Network Address Translation) services that you have selected.
Service Name	Drop down selection menu of NAT (Network Address Translation) service you can select to configure you Router.

12.7.1 Creating a New NAT Service Profile

If you select **new** from the preceding **Service Configuration** screen, the **Create new Service Profile?** pop-up screen will be displayed. Click on **OK** to begin creating your new NAT service profile. Click **Cancel** if you do not want to create a new NAT service profile.

NAT Profiles allow you to create specific service settings. The NAT profile may then be associated with a connection profile, allowing you to customize profiles for specific users. For example, if you want to attach specific NAT services to a profile, or if you want to set up a different connection setting for a profile, you can create new NAT profiles and customize them to your preference.





If you clicked on **OK**, the following screen will be displayed. Select **"A New Service Profile #1"** from the **Current Profile** drop-down arrow.

_	_		ation - Mic Favorites			olorer						
_			ELL roadband			Configuration	n Maintenance	Troublest	nooting	Help		×
		Servi	t Profile: ce Name 'NP Enabl	Defau A New	lt / Service	Profile #1 Ustom Service		ena		edit delete	edit	
		def	ce Name ine custo tic NAT		vice	Service	e Mode		Host	Device		
-												E

If you selected "A New Service Profile #1" from the Current Profile drop-down arrow, the following screen will be displayed. This screen shows that you have chosen to create a new NAT service profile. You may create up to four NAT service profiles and attach an unlimited number of services to each profile.





12.7.2 Editing a NAT Service Profile

Service Configuration - Mic						_ 🗆 🗙
<u>File E</u> dik ⊻iew F <u>a</u> vonkes	⊥ools <u>H</u> elp					
WESTELL Discover Better Broadband Service Configuration	Home Status Config	uration Maintenance	Troubleshooting	Help		
	A New Service Profile #1	×	new	delete	edit	
Service Name UPNP Enabl	'*'Denotes Custom Se e ₽			delete	edit	
Service Name define custo static NAT		ervice Mode	Host	Device		
4						2

Once you have created a NAT service profile, you may edit the profile. If you select **edit** from the **Service Configuration** screen, the following screen will be displayed. By selecting the **edit** button, you can make changes to your NAT profile by adding or deleting NAT applications that will work with your Router. Type your new NAT service profile name into the field labeled **Profile Name**.





The following screen shows that a new profile name called '**My NAT Profile**' was entered into the **Profile Name** field. If you want save the new NAT profile, click on **save**. If you do not want to save the new NAT profile, click on **close**.

Edit Service Profile	4
Profile Name: My NAT Profile	
save	
	7

If you clicked on **save** in the **Edit NAT Profile** screen, the following pop-up screen will be displayed. Click **OK** to save your new profile settings. If you click on **Cancel**, your new profile settings will not be saved.

Microsoft Internet Explorer	×
Save this Profile?	
OK Cancel	



12.7.3 Adding NAT Services to a Profile

This section explains how to add NAT services to your NAT service profile. Remember, you may attach an unlimited number of NAT services to your profile. NAT services allow you

Westell has developed an extensive list of NAT services and you may select any service from this list. The Router supports protocols for applications, games, and VPN-specific programs. By selecting your specific NAT service and setting up a NAT profile, you will ensure that the appropriate ports on your Router are open and that the required application traffic can pass through your LAN. For a list of supported services, go to section 16 (NAT Services).

To add a NAT service to your NAT service profile, select a service from the options provided at the **Service Name** drop-down arrow.

	11									
~										
cover	Better B	roadband	Home	Status	Configuratio	on Maintenanc	e Troubleshoot	ing Help]	
6.0	Servi nfigura									
00	nngura	ition								
	Currer	t Profile:	My NA	T Profile			new	edit		
		it i romor			_					_
	Serv	ice Name		A Service A Service			enable	delet	e edi	t
	UF	NP Enab	le ICQ 20		nstant Messan	iger				
			Anarch	y Online						
	Servi	ce Name	Americ	a Online	II: The Conquer	rors		Host Device		
		ine custo								
		tic NAT	Battlec	om d Battle.ne	0.1					
	_			and White			*			
6										



For example, the screen below displays **America Online** as the NAT service selected. After you have selected a service, click on **enable**.

🍯 Ser	vice C	onfigura	ation - Mic	rosoft Ir	iternet Exp	lorer						ļ	- 🗆 ×
<u>F</u> ile	<u>E</u> dit	⊻iew	F <u>a</u> vorites	<u>T</u> ools	<u>H</u> elp								-
Disc	over B	® TE etter Br Servic	oadband	Home	e Status	Configuration	n Maintenance	Troubles	hooting	Help			×
	c	Current	t Profile:	Amor	AT Profile	_		_	ew	edit	edit		
		UP	ce Name NP Enabl	;*, ₽ ₽		ustom Service				_			
		defi	ce Name ne custo ic NAT		vice	Servic	e Mode		Host	Device			
-													7

If you clicked on **enable**, the following pop-up screen will be displayed. If you click **OK**, you will allow incoming connections to be forwarded to a designated local PC. If you click **Cancel**, you will allow only outgoing connections from any local PC. Click **OK** or click **Cancel**.

Microsof	t Internet Explorer 🔀
?	Host Service?
4	Host will allow incoming connections to a designated local PC. Dynamic will only allow outgoing connections from any local PC.
	OK = Host, Cancel = Dynamic
	OK Cancel



If you clicked on **OK** in the preceding pop-up screen, the **Host Device** screen will be displayed. The **Host Device** screen will allow you to select which device will host the NAT service you selected on your local area network. You must either select the device from the **Host Device** drop-down arrow or type an IP address in the field labeled **IP Address.** Click on **done.** This will load the new NAT Configuration and the settings will be saved automatically.

Host Device - Microsoft Internet Explorer	- 🗆 🗵
Host Device salle-982 💌	
or specify	
IP Address	
done	
)

NOTE: You can attach multiple NAT services to your profile. However, for each NAT service that you attach to your profile, you must first select the new NAT service. Then, you must load the new NAT Configuration, as explained earlier in this section.

After you have selected a NAT service and you have saved it to your NAT service profile, the following screen will be displayed. It shows which NAT service is active for the selected profile.





If you select **details**, the screen below will display the details of the selected NAT service. Click on **close** to continue. If you click on **delete**, you will remove that NAT service from your NAT service profile.



NOTE: If you would like to set up additional Advanced Service Configuration options, refer to section 13 (Setting Up Advanced Service Configuration).

12.8 Firewall Configuration

The following settings will be displayed if you select **Firewall Configuration** from the **Configuration** menu.





High	High security level only allows basic Internet functionality. Only Mail, News, Web, FTP, and IPSEC are allowed. All other traffic is prohibited.
Medium	Factory Default = Medium Like High security, Medium security only allows basic Internet functionality by default. However, Medium security allows customization through NAT configuration so that you can enable the traffic that you want to pass.
Low	The Low security setting will allow all traffic except for known attacks. With Low security, your Router is visible to other computers on the Internet.
None	Firewall is disabled. (All traffic is passed)
Custom	Custom is an advanced configuration option that allows you to edit the firewall configuration directly. NOTE: only the most advanced users should try this.

If you select **Edit** in the preceding **Firewall Configuration** screen, the **User Defined Firewall Rules** screen will be displayed. This screen allows you to change the security parameters on your Inbound and Outbound Firewall rules via the **User Defined Firewall Rules** drop-down arrow. To apply the new settings, click on **Apply** in the screen labeled **User Defined Firewall Rules**.

Firewall Rules - Microsoft Internet Explorer
Eile Edit View Favorites Iools Help
User Defined Firewall Rules Inbound
title [Security Level 2 IN rule <mark>inbound</mark> Outbound begin
TTLDrop
drop match 3 8 (01:FE) >> alert 4 [TTL of 0 or 1]
AddresDrop drop from addr 0.0.0.0 >> done, alert 4 [0.0.0.0 Source IP Address] pass protocol udp, to port 53 >> done
pass protocol udp, from port 53 >> done
pass icmp-type reply >> done
pass icmp-type unreachable >> done pass icmp-type exceeded >> done
drop protocol icmp >> done, alert 4 [Invalid ICMP Type]
Rules
pass all
end
The information displayed in this screen depends on the level of security you have selected.
help apply save close
Done



If you clicked **Apply** in the **User Define Firewall Rules** screen, the following pop-up screen will be displayed. Click on **OK** if you want your new firewall setting to take effect. If you click on **Cancel**, your new firewall settings will not take effect.

Microso	ft Internet Expl	orer	×
?	Do wish to apply your Security Le	y these Rules and evel to "User"?	switch
	<u>ОК</u>	Cancel	

If you want to save your new firewall settings, click on save in the screen labeled User Define Firewall Rules.

NOTE: Westell recommends that you do not change the settings in the **User Defined Firewall Rules** screen. If you need to reset the Router to factory default settings, push the reset button on the rear of the Router.





If you clicked save in the User Define Firewall Rules screen, the following pop-up screen will be displayed. Click OK when asked Do you wish to save these Rules to Flash and switch you Security Level to "User"? This will save your new firewall settings. If you click Cancel, your new firewall settings will not be saved.

Microso	ft Internet Explo	rer	×
?		these Rules to Fla Security Level to '	
	<u> </u>	Cancel	

If you select **Help** in the screen labeled **User Defined Firewall Rules**, the following screen will be displayed. This screen gives a detailed explanation of the Firewall Rules.

Eile Edit View Favorites	ools Help
ile/Buffer Format	
he RDL file or buffer form ontains the filtering rule def	t is divided into two sections. The first portion of the file defines any number of keys and associated values. The second por ations.
(ey Definition Section	
	he key followed by the associated value. A value is actually a character string. The string is delimited by the open and c of a keyword definition would look like the following.
itle [High secu	rity RDL file]
'he packet filter engine doe alue pairs as standard text.	not use keys. They are intended to provide information associated with the file. The user interface treats the key definition
Rules Section	
onverted to a decision tree he packet filter engine finds	L file or buffer is delimited by the begin and end keywords. The rules listed between these delimiters are parsed data structure used by the packet filter engine. The rules listed are implemented sequentially as listed in the RDL source. C a match for a rule it will note the filter action to be taken (pass or drop) and continue to compare the following rules with instructed (see the description of the done action in section 3.2.1.2.3).
Rule Names	
the Rules Section until a	nes. The packet logging facility and the user interface uses these rule names. A name applies to all rules following its declara bother name is declared or the end statement. An identifier (one or more alphanumeric characters beginning with an al leclares a new name for the following rule(s).
RDL Comments	
comments begin with the #	haracter. The parser ignores all characters following the comment character to the end of the line.
DL Command Synta:	
Done	internet



12.9 ATM Loopbacks

If you select **ATM Loopbacks** from the **Configuration** menu, the following settings will be displayed. If you change the settings in this screen, click on **save**.

NOTE: Westell does not recommend that you change this setting.

ATM Loopback - Micro File Edit View Favo		
WESTELI Discover Better Broadba ATM Loopback	Home Status Configuration Maintenance Troubleshooting Help	
	Enable ATM 0/21 Loopback 🔽	
	save reset	

Enable ATM 0/21 Loopback:	Factory Default = ENABLED
	This option enables the 0/21 loopback, which is used by your ISP. Westell does
	not recommend that you change this setting.



12.10 Turbo TCP

If you select **Turbo TCP** at the **Configuration** menu, the following screen will be displayed. Click on the **Turbo TCP Enable** box to enable this feature.

NOTE: Turbo TCP is a network traffic prioritization and queuing method that dramatically improves the performance of downstream TCP/FTP/HTTP transfers under heavy upstream bandwidth utilization conditions.

<u>Eile E</u> d	fit <u>V</u> iew F <u>a</u> vorites	<u>I</u> ools <u>H</u> elp				¢ [• » Links »	Address »	
Discover	B STELL Better Broadband	Home Status	Configuration	Maintenance	Troubleshooting	Help			
	Turbo TCP								
		Turbo TCP Enab	le						
				save					
Done							int		•

Turbo TCP Enable	Factory Default = Disabled
	If Enabled, Turbo TCP will assign a high priority to TCP signaling packets in the
	upstream direction, then place the packet in one of several transmit queues based on
	this priority.
	If Turbo TCP is Disabled, this could interfere or lower performance of UDP traffic,
	which is common among most multi-player games.



			rosoft Inter								- 🗆 ×
	ile <u>E</u> dit	⊻iew	Favorites	Tools	Help						
			-	1							
	1	1/									
Ι.	-	۲									
	NES			Home	Status	Configuration	Maintenance	Troubleshooting	Help)	
	т	urbo T	СР								
							-				
			Turb	o TCP	Enable		P				
							save				
											-
I											Ľ

If you clicked on the **Turbo TCP Enable** box, a check mark will appear in the box. Click on **save.**

If you clicked on save, the following pop-up screen will be displayed. Click on OK.

Microsoft	Internet E	xplorer	×
?	Save and c	onfigure Turbo I	ICP?
	OK	Cancel	



12.11 Route Configuration

The following screen will be displayed if you select **Route Configuration** from the **Configuration** menu. The Route table maintains the routes or paths of where specific types of data shall be routed across a network.

adband Home Statu	s Configuration	Maintenance	Troubleshoo	ting Hel	p	
IP Interfaces						
Addres	-	Quiltan	-t March		Name	1
192,168.3			et Mask 55.255.0		Name eth0	
127.0.0.			.0.0.0		loO	
172.24.48	8.2	255.25	5.255.255		ppp1	
Network Routing	Table					
Destination	Subnet Mask	Gateway	Interface	e Metrio	c Rip	
0.0.0.0 192.168.1.0	0.0.0.0 255.255.255.0	172.24.48. 192.168.1	1 ppp1	0	N/A N/A	
Host Routing Tab	lo					
			_			
Destinatio 10.16.88.11		teway .24.48.1	Interface ppp1	Metric 0	Rip N/A	
127.0.0.1	12	7.0.0.1	100	0	N/A	
172.24.48. 172.24.48.		.24.48.2 7.0.0.1	ppp1 lo0	0	N/A N/A	
192.168.1.	1 12	7.0.0.1	100	0	N/A	
239.255.255.	250 192	168.1.1	eth0	0	N/A	
Inactive Routes						
Destination	Subnet Mask	Gateway	Interface	Metric	Rip	
Add Route						1
Destination Address:	0.0.0.0					
	0.0.0.0	OR 🗆 H	lost Route			
Gateway:	None 💌	OR		LAN 0	ateway Address	
Metric:	0					
RIP Config:	NEVER -					
Save To Modern						

To add a Route, enter a **Netmask** address, or check the **Host Route** box. Click on the **add** button to establish a static route.

IP Interfaces			
IP Interfaces The list of active interfaces on the Router and their IP address and mask.			
	Eth0 is the local LAN interface.		
	Lo0 is the loopback interface.		
	ppp1 is the WAN protocol interface.		
Address	The IP interface address.		
Subnet Mask	The IP interface subnet mask address.		
Name	The IP interface name.		



	ath 0 ath 1 ath 2 ar ath 2 is the level LAN interface
	eth0, eth1, eth2, or eth3 is the local LAN interface.
	lo0 is the loopback interface.
	PPP1 is the WAN protocol interface.
Natural Danting Table	Network Routing Table
Network Routing Table	The list of network routes. These can be either routes for directly connected
Destination Address	interfaces or static routes. The IP address or subnet of the Route.
Subnet Mask	
Subnet Wask	If the Route is a network route, subnet mask is used to specify the subnet mask.
Cataman	If the Route is a Host route, then the Host Route check box is used.
Gateway	Indicates were to send the packet if it matches this route.
Interface	Indicates were to send the packet if it matches this route.
Metric	The RIP metric to be assigned to this route if and when it is advertised using RIP.
RIP	Indicates whether a static route should be advertised via RIP.
(Models 6300, 6301,	
6301B)	
	Host Routing Table
Host Routing Table	The list of host routes. A host route is an IP route with a 32-bit mask, indicating a
	single destination (as opposed to a subnet, which could match several destinations.)
Destination Address	The IP address or subnet of the Route.
Subnet Mask	If the Route is a network route, subnet mask is used to specify the subnet mask.
	If the Route is a Host route, then the Host Route check box is used.
Gateway	Indicates were to send the packet if it matches this route.
Interface	Indicates were to send the packet if it matches this route.
Metric	The RIP metric to be assigned to this route if and when it is advertised using RIP.
RIP	Indicates whether a static route should be advertised via RIP.
(Models 6300, 6301,	
6301B)	
	Inactive Routes
Inactive Routes	Static routes whose interface is currently not in service.
Destination Address	The IP address or subnet of the Route.
Subnet Mask	If the Route is a network route, subnet mask is used to specify the subnet mask.
	If the Route is a Host route, then the Host Route check box is used.
Gateway	Indicates were to send the packet if it matches this route.
Interface	Indicates were to send the packet if it matches this route.
Metric	The RIP metric to be assigned to this route if and when it is advertised using RIP.
RIP	Indicates whether a static route should be advertised via RIP.
(Models 6300, 6301,	
6301B)	
A 11D	Add Route
Add Route	This is used to add a new static route in the Router.
Destination Address	The IP address or subnet of the Route.
Subnet Mask/ Host Route	If the Route is a network route, subnet mask is used to specify the subnet mask.
	If the Route is a Host route, then the Host Route check box is used.
Gateway/IP Address	The interface to use for sending the packet, if it matches this route. (Only active
	gateways can be used to create a static route.)
Metric	The RIP metric to be assigned to this route if and when it is advertised using RIP.
RIP Conf	Determines whether or not to advertise the static route, using RIP. (RIP must also be
(Models 6300, 6301,	enabled before the route will be advertised.)
6301B)	
Save to Modem	If checked, then the route will be made permanent by saving it to flash memory. If
	not checked, the route will disappear the next time the Router restarts.



12.12 RIP Configuration (Models 6300, 6301, 6301B)

The following details will be displayed if you select **RIP Configuration** from the **Configuration** menu. If you change any settings in this screen, click on **save**.

RIP (Routing Interface Protocol) is a dynamic inter-network routing protocol primarily used in interior routing environments. A dynamic routing protocol, as opposed to a static routing protocol, automatically discovers routes and builds routing tables.

	Maintenance Troubleshooting Help	
tion		
RIP Enable		
RIP Configuration		
Interface Type:	LAN 💌	
Receive:	RIPv2	
Transmit:	RIPv2	
Transmit.	RIPv2	
RIPv2 Authentication Mode:	None	
Advanced		
Default Gateway		
Border Gateway Filtering	<u>्</u>	
RIP Timer Rate	1	
RIP Supply Interval	30	
RIP Expire Time	180	
RIP Garbage Collection Time	300	
save	reset	

RIP Enable	Factory Default = DISABLED		
	If this box is checked, RIP will be Enabled (turned ON).		
	RIP Configuration		
Interface TypeLAN: Select this if you are configuring RIP for the LAN side.WAN: Select this if you are configuring RIP for the WAN side. (WAN side receive only.)			
Receive	The version of RIP to be accepted. Possible responses are: None RIPv1 RIPv2 RIPv1 or RIPv2		
Transmit	The version of RIP to be transmitted. (WAN side RIP never transmits) Possible responses are:		



	None
	RIPv1
	RIPv1 Compatible
	RIPv2
RIPv2 Authentication Mode	If using RIP V2, you must select the type of authentication to use.
	Possible responses are:
	None
	Clear Text
	MD5 (If MD5 authentication, the password)
	Advanced
Default Gateway	Factory Default = DISABLED
	If this box is check (Enabled), this feature will determine whether the Router
	advertises itself as a gateway (i.e., the default route)
Border Gateway Filtering	Factory Default = ENABLED
	If this box is unchecked (Disabled), the Router will not summarize subnets into
	a single route before advertising.
RIP Timer Rate	Indicates how often to update the local routing table. (measured in seconds)
RIP Supply Interval	Indicates how often to advertise routes to neighbors. (measured in seconds)
RIP Expire Time	Indicates how long routes received from neighbors become invalid, if no refresh
_	of the route is received. (measured in seconds)
RIP Garbage Collection Time	Indicates how long to advertise invalid routes after they have expired.
	(measured in seconds)

If you changed any settings in the **RIP Configuration** screen and clicked on **save**, the following screen will be displayed. Click on **OK** to save your new RIP settings.

Microsoft Interne	t Explorer	×
Save an	d configure F	IIP?
ОК	Cancel	



13. SETTING UP ADVANCED SERVICE CONFIGURATION

You can set up additional Service Configuration options for your NAT Router that allow you to enter the port forwarding and trigger ports ranges of your choice. If you choose to add a custom service to your list of NAT services (via Port Forwarding or Trigger Ports), the name that you enter as your custom service name will appear in the **Service Name** drop-down box at the **Service Configuration** screen.

After you finish setting up your custom service (explained in the following sections), you must go back to the **Service Configuration** screen and select your custom service name from the **Service Name** drop-down box, and then click on **enable**.

To begin setting up a custom service, go to **Configuration** at the homepage menu and select **Service Configuration**. Click on **define custom service** in the **Service Configuration** screen, the Custom Service screen will guide you through the steps of creating an NAT service entry via the **define custom service** button.

NOTE: Westell strongly recommends that you do not change any values in this section. If you experience any problems, please reset your Router via the external hardware re-set button or the procedure defined under the **Maintenance** menu, section 14.1.

Service Configuration - Microsoft Internet Eighteen	Custom Service - Microsoft Internet Explorer
M.	Custom Service
VESTELL Decome Remore R	Set Up a Port Forwarding entry based on your specific ports
	Port Fowarding Ranges of Ports Trigger Ports Forward a range of WAN ports to an IP address on the LAN Forward a range of ports to an IP
Current Profile: MyNAT Profile	address on the LAN only after specific outbound traffic
Service Name Select A Service Custom Service Custom Service UNIV Enable Context Custom Service	next cancel
Service Name Service Mode Host Device define custom service	
Static NAT	
	y y

Port Forwarding Ranges of Ports	This option allows you to forward a range of WAN ports to an IP address on the LAN.
Trigger Ports	This option allows you to forward a range of ports to an IP address on the LAN only after specific outbound traffic.



13.1 Setting Up Port Forwarding Ranges of Ports

To select **Port Forwarding Ranges of Ports**, click on **define custom service** from the **Service Configuration** screen, and then select **Port Forwarding Ranges of** Ports from the **Custom Service** screen. Click on **Next**. The follow settings will be displayed in the **Port Range** screen. Enter your custom service name in the **Service Name** field, and then enter your port values in the **Global Port Range** and **Base Host Port** fields. Click **next** to continue.

Custom Service	Port Range
Set Up a Port Forwarding entry based on your specific ports Port Fowarding Forward a range of WAN ports to Ranges of Ports an IP address on the LAN Trigger Ports Forward a range of ports to an IP address on the LAN only after specific outbound traffic Text Cancel	Set Up a Port Forwarding range entry based on your specific ports Service Name: My New Service The above name will be saved as this Services description Global Port Range: 0 - 0 Base Host Port: 0 Protocol: © TCP C UDP next back cancel



13.2 Adding Port Forwarding Ports

If you made changes in the **Port Range** screen and clicked on **next**, the following screen will be displayed. You may either click on **close** to accept the changes, or click on **add** to go back to **Port Range** screen, enter additional port range values, and click on **next**. You can repeat this step for each range of ports that you want to add (up to 62 port forwarding ranges). After you finish adding ports to the **Port Range** screen, you must click on **close** to accept the information you have entered and return to the **Service Configuration** screen.

NOTE: After you have finished setting up a custom service, you must enable the custom service by selecting the service name in the **Service Configuration** screen and by clicking on **enable**.



Service Name	The NAT service for which you are configuring Port Forwarding.
Туре	The type of NAT service configuration you selected.
Protocol	The type of Protocol that is used to run this NAT service.
	TCP- Transmission Control Protocol.
	UDP-User Datagram Protocol (UDP).
Global Port (s)	The WAN side TCP/UDP port range. Acceptable values for Global Port Range are 1
	to 65535, and the first port must be less than or equal to the second port.
Base Host Port	The port on the LAN that will host the NAT service selected. Base Host Port is the
	first port that will be used for a specific service when configured for a range of ports.



13.3 Setting Up Port Forwarding Trigger Ports

To select **Trigger Ports**, click on **define custom service** from the **Service Configuration** screen, and then select **Trigger Ports** from the **Custom Service** screen. Click on **next**. The follow settings will be displayed in the **Trigger Ports** screen. Enter your custom service name in the **Service Name** field, and then enter your port values in the **Local 'Trigger' Port Range** and **Global Port Range** fields. Click **next** to continue.

A	Trigger Ports - Microsoft Internet Explorer	- I X
Custom Service	Trigger Ports	4
Set Up a Port Forwarding entry based on your specific ports Port Fowarding Ranges of Ports Trigger Ports Forward a range of WAN ports to an IP address on the LAN Forward a range of ports to an IP address on the LAN only after specific outbound traffic Next Cancel	Set Up a Trigger Port Forwarding entry based on your specific ports Service Name Custom Trigger Port The above name will be saved as this Services description Local 'Trigger' 0 Port Range 0 Global Port 0 Range 0 When outbound traffic is detected on the 'Trigger' Port' Port Forwarding is enabled through the Range of the Global Ports Image Deck Cancel	

Service Name	The NAT service you selected.
Local Trigger Port Range	The local LAN side TCP/UDP port.
Global Port Range	The WAN side TCP/UDP port range.



13.4 Adding Local Trigger Ports

If you made changes in the **Trigger Ports** screen and clicked **next**, the following screen will be displayed. You may either click on **close** to accept the changes, or click on **add** to go back to the **Trigger Ports** screen, enter additional port range values, and click on **next**. You can repeat this step for each port range that you want to add (up to 10 trigger ports). After you finish adding ports to the **Trigger Port** screen, you must click on **close** to accept the information you have entered and to return to the **Service Configuration** screen.

NOTE: After you have finished setting up a custom service, you must enable the custom service by selecting the service name in the **Service Configuration** screen and by clicking on **enable**.





13.5 Static NAT

To configure you Router for Static NAT, click on the **static NAT** button in the **Service Configuration** screen. Static NAT will allow you to configure your Router to work with the special NAT services.

NOTE: When the Router 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.

		ation - Mic F <u>a</u> vorites			lorer					<u> </u>
	Better Ba	e	Home	9 Status	Configuration	n Maintenance	Troubleshooting	Help		
		t Profile: ce Name	Selec	t A Servici	■ e ustom Service		new enable	edit delete	edit	
	Servic	NP Enable ce Name ne custo			Service		Hos	t Device		
f			_							



13.6 Enabling Static NAT

If you clicked on **static NAT** in the **Service Configuration** screen, the following screen will be displayed. Select your device name from the **Static NAT Device** drop-down arrow and click on **enable** in the Static NAT screen. This will automatically enable the Static NAT feature for that device. Then, the **Service Configuration** screen will be displayed.

🚰 Static NAT - Microsoft Internet Explorer	- 🗆 X
Static NAT	4
Set Up an IP Address to be your Default NAT Destination.	
Static NAT Device salle-982 💌	
or specify	
IP Address	
All unsolicited inbound traffic will be sent to the above device. Note: Static Nat and IP Passthrough are mutually exclusive features.	
enable disable cancel	
	Ŧ

This following screen shows Static NAT enabled.

Service Configuration - Micro		
ile <u>E</u> dit ⊻iew F <u>a</u> vorites :	Iools Help	
-		
N		
VESTELL		
scover Better Broadband	Home Status Configuration Maintenance Troubleshooting Help	
Service		
Configuration		
	edit	
Current Profile:	My NAT Profile0	
	Select A Service enable delete	edit
Service Name	Select A Service Cenable delete Cenable del	eune
UPNP Enable		
Service Name	Service Mode Host Device	
define custom	m service	
static NAT	Enabled for salle-982	
)
<u> </u>		



13.7 Disabling Static NAT

If you clicked on **static NAT** in the **Service Configuration** screen, the following screen will be displayed, select a device name from the **Static NAT Device** drop-down arrow and click on **disable**. This will automatically disable the Static NAT feature for that device. Then, the **Service Configuration** screen will be displayed.

🚰 Static NAT - Microsoft Internet Explorer	- I ×
Static NAT	A
Set Up an IP Address to be your Default NAT Destination.	
Static NAT Device salle-982 💌	
or specify	
IP Address	
All unsolicited inbound traffic will be sent to the above device. Note: Static Nat and IP Passthrough are mutually exclusive features.	
enable disable cancel	
	¥

The following screen shows Static NAT **disabled** (No device is displayed adjacent to the static Nat button.)

Status Configuratio		Troubleshooting new	Help edit delete	edit
T Protile00		new	edit	edit
A Service	0			edit
A Service	0	enable	delete	edit
Servic	ce Mode	Hos	t Device	



14. MAINTENANCE

14.1 Backup/Restore

The following settings will be displayed if you select **Backup/Restore** from the **Maintenance** menu.

NOTE: Backup settings are stored in a separate area of flash, not to an external backup source.

leckup/Nestore - Microso le Edit View Favorites			
VESTELL			
Backup/Restore		Status Configuration Maintenance Troubleshooting Help	
		Current configuration becomes "Backup configuration"	
		Backed up configuration becomes "Current configuration"	
		Factory defaults becomes "Current configuration"	
	l)	
	Ĺ		

Current configuration	Select this button if you want to store all of the current configuration data
becomes Backup	such that it can be recalled later.
Configuration	
Backed up configuration	Select this button if you want to retrieve the last back up copy of all
becomes Current	configuration parameters and make these values current.
configuration	
Factory default becomes	Select this button if you want set all user configurable parameters back to the
Current configuration	factory default settings.



14.2 Firewall Log

The following settings will be displayed if you select Firewall Log from the Maintenance menu.

This screen is an advanced diagnostics screen. It alerts you of noteworthy information sent to your Router from the Internet. The screen can contain 1000 entries, but a maximum of 50 entries are displayed at a time. Once 1000 entries have been logged, the oldest entry is removed to make space for the new entries as they occur. The following settings are displayed.

	Microsoft Internet Explorer w Favorites Icols Help	_ 🗆 ×
	ELL Broadband Home Status Configuration Maintenance Troubleshooting Help	×
	Packet Time InterfaceDirection Rule Alert	
	TCP WAN 1 00:08:00mirror0 Inbound RulesDropWANTCPTraffic to WAN IP TCP WAN	
	2 00:08:04mirror0 Inbound RulesDropWANTCPTreffic dotails to WAN IP TCP WAN	
	3 00:08:10mirror0 Inbound RulesDropWANTCPTraffic details to WAN IP Page 1 Clear log printable/savable format	
۲.		×

Packet	The packet number.
Time	The time that the packet was sent.
Interface	The type of protocol interface.
Direction	The direction of transmission.
Rule	The internal rule that caused the logged event. The internal rule is setup under
	Firewall rules.
Alert	A description of the logged event.



If you click on a **details** button in **Firewall Log** screen, a screen will appear displaying the packet details. Click on **close.**

🖉 Firewall Details - Mi	crosoft Internet Ex	kplorer		
	Pacl	ket Details		<u></u>
Source IP: Protocol:	10.16.16.146 TCP	Destination IP:	172.24.48.3	
Source Port: TCP Flags:	4163 02 (syn)	Destination Port:	7461	
	E	close		
				7

To clear the Firewall log, click **clear log** in the **Firewall Log** screen. The following pop-up screen will be displayed. Click **OK** when asked "**Do you wish to clear the Firewall log file?**" If you click **Cancel**, the firewall log will not be cleared.

Microsof	t Internet Explorer 🛛 🔀
?	Do you wish to clear the Firewall log file?
	Cancel

To obtain a printable format of the Firewall Log, at the **Firewall Log** screen, click **Printable/Savable Format**. This will allow you to send a copy of the Firewall log to your designated printer.



14.3 Change Password

The following settings will be displayed if you select **Change Password** from the **Maintenance** menu. After you enter your data into the appropriate settings, click on **change**. Then, click on **OK** in the pop-up screen.

NOTE: If the Router is password protected and you are not an authorized user, you will not be able to change the values in this screen. (The Router cannot be configured unless the user is logged in.) Contact your network administrator for further instructions.

le Edit View Favorites	1008	140	
VESTELL scover Better Broadband	Home	Status Configuration Maintenance Troubleshooting Help	
Change Password			
		Enter Administration Name	
		Enter Administration Password	
		Verify &dministration Dassword Clientges (he systems administration password not the ppp password	
		change	

Enter Administrative Name NOTE: This changes the Systems Administrator password not the PPP password.	Type the name of your network administrative.
Enter Administrative Password	Type your network administrator's password.
Verify Administrative Password	Re-type your network administrator's password.



14.4 Remote Access

The following screen will appear if you select **Remote Access** from the **Maintenance** menu. To enable Remote Access, type in a password and click the enable remote access button.

NOTE: The password should be at least 4 characters long and should not exceed 32 characters. Do not type a blank space or asterisks in the Password field. The password is also case sensitive.

lc <u>E</u> dit	View	Favorites	Tools	<u>H</u> clp						
scover 8	letter Br	ELL	Home	e Status	Configuration	Maintenance	Troubleshooting	Help)		
Rem	ote A	CCOSS								
						admin		_		
					Password Remute URL.	 :llp://10.10.8	8.132.2420/			
						enable re	mote access			

User Name	Displays your current User Name (Static field)
Password	Field for entering your password
URL	Displays the IP address of the remote management gateway

The following screen displays a message that the remote access is currently enabled. After 20 minutes of inactivity, or on reboot, remote access will be automatically disabled. To disable remote access, click on the **disable remote access** button.

	e Acces	s - Microsoft	Internet	Explorer
ile <u>E</u>	dit ⊻ie	w F <u>a</u> vorites	Tools	Heb
1	N			
liscover	r Better	Broadband Access	Home	Status Configuration Maintenance Troubleshooting Help
				Remote access is currently enabled. After 20 minutes of inactivity, or on reboot, remote access will be automatically disabled.
				User Name admin
				Password abcd
				Remote URL: http://10.16.88.132:2420/
				disable remote access


14.5 Update Device

The following screen will be displayed if you click on **Update Device** from the **Maintenance** menu. This screen is used to update the firmware that controls the operation of the DSL Router. The updated firmware may be loaded from either a file that is located on your PCs hard drive or from update files stored on an Internet server.

NOTE: The configurable settings of your Router may be erased during the update process. Update Device - Microsoft Internet Explore - 🗆 × <u>File Edit View Favorites Tools Help</u> Home Status Configuration Maintenance Troubleshooting Help Update Device Update Status Unknown Current Version: VER:03.00.50 Newer Version: Unknown Issues/Erratas: bug information not available rrata not available Status: Last Update Check Performed: unknown check for web update veb update now local update now ettinas

Click on the **check for web update** button in the **Update Device** screen to check the web for possible software updates. This screen will retrieve the software update file and display any available update information. You must be connected to the Internet to use this option.

NOTE: If you click on check for web update and the page returns a "page not found" message, this indicates that the software update file is not available. Go back to the previous screen to continue.

Click on the **web update now** button in the **Update Device** screen to download the software update file and automatically update the Router firmware if an update is available and applicable. You must be connected to the Internet to use this option.

If you click on the **settings** button in the **Update Device** screen, the following screen will appear. This screen displays the location of the software update file.



_	_			ernet Explo	orer and a second s	-
<u>E</u> dit	⊻iew	Favorites	Tools	Help		
1	1/					
	Ē					
	BTE Better B	roadband	Home	a Statue	Configuration Maintenance Troubleshooting Help	
A.1	to Up	dato		outuo	configuration maintenance roublencoding rolp	
Au	Devic	e are				
		Auto Upo	late D	evice		
		Update I	File La	cation:		
		http://www	v.weste	II.com/upgi	grades/model6300/A99-630010-00.xml	
					save cancel	
	$\overline{\ }$					

Click on the **local update now** button in the **Update Device** screen to select the upgrade file from your PC's hard drive. This screen allows you to upgrade the software on your Router. Click **Browse...** and go to the location where the upgrade file is stored.

🍯 WireSpeed Duał Connect Upgrade Software - Microsoft Internet Explorer 👘 🗖 🗙	
Software Upgrade Click browse to select the upgrade file. Then start the transfer by clicking the 'upload file' button. Upgrade File: Browse Upload file Help	Choose file ?X Look jn: Update Software E E E E E E E NOTE: The actual information displayed in this screen may vary.
	File name: XXXXXX.upg Files of type: All Files (*.*) Cancel



Select the appropriate upgrade file from your browser. The file name will appear in the field labeled **Upgrade File**. Click on **upload file**.



This screen shows that the file is being uploaded to your Router.





The screens below show that the file upload has completed and that the Programming Flash is being erased to prepare the Flash storage area for upload of the new file. (Programming Flash is a temporary storage area for uploaded files.)

WireSpeed Dual Connect Upgrade Software - Microsoft Internet Explorer III Software Upgrade Software Upgrade Click browse to select the upgrade file. Then start the transfer by clicking the 'upload file' button.	WireSpeed Dual Connect Upgrade Software - Microsoft Internet Explorer
Upgrade File: Browse	Upgrade File: Browse
upload file Help	upload file Help
Uploading File IO0% Erasing Flash	Uploading File 100% Erasing Flash. Flash Erased Programing Flash 56%

The screen below shows that the upload was successful. The Router will now reboot.

🚰 WireSpeed Dual Connect Upgrade Software - Microsoft Internet Explorer 👘 🔲 🖪						
Software Upgrade Click browse to select the upgrade file. Then start the transfer by clicking the 'upload file' button.						
Upgrade File: Browse						
upload file						
Help						
File Uploaded Update Complete						
Please wait 15 seconds as your modem reboots.						





After the Router has been reset, confirm that you have a DSL sync and that the PPP Status displays UP.



15. TROUBLESHOOTING

15.1 System Self Tests

The following settings will be displayed if you select **System Self Tests** from the **Troubleshooting** menu. Click on **test all** to run a diagnostic test on your Router's connection.

NOTE: The actual values may differ from the values displayed in this screen, depending on the Connection Protocol used: PPPoE, PPPoA, Bridge, Classical IPoA

System Self Tests	Home Status	Configuration Maintenance	Troubleshooting Help	
		Connection / Statt DSL: Up PPPBE: Session PPP: Connec Test Description / Tes Self Test - PING ISP's Router -	n up ction up	
DNS test IP Addres PING test	4.23.144.67	om	host name	
trace			Trace Route	2
		test all		,

If you want to PING using the System Self Test screen (diagnostics page) shown above, enter your **DNS** or **IP** address in the fields provided and click on the **test** button. The System Self Test will run a diagnostic test that executes independent of firewall security settings. See the following table for test descriptions and possible responses.

If you want to PING using the MS-DOS (shell) window, first you will need to check your firewall security setting. (If you PING via DOS shell you are susceptible to firewall rules, as this PING is dependent on your Router's firewall settings.) If your firewall is set to **Medium** or **High**, you will not be able to PING. You must set your firewall security setting to **Low** or **None**.



Connection/Status					
DSL	The Router checks the status of the Router connection.				
	Possible responses are:				
	UP: The Router is operating correctly and has obtained synchronization				
	with the opposing network device.				
	DOWN: The Router is operating correctly, but has not synchronized with				
	the opposing device.				
PPPoE	Indicates that a PPPoE session is or is not established.				
(Depending on the connection					
protocol used: PPPoE, PPPoA,	Possible responses are:				
Bridge, Classic IPoA)	Session UP: A valid PPPoE session has been detected.				
	No Session: Currently there is no active PPP session established.				
	Initiating Session: A PPP session must be connected from the homepage				
	screen.				
РРР	Indicates that a PPP session must already be established.				
(Depending on the connection					
protocol used: PPPoE, PPPoA,	Possible responses are:				
Bridge, Classic IPoA)	Connection UP: The Router has established a connection				
	No Connection: There is no PPP connection				
	Initiating Connection: The PPP connection process has been initiated				
	Connection Halted: A successful PPP connection was halted				
	Cannot Connect: A PPP connection could not be made because of a PPP				
	session failure.				
	Authorization Failure: The user name or password is incorrect.				
	Link Control Protocol Failed: Re-establish the session (from the home				
	page). Test Description / Test Results				
Self Test	Performs an integrity check of certain internal components of the Router.				
PING ISP's Router	Performs an IP network check (i.e., an IP Ping) of the Service Provider's				
	Router. This test verifies that the Router can exchange IP traffic with an				
	entity on the other side of the DSL line.				
	Possible responses are:				
	Success: The Router has detected an IP Remote Router connection.				
	No Response: The IP Remote Router does not answer the IP Ping.				
	Could not test: The test could not be executed due to Router settings.				
	Check your DSL sync or your PPP session. You must have both a DSL				
DNS	sync and a PPP session established to execute a PING.				
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 Router has successfully obtained the resolved address. The				
	IP address is shown below the host name input box.				
	No Response: The Router has failed to obtain the resolved address.				
	Host not found: The DNS Server was unable to find an address for the				
	given host name.				
	No data, enter host name: No host name is specified.				
	Could not test: The test could not be executed due to Router settings.				
	Check your DSL sync or your PPP session. You must have both a DSL				
IP Address	sync and a PPP session established to execute a PING. IP Address of the Host Name.				



PING	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 Router settings. Check your DSL sync or your PPP session. You must have both a DSL
	sync and a PPP session established to execute a PING.
Trace Route	Determines the route taken to destination by sending Internet Control Message Protocol (ICMP) echo packets with varying IP Time-To-Live (TTL) values to the destination. Trace Route is used to determine where the packet is stopped on the network.

15.2 Diagnostic Logs

If you select **Diagnostic Log**, from the **System Self Test** menu, the following screen will be displayed.

🥔 Diag	nostic	Logs	- Microsof	t Interne	t Explorer						- D ×
<u> </u>	Edit	⊻iew	F <u>a</u> vorites	Tools	<u>H</u> elp						-
			Toadband	Hom	e Status	Configuration Main	ntenance Ti	roubleshooting	Help		X
				Date: Ap Time: 11		LOGS Selectal		/savable format			
				Enable Remote		9 ISS: 192.168.1.47					F



To see a list of the log options, click on the arrow at the LOGS drop-down menu. Select an option from the list provided at the **Diagnostics Logs** screen. If you change any settings in the **Remote Logging** section of this screen, click on the **save** button to save the settings.

-	 Microsoft Favorites 		· · · · · · · · · · · · · · · · · · ·	
Discover		Home	Status Configuration Maintenance Troubleshooting	Help
	2	Date: Apr Time: 11:	58 LOGS Select a log Select a log All Clear diagon Connection table (savable format	
		Enable:	ogging • Address: 192.168.1.47	

LOGS	Displays the log selection to choose from in the drop-down box.			
Clear diagnostic logs	Click this button to clear the diagnostic log screen.			
Printable/savable format	Click this button to print the logs file or to save the log file to a location on your PC.			
Remote Logging				
Enable	Factory Default = Disabled (box is unchecked)			
	If Enabled (box is checked) this will allow logging of the diagnostic logs.			
Remote IP Address	The IP address of the syslog server machine to which the diagnostic logs are to be sent.			
Save	Click this button to save the diagnostic log settings to the modem.			



If you clicked on **All**, the following screen will be displayed. This screen provides a detailed list of the Router's connection status and system information. Click on **clear diagnostic log** if you want to clear the diagnostic log information.

FELL er Broadband	Home Status Configuration Maintenance Troubleshooting Help
stic Logs	I
Date: Ani	ril 13, 2004
Time: 11	:30:58
	LOGS Select a log 💌
All	Entries
	IT MODEM STATUS ISL Modem Status Up
P	PP Session Status Up
	connection Type PPPoE ime set from Boot
T EVENTS	ime since last boot O days, O hrs: 1 mins: 38 secs

Events	are listed starting from the most recent.
	PPP CONNECTED on VPI 0 VCI :38
0,0:1:3	Connecting session(0): My Connection due to dsl Restart
0,0:0:2	2 US Atten: 3.5 DS Atten: 0.0
0,0:0:2	2 US Margin: 6.0 DS Margin: 10.0
0,0:0:2	2 US Tx Power: 12.5 DS Tx Power: 7.8
0,0:0:2	US DSL Rate: 992 kbits/sec DS DSL Rate: 8064 kbits/sec
0,0:0:2	2 WanMgr reports DSL is UP
0,0:0:1	0 Set time zone offset to -5:00.
0,0:0:0	Model Number: A90-630010-07
0,0:0:0	Software Version: unt:03.00.49+
0,0:0:0	Product: WireSpeed Dual Connect Model: NAT Combo
end of	diagnostic log file
	clear diagnostic log printable/savable format



15.3 WAN VC Statistics

The following settings will be displayed if you select WAN VC Stats from the Troubleshooting menu.



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 Non Unicast Packets	The number of non-Unicast packets received on the ATM port.
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 Non Unicast Packets	The number of non-Unicast packets transmitted on the ATM port.
Out Unicast Packets	The number of Unicast packets transmitted on the ATM port.
Out Octets	The number of bytes transmitted on the ATM port.
MTU	Maximum Transmission Unit - The number of data bytes contained in the ATM frame.
Interface Type	A unique identifier that represents the interface type.
Interface Description	A description field that refers to the interface type.



15.4 Ethernet Statistics

The following settings will be displayed if you select **Ethernet Stats** from the **Troubleshooting** menu.

N			
ESTELL over Better Broadban Ethernet Port Statistics	d Home Status Configuration Mainter	nance Troubleshooting Help	
	Packet Information	Port 1	
	In Errors In Discard Packets In Non Unicast Packets In Unicast Packets In Octets	0 0 10312 1597304	
	Out Errors Out Discard Packets Out Non Unicast Packets Out Unicast Packets Out Octets	0 576 14600 11305859	
	MTU Interface Type Interface Description	1500 6 BCM6348 Ethernet Driver.	

In Errors	The number of error packets received on the Ethernet interface.
In Discard Packets	The number of discarded packets received.
In Non Unicast Packets	The number of non-Unicast packets received on the Ethernet interface.
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 Non Unicast Packets	The number of non-Unicast packets transmitted on the Ethernet interface.
Out Unicast Packets	The number of Unicast packets transmitted on the Ethernet interface.
Out Octets	The number of bytes transmitted on the Ethernet interface.
MTU	Maximum Transmission Unit- The number of data bytes contained in the Ethernet frame.
Interface Type	A unique identifier that represents the interface type.
Interface Description	A description field that refers to the interface type.



15.5 Transceiver Statistics

The following settings will be displayed if you select **Transceiver Stats** from the **Troubleshooting** menu.

File Edit View Favorites Look Help File Edit View Favorites Look Help Mome Status Configuration Maintenance Troubleshooting Help Transceiver Better Broadband Transceiver Revision: A2pB013a _readsl Vendor ID Code: 4 Line Mode: G.DMT Data Path: Fast Transceiver Information Down Stream Path Up Stream Path DSL Speed (Kbits/Sec) 8064 992 Margin (db) 9.4 6.0 Line Attenuation (db) 0.0 3.5 Transmit Power (db/Hz) 7.8 12.5	Revision: A2pB013a _readsl bde: 4 G.DMT Fast r Information Down Stream Path Up Stream Path Kbits/Sec) 8064 992 9.4 6.0 tion (db) 0.0 3.5	Konver Better Broudband Home Status Configuration Maintenance Troubleshooting Help Transceiver Statistics Transceiver Revision: A2pB013a _readsl Vendor ID Code: 4 Line Mode: G.DMT Data Path: Fast Transceiver Information Down Stream Path Up Stream Path DSL Speed (Kbits/Sec) 8064 992 Margin (db) 9.4 6.0 Line Attenuation (db) 0.0 3.5	rianscerrer staustics	- Microsoft Internet Explorer			
Transceiver Statistics Transceiver Revision: A2pB013a _readsl Vendor ID Code: 4 Line Mode: G.DMT Data Path: Fast Transceiver Information Down Stream Path Up Stream Path DSL Speed (Kbits/Sec) 8064 992 Margin (db) 9.4 6.0 Line Attenuation (db) 0.0 3.5	Revision: A2pB013a _readsl bde: 4 G.DMT Fast r Information Down Stream Path Up Stream Path Kbits/Sec) 8064 992 9.4 6.0 tion (db) 0.0 3.5	Transceiver Statistics Transceiver Revision: A2pB013a _readsl Vendor ID Code: 4 Line Mode: G.DMT Data Path: Fast Transceiver Information Down Stream Path Up Stream Path DSL Speed (Kbits/Sec) 8064 992 Margin (db) 9.4 6.0 Line Attenuation (db) 0.0 3.5	File <u>E</u> dit ⊻iew F <u>a</u> vo	nites <u>I</u> ools <u>H</u> elp			
Transceiver Statistics Transceiver Revision: A2pB013a _readsl Vendor ID Code: 4 Line Mode: G.DMT Data Path: Fast Transceiver Information Down Stream Path Up Stream Path DSL Speed (Kbits/Sec) 8064 992 Margin (db) 9.4 6.0 Line Attenuation (db) 0.0 3.5	Revision: A2pB013a _readsl bde: 4 G.DMT Fast r Information Down Stream Path Up Stream Path Kbits/Sec) 8064 992 9.4 6.0 ition (db) 0.0 3.5	Transceiver Statistics Transceiver Revision: A2pB013a _readsl Vendor ID Code: 4 Line Mode: G.DMT Data Path: Fast Transceiver Information Down Stream Path Up Stream Path DSL Speed (Kbits/Sec) 8064 992 Margin (db) 9.4 6.0 Line Attenuation (db) 0.0 3.5	WESTEL				
Transceiver Revision: A2pB013a _readsl Vendor ID Code: 4 Line Mode: G.DMT Data Path: Fast Transceiver Information Down Stream Path Up Stream Path DSL Speed (Kbits/Sec) 8064 992 Margin (db) 9.4 6.0 Line Attenuation (db) 0.0 3.5	ade: 4 G.DMT Fast TInformation Down Stream Path Up Stream Path Kbits/Sec) 8064 992 9.4 6.0 ition (db) 0.0 3.5	Transceiver Revision: A2p8013a _readsl Vendor ID Code: 4 Line Mode: G.DMT Data Path: Fast Transceiver Information Down Stream Path Up Stream Path DSL Speed (Kbits/Sec) 8064 992 Margin (db) 9.4 6.0 Line Attenuation (db) 0.0 3.5			Maintenance Troublesho	ooting Help	
Vendor ID Code:4Line Mode:G.DMTData Path:FastTransceiver InformationDown Stream PathUp Stream PathDSL Speed (Kbits/Sec)8064992Margin (db)9.46.0Line Attenuation (db)0.03.5	ode: 4 G.DMT Fast r Information Down Stream Path Up Stream Path Kbits/Sec) 8064 992 9.4 6.0 ition (db) 0.0 3.5	Vendor ID Code:4Line Mode:G.DMTData Path:FastTransceiver InformationDown Stream PathUp Stream PathDSL Speed (Kbits/Sec)8064992Margin (db)9.46.0Line Attenuation (db)0.03.5	Trunscerver stud	131103			
Vendor ID Code:4Line Mode:G.DMTData Path:FastTransceiver InformationDown Stream PathUp Stream PathDSL Speed (Kbits/Sec)8064992Margin (db)9.46.0Line Attenuation (db)0.03.5	ode: 4 G.DMT Fast r Information Down Stream Path Up Stream Path Kbits/Sec) 8064 992 9.4 6.0 ition (db) 0.0 3.5	Vendor ID Code:4Line Mode:G.DMTData Path:FastTransceiver InformationDown Stream PathUp Stream PathDSL Speed (Kbits/Sec)8064992Margin (db)9.46.0Line Attenuation (db)0.03.5					
Vendor ID Code:4Line Mode:G.DMTData Path:FastTransceiver InformationDown Stream PathUp Stream PathDSL Speed (Kbits/Sec)8064992Margin (db)9.46.0Line Attenuation (db)0.03.5	ode: 4 G.DMT Fast r Information Down Stream Path Up Stream Path Kbits/Sec) 8064 992 9.4 6.0 ition (db) 0.0 3.5	Vendor ID Code:4Line Mode:G.DMTData Path:FastTransceiver InformationDown Stream PathUp Stream PathDSL Speed (Kbits/Sec)8064992Margin (db)9.46.0Line Attenuation (db)0.03.5					
Vendor ID Code:4Line Mode:G.DMTData Path:FastTransceiver InformationDown Stream PathUp Stream PathDSL Speed (Kbits/Sec)8064992Margin (db)9.46.0Line Attenuation (db)0.03.5	ode: 4 G.DMT Fast r Information Down Stream Path Up Stream Path Kbits/Sec) 8064 992 9.4 6.0 ition (db) 0.0 3.5	Vendor ID Code:4Line Mode:G.DMTData Path:FastTransceiver InformationDown Stream PathUp Stream PathDSL Speed (Kbits/Sec)8064992Margin (db)9.46.0Line Attenuation (db)0.03.5					
Line Mode: G.DMT Data Path: Fast Transceiver Information Down Stream Path Up Stream Path DSL Speed (Kbits/Sec) 8064 992 Margin (db) 9.4 6.0 Line Attenuation (db) 0.0 3.5	G.DMT Fast TInformation Down Stream Path Up Stream Path Kbits/Sec) 8064 992 9.4 6.0 tion (db) 0.0 3.5	Line Mode: G.DMT Data Path: Fast Transceiver Information Down Stream Path Up Stream Path DSL Speed (Kbits/Sec) 8064 992 Margin (db) 9.4 6.0 Line Attenuation (db) 0.0 3.5		Transceiver Revision: A2pB013	a _readsl		
Data Path: FastTransceiver InformationDown Stream PathUp Stream PathDSL Speed (Kbits/Sec)8064992Margin (db)9.46.0Line Attenuation (db)0.03.5	Fast Information Down Stream Path Up Stream Path Kbits/Sec) 8064 992 9.4 6.0 Ition (db) 0.0 3.5	Data Path: FastTransceiver InformationDown Stream PathUp Stream PathDSL Speed (Kbits/Sec)8064992Margin (db)9.46.0Line Attenuation (db)0.03.5		Vendor ID Code: 4			
Transceiver InformationDown Stream PathUp Stream PathDSL Speed (Kbits/Sec)8064992Margin (db)9.46.0Line Attenuation (db)0.03.5	Information Down Stream Path Up Stream Path Kbits/Sec) 8064 992 9.4 6.0 tion (db) 0.0 3.5	Transceiver InformationDown Stream PathUp Stream PathDSL Speed (Kbits/Sec)8064992Margin (db)9.46.0Line Attenuation (db)0.03.5		Line Mode: G.DMT			
DSL Speed (Kbits/Sec) 8064 992 Margin (db) 9.4 6.0 Line Attenuation (db) 0.0 3.5	Kbits/Sec) 8064 992 9.4 6.0 tion (db) 0.0 3.5	DSL Speed (Kbits/Sec) 8064 992 Margin (db) 9,4 6.0 Line Attenuation (db) 0.0 3.5		Data Path: Fast			
Margin (db) 9.4 6.0 Line Attenuation (db) 0.0 3.5	9.4 6.0 tion (db) 0.0 3.5	Margin (db) 9.4 6.0 Line Attenuation (db) 0.0 3.5		Transceiver Information	Down Stream Path	Up Stream Path	
Line Attenuation (db) 0.0 3.5	tion (db) 0.0 3.5	Line Attenuation (db) 0.0 3.5		DSL Speed (Kbits/Sec)	8064	992	
				Margin (db)	9.4	6.0	
Transmit Power (db/Hz) 7.8 12.5	wer (db/Hz) 7.8 12.5	Transmit Power (db/Hz) 7.8 12.5		Line Attenuation (db)	0.0	3.5	
				Transmit Power (db/Hz)	7.8	12.5	
	/		(<u></u>)

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).
Tra	nsceiver Information-Down Stream/Up Stream Path
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 db = 1×10^{-7} , which inhibits your DSL
	speed.
Line Attenuation (dB)	The DSL line loss.
Transmit Power (db/Hz)	The transmitted signal strength.



15.6 USB Statistics (Models 6201, 6301, 6301B)

The following settings will be displayed if you select USB Stats from the Troubleshooting menu.

USB Port Statistics	Home Status Configuration Mainter	nance Troubleshooting Help	
	Packet Information	USB	
	Number of Isrs In Unicast Packets In Non Unicast Packets In Multicast Frames In Broadcast Frames In Errors	2 0 0 0 0	
	Out Good Frames Out Unicast Packets Out Non Unicast Packets Out Multicast Frames Out Broadcast Frames Out Errors	0 0 0 0 0	

Number of Resets	The number of times the Host PC reset the USB interface.
Number of Isrs	The number of times the Host PC requested communication with the Router.
In Unicast Packets	The number of packets received that did not have a Multicast or Broadcast
	class destination IP address.
In Non Unicast Packets	The number of packets received that had a Multicast or Broadcast class
	destination IP address.
In Multicast Frames	The number of frames received that had a Multicast class destination IP
	address.
In Broadcast Frames	The number of frames received that had a Broadcast class destination IP
	address.
In Errors	The number of packets received with an invalid format
Out Good Frames	The number of frames sent to the Host PC.
Out Unicast Packets	The number of packets sent that did not have a Multicast or Broadcast class
	destination IP address
Out Non Unicast Packets	The number of packets sent that had a Multicast or Broadcast class
	destination IP address.
Out Multicast Frames	The number of frames sent that had a Multicast class destination IP address.
Out Broadcast Frames	The number of frames sent that had a Broadcast class destination IP address.
Out Errors	The number of packets received by the Router but not sent to PC due to an
	error condition.



15.7 LAN Statistics

The following settings will be displayed if you select LAN Stats from the Troubleshooting menu.

LAN Statistics - 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			18
Discover Better Broadband Home Statu:	s Configuration Maintenance	Troubleshooting Help	
LAN Statistics			_
Devices On LAN			
IP Address	MAC Address	Name Status	
192.168.1.47	00:50:da:b2:d9:f1	salle-982 Active	
4			¥.

	Devices on LAN
IP Address	Displays the IP network address that your Router is on.
MAC Address	Media Access Controller (MAC) address of this device.
Name	Displays the ASCII (text) name of the devices connected to the LAN.
Status	Displays the status of the devices connected to the LAN.



15.8 RIP Table (Models 6300, 6301 6301B)

The following settings will be displayed if you select **RIP Table** from the **Troubleshooting** menu.

None outlas configuration maintenance houseshooting help	RIP Statistics RIP Network Routing Table Destination Netmask Gateway Metric RIP Host Routing Table	RIP Statistics RIP Network Routing Table Destination Netmask Gateway Metric RIP Host Routing Table	RIP Statistics RIP Network Routing Table Destination Netmask Gateway Metric RIP Host Routing Table	Microsoft In Favorites								
RIP Statistics RIP Network Routing Table Destination Netmask Gateway Metric RIP Host Routing Table	RIP Statistics RIP Network Routing Table Destination Netmask Gateway Metric RIP Host Routing Table	RIP Statistics RIP Network Routing Table Destination Netmask Gateway Metric RIP Host Routing Table	RIP Statistics RIP Network Routing Table Destination Netmask Gateway Metric RIP Host Routing Table	FLL								
Destination Netmask Gateway Metric RIP Host Routing Table	Destination Netmask Gateway Metric	Destination Netmask Gateway Metric	Destination Netmask Gateway Metric RIP Host Routing Table		Home	Status	Configuration	Maintenance	Trouble	eshooting Hel	lp)	
Destination Netmask Gateway Metric RIP Host Routing Table	Destination Netmask Gateway Metric	Destination Netmask Gateway Metric RIP Host Routing Table	Destination Netmask Gateway Metric RIP Host Routing Table									
RIP Host Routing Table	RIP Host Routing Table	RIP Host Routing Table	RIP Host Routing Table	RIP	Vetwor	k Routing	j Table					
				Dest	inatior	n	Netmask	Gate	eway	Metric		
Destination Netmask Gateway Metric	Destination Netmask Gateway Metric	Destination Netmask Gateway Metric	Destination Netmask Gateway Metric	RIP H	lost Ro	outing Tal	ole					
				Dest	tinatio	n	Netmask	Gate	eway	Metric		
)

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 to route
Metric	The RIP metric (0-15). A lower value is better.



16. NAT SERVICES

For your convenience, the Westell Router supports protocols for Applications, Games, and VPN-specific programs. This section provides protocol information on the services that are supported by your Router.

NOTE: To configure your Router for a service or application, follow the instructions in section 13 (Setting Up Advanced Service Configuration) of this User Guide.

Application/Game	Port/Protocol
Aliens vs. Predator	80 UDP, 2300 UDP, 8000-8999 UDP
America Online	5190 TCP/UDP
AoE II: Conquors	47624 TCP/UDP, 6073 TCP/UDP, 2300-2400
-	TCP/UDP
AOL Instant Messenger	4099 TCP, 5190 TCP
Asheron's Call	9000-9013 UDP, 28800-29000 TCP
Battlecom	2300-2400 TCP/UDP, 47624 TCP/UDP
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
- Burger 1 for 11 for 12 th pluy	TCP/UDP
FTP	20 TCP, 21 TCP
GameSpy Online	UDP 3783
Sumopy Sinne	UDP 6515
0402 Box A	125



Application/Game	Port/Protocol
	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	28910 TCP
Hexen II	26900 (+1) each player needs their own port.
	Increment by one for each person
Hotline Server	5500, 5503 TCP 5499 UDP
HTTPS	443 TCP/UDP
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 TCP
ICUII Client Version 4.xx	1024-5000 TCP, 2050-2051 TCP, 2069 TCP, 2085
	TCP, 3010-3030 TCP, 2000-2038 TCP6700-6702
IN (A D	ТСР, 6880 ТСР, 1200-16090 ТСР
IMAP	119 TCP/UDP
IMAP v.3	220 TCP/UDP
Internet Phone	22555 UDP
IPSEC ESP	PROTOCOL 50
IPSEC IKE Ivisit	500 UDP 9943 UDP, 56768 UDP
KALI, Doom & Doom II	2213 UDP, 6666 UDP (EACH PC USING KALI
KALI, Doolii & Doolii II	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
moual of Honor. Allou Assault	UDP 53
	UDP 2093
	UDP 12201
	TCP 12300
	UDP 2135
	UDP 2139
	TCP/UDP 28900
mIRC Chat	6660-6669 TCP



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Application/Game	Port/Protocol
Motorhead Server	16000 TCP/UDP, 16010-16030 TCP/UDP
MSN Game Zone	6667 TCP, 28800-29000 TCP
MSN Game Zone (DX 7 & 8 play)	6667 TCP, 6073 TCP, 28800-29000 TCP, 47624
	TCP, 2300-2400 TCP/UDP
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,
operation r lasin onit	2234 TCP
Outlaws	5310 TCP/UDP
Pal Talk	2090-2091 TCP/UDP, 2095 TCP, 5001 TCP, 8200-
	8700 TCP/UDP, 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 2 Quake 3	27660 UDP
Quake 5	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
Roger Wilco	TCP/UDP 3782
	UDP 3783 (BaseStation)
ShoutCast Server	8000-8005 TCP
SSH Secure Shell	22 TCP/UDP
Starcraft	2346 TCP
Starfleet Command	2300-2400 TCP/UDP, 47624 TCP/UDP
Telnet	23 TCP
Tiberian Sun & Dune 2000	1140-1234, 4000 TCP/UDP
Ultima Online	5001-5010 TCP, 7775-7777 TCP, 8800-8900 TCP,
Unroal Tournament conver	9999 UDP, 7875 UDP
Unreal Tournament server	7777 (default gameplay port)



Application/Game	Port/Protocol
••	7778 (server query port
	7779,7779+ are allocated dynamically for each
	helper UdpLink objects, including UdpServerUplin
	objects. Try starting with 7779-7781 and add
	ports if needed
	27900 server query, if master server uplink is
	enabled. Home master servers use other ports like
	27500
	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.
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)
XBOX Live	TCP/UDP 88 and 3074
Yahoo Messenger Chat	5000-5001 TCP
Yahoo Messenger Phone	5055 UDP
VPN Protocol	Comments
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.
РРТР	Works through NAT.



17. PRODUCT SPECIFICATIONS

AAL and ATM Support

- ATM Trafic QOS: UBR, CBR, VBR
- OAM F4/F5 Loopback
- 8 PVC (Permanent Virtual Circuit)
- VPI: 0-255
- VCI: 0-65535
- ATM Forum UNI 3.1/4.0

Bridging

- RFC 2684 (formerly 1483)
- IEEE 802.1d learning bridge
- Dynamic address learning (255 addresses)
- Spanning Tree
- LLC/SNAP
- PPPoA Support

Routing

- RFC 2684 (formerly 1483)
- RFC 2364 (PPPoA)
- RFC 2516 (PPPoE)
- RFC 2225 (IPoA)

System Requirements for USB (Models 6201, 6301, 6301B)

- Pentium or equivalent and above
- Microsoft Windows 98 SE, 2000, ME, NT 4.0 or XP
- Operating system CD-ROM 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
- USB Version 1.0 or higher compliant bus

System Requirements for 10/100 Base-T/Ethernet (All Models)

- Pentium or equivalent and above, or Macintosh
- Microsoft Windows (95, 98, 98 SE, 2000, ME, NT 4.0, or XP), Linux, or Macintosh® OS X
- Operating system CD-ROM on hand
- Internet Explorer 4.x or Netscape Navigator 4.x or higher
- 64 MB RAM (128 MB recommended)
- Ethernet 10/100 Base-T interface
- 10 MB of free hard drive space
- TCP/IP Protocol stack installed
- 10/100 Base-T Network Interface Card (NIC)

Dimensions/Weight

- Height: 1.45 in. (3.68 cm)
- Width: 4.80 in. (12.19 cm)
- Depth: 4.87 in. (12.37 cm)
- Weight: Approx. 0.5 lbs. (0.01 kg)

LEDs

Model	POWER	Ethernet	USB	DSL	Internet
6200	X	Х		x	X
6201	X	х	Х	X	X
6300	X	х		X	X
6301	X	х	Х	X	X
6301B	X	X	X	X	X

Refer to Appendix B for additional information.

Connectors

Model	DSL	USB	Ethernet	POWER
6200	X		х	X
6201	X	X	X	X
6300	X		X	X
6301	X	X	X	X
6301B	Х	х	X	Х

Refer to Appendix B for additional information.

- DSL: RJ-11, 6-pos, 4-pin modular jack
- USB: Series B Connector
- Ethernet: RJ-45: 8-pos, 6-pin modular jack
- Power: Barrel connector

Certifications

- ACTA 968-A
- CAN/CSA Standard C22.2 No. 60950
- CSA
- CS03
- EMC: FCC Part 15, Class B
- Industry Canada
- UL Standard 60950, 3rd Edition
- CE
- EN60950
- EN300/386
- WHQL (RNDIS 1.1)

Power

- Power Supply: External 220 VAC to 15 VAC wall-mount power supply
- Power Consumption: Less than 6 watts typical, from 220 VAC



18. APPENDIX A – HELP

If you select **Help** from the menu bar, a message from the help screens will be displayed. The type of message displayed depends on the menu that you are viewing. If you are viewing a pop-up screen, click the **help** link in the pop-up screen to obtain help messages.

A

About

This screen provides information about the Router. The following settings are displayed.

About		
Model Number	Router manufacturer's model number.	
Serial Number	Router manufacturer's serial number.	
MAC Address	Ethernet MAC (i.e., hardware) Address of the Router.	
Software Version	Routers application software version number.	
Software Model	Router application type.	
Description	Description of the Router protocol processing application software.	
Boot Loader	Routers boot loader version number.	

Advanced Home Page

The advanced home page offers the same functionality as the home page but adds the ability to change the connection profile settings defined in the Router.

About	
Edit	An "Edit" link is added for each connection profile. Selecting this link will pop
	up a window that allows the connection profile settings to be changed.
New Connection	The "New Connection" link will pop up a window to allow the creation of a
	new connection profile.

ATM Loopback

ATM Loopback		
ATM Loopback	This setting enables 0/21 loopback. Westell recommends that you do not	
change this setting.		



В

Backup/Restore

This option allows the Router configuration to be backed up to or restored from a secure location in flash. The following options are displayed.

Backup/Restore		
Current becomes Back-up	Selecting this command button will backup the current active configuration to	
	the secure flash location.	
Back-up becomes Current	This command button will restore the previously stored configuration from	
	the flash location.	
Factory becomes Current	This option will restore the Router to the state that it arrived in from the	
-	factory.	

C

Change Administration Password

The Router has an administrator password. This password protects the Router from any unauthorized modifications to the configuration setting in the Router. The following settings are displayed.

Change Administration Password		
Enter Administration	This field specifies the Administrator's name. Only one administrator can be	
Name	defined.	
Enter/Verify	This field specifies the password required to enable administrator access. The	
Administration Password	password must be entered twice to ensure that the password has been entered	
	correctly.	

Connection Summary

Connection Summary	
Connection Summary	The connection profile screen displays summary information about the Router. The connection state is shown along with the amount of traffic has passed through the Router. Each connection profile is listed with its associated usage information.



D

Diagnostics Help

This screen provides tools for diagnosing PPP connection problems. Some tests depend on the Router status and the capabilities exercised by previous tests, which may prevent other types of testing.

Beginning of Diagnostics Help screens

Disgnostic Logs

	LOGS
All	Lists both connection and system logs.
Connection	Lists all events related to connection activity (Any traffic on the USB, Ethernet,
	or DSL ports).
System	Lists all events related to system activity (Time, Errors, Boot Information, etc.).
	.Remote Logging
Remote Logging	Contains the configuration for the diagnostics remote logging. Remote diagnostics logging allows the diagnostics logs to be sent to a machine running a syslog server*. If you want to save the diagnostics logs, remote diagnostics logging should be enabled and the IP address of the syslog server must be configured.
Enable	Enables remote logging of diagnostics logs.
Remote IP Address	The IP address of the syslog server machine to which the diagnostics log are to be sent.
*The syslog server must	be configured to isten on udp port 514, which is usually the default port. In order for
the logs to be saved to the	the syslog server, the server should be configured to save the logs to a file. Some of the able on the Internet are kiwisyslog, MT_syslog and 3Csyslog.

DSL

The Router status checks the Router connection. The following is a list of the possible responses:

	DSL
Up	The Router is operating correctly and has obtained synchronization with the opposing Router.
Down	Explanation: The Router is operating correctly, but has not synchronized with the opposing DSLAM. Solution: First, check to be sure that the cable connecting your Router to the ADSL wall jack is properly connected at both ends. If the cable is properly connected and the Router does not synchronize, try another phone cable. Next, wait for the Router to train. It can sometimes take as long as two minutes for the Router to train. If it still has not come into synchronization, power cycle the Router. If you have tried the approach above and the Router still does not synchronize, contact your service provider.

PPPoE

The PPPoE status indicates if a PPPoE session is established (i.e., if the PPPoE Discovery procedure has completed). The following is a list of the possible responses:



	PPPoE
Session up	A valid PPPoE session has been detected.
no session	Currently there is no active PPPoE session. A PPP session must be connected
	from the homepage screen.
initiating session	The connection process for a PPPoE session has been initialized. It can sometimes take a few seconds for the PPPoE Discovery procedure to complete. Wait 10-15 seconds and try again. If the PPPoE Discovery still cannot complete, there may be a configuration issue with your service provider's equipment. Verify your VPI/VCI settings (on the LAN Advanced page) and contact your ISP provider.
Session halted	A successful PPPoE session was halted. A PPP session must be connected from
	the homepage screen.
passed	A valid PPPoE session was established.
Session failure	A PPPoE session could not be made. There may be a configuration issue with
	your service provider's equipment. Verify your VPI/VCI settings (on the LAN
	Advanced page) and contact your provider.

PPP

This field displays the PPP Connection status. A PPPoE or PPPoA session must already be established. The following is a list of the possible responses:

	PPP
Connection up	The Router has established a PPP connection.
no connection	There is no PPP connection. A PPP session must be connected from the
	homepage screen.
initiating connection	The PPP connection process has been initialized.
Connection halted	A successful PPP connection was halted. Solution: A PPP session must be
	connected from the homepage screen.
Cannot connect	Explanation: A PPP connection could not be made because of a PPPoE session
	failure.
Authorization failure	The username or password is incorrect. Verify that the username and password
	your Service Provider issued are entered correctly.
Link control protocol	Try re-establishing the session (from the home page). If this doesn't help, there
failed	may be a configuration issue or other failure with your provider's equipment.
	Contact your service provider.

Self Test

The Self Test performs an integrity check of certain internal components of the Router. The following is a list of the possible responses:

	Self Test
Success	The Router is operating correctly.
Flash Corrupt	Explanation: The self-test process has detected a problem with internal flash memory. Solution: Restart the Router. If the error persists, contact your service provider.



PING ISPs' Router

The IP remote router test performs an IP network check (i.e., an IP Ping) of the Service Provider's Router. This test verifies that the Router can exchange IP traffic with an entity on the other side of the DSL line. The following is a list of the possible responses:

PING ISP's Router	
Success	The Router has detected an IP remote router connection.
No Response	Explanation: This message will occur when an IP remote Router does not answer the IP Ping. Solution: This test fails when the provider's Router does not give its IP address to the Router during session establishment. Try Pinging another host, using the Ping test near the bottom of the Diagnostic screen. If you are able to Ping any host, or even if you are able to find an IP address for a given host name (try "www.yahoo.com"), then the failure of the "IP Remote Router" test is moot, because the success of the Ping demonstrates that you are getting IP traffic across the DSL line. If the separate Ping fails as well, contact your service provider.
could not test	Explanation: Test could not be executed because of Router status.

DNS

The DNS test issues a request to try to resolve the name of a particular host. The host name is entered in the input box. The following is a list of the possible responses:

	DNS
Success	The Router has successfully obtained the resolved address. The IP address is
	shown below the host name input box
No Response	Explanation: The Router has failed to successfully obtain the resolved address.
	Solution: Determine the IP addresses of your DNS servers (from the home page, click "Edit" and then "Advanced"), and then use the Ping test near the bottom of the Diagnostic screen to try to Ping those addresses. This may provide useful information when you contact your service provider and speak with Technical
	Support.
Host not found	Explanation: The DNS Server was unable to find an address for the given host
	name.
	Solution: That host may no longer be available on the Internet. Try entering a
	different host name.
No data, enter host name	Explanation: There must be a host name entered in the input box.
could not test	Explanation: Test could not be executed because of Router status.

PING

Select **PING** to check IP continuity to a remote computer either within or beyond the Service Providers network.

Enter either the IP address or the hostname of the remote host computer into the input box to the right of the Test button. If you Ping by name, DNS will be used to look up the appropriate IP address for that name. The following is a list of the possible responses:

	PING
Success	The Remote Host Computer was detected.
No Response	Explanation: This message will occur when there was no response to the Ping from the remote computer.Solution: Bear in mind that many hosts on the Internet are configured for



	security reasons to not respond to IP Ping messages. If you get a success from the DNS test using the same host name, chances are good that your connection is fine, whether you can Ping the named host or not.
No name or address to	Explanation: There must be a host name or IP address entered in the input box
PING	in order for the Router to Ping.
could not test	Explanation: Test could not be executed because of Router status.

End of Diagnostic Help Screens

DHCP Configuration

This screen contains the settings which control how the ADSL router interacts with the local devices connected to the router. Westell does not recommend that you change these settings. The following settings are displayed.

DHCP	
DHCP Server	Dynamic Host Configuration Protocol (DHCP) is an Internet
	standard that allows the ADSL router to automatically assign IP
	addresses to devices connected on the LAN network. It is advised
	that this is enabled for Private LAN.
DHCP Start Address (If DHCP is	This setting specifies the start of the IP address pool that the Router
enabled)	uses to assign IP addresses to local devices.
DHCP End Address (If DHCP is	This setting specifies the end address of the IP address pool used for
enabled)	automatic configuration of local devices.
DHCP Lease (If DHCP is enabled)	This setting specifies the DHCP lease time.

Diagnostic Log

Diagnostic Log	
All	This option lists both the Connection and the System logs.
Connection	This option lists all events related to connection activity (any traffic on the USB,
	Ethernet, or DSL ports).
System	This option lists all events related to system activity (time, errors, boot
	information, etc.)

DNS Configuration

The Router has a built-in DNS server. The Router has a feature called "Dynamic DNS." When an IP address is assigned, the Router will interrogate the new device for a machine name using several well-known networking protocols. Any names learned will dynamically be added to the DNS server's table of local hosts. A static host assignment is needed only if the new device does not support any of the well-known protocols. The following settings are displayed.

DNS Configuration Screen	
Domain Name	The name of your network. This uses the internet standard for delineating
	domain names.
Static Host Assignment	This table allows the creation and maintenance of manually configured DNS
	entries.
Dynamic Host	This table shows the current list of devices that have automatically provided
Assignment	information.



E

Edit Connection Profiles

This screen facilitates the changing of connection profile parameters. The following settings are displayed.

	Edit Connection Profiles
Connection Name	This field is a description of the default connection profile that the Router will
	use. Feel free to use whatever description you desire.
Account ID	Your account ID is supplied by your ISP. This text string uniquely identifies
	you with your ISP.
Account Password	The Account Password is a key phrase or text string that verifies your identity to
	the ISP.
Service Profile	The Router stores several service profiles. A service profile is a collection of
	settings for the built-in firewall and NAT. These settings control which
	applications are enabled to talk through the Router. This selection specifies
	which service profile is used when the Router is using this connection.
Manual/On	These radio buttons specify how this connection profile is used. A manual
Demand/Always ON	setting requires that this connection must be manually established through the
	"homepage" connection button. When this is set to auto, the Router will monitor
	the network traffic and determine when a connection needs to be made. The
	connection process will happen automatically the "Always ON" selection causes
	the Router to aggressively establish a connection with your ISP. Whenever the
	Router detects that the connection to your ISP is down, it will try to re-establish
	that connection.
Time Out	Selecting this option will enable the disconnect timeout. If this option is enabled
Enable/Connection Time	the Router will monitor the ISP connection for activity. If there is no activity for
Out	the timeout period, the Router will disconnect from the ISP.
Edit VC Connection	This screen is an advanced screen. Modifying parameters identified on this
	screen can cause severe disruption of your service. VC stands for "Virtual
	Connection." A VC identifies a connection through the service provider's ATM
	network to your ISP. It is not recommended that you change anything on these
	pages unless explicitly instructed by your service provider.

F

Firewall Log

This screen is an advanced diagnostics screen. It alerts you of noteworthy information sent to your Router from the Internet. It may also contain entries that indicate Local Administrative Access and/or Remote Access login's or failures. One thousand entries can be made, but a maximum of 50 entries are displayed at a time. Once 1000 entries have been logged, the oldest entry is removed to make space for new entries as they occur.

	Firewall Log
Details	This option gives more information about the specific log entry
Page Numbers	This option navigates you to the corresponding range of entries. The most recent



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	entries are always on the highest numbered page.
Clear Log	This option removes all entries from the log.
Print/Savable Format	This option opens a new window that contains a list of all logged packets that can be saved or printed.
Settings	This options opens a new window that contains configuration settings for selecting what information is to be logged.

Firewall Settings

This screen is an advanced configuration screen. It allows you to set the level of security you wish to have on your local network. All security levels except "None" protect against known Internet attacks and devices that attempt to gain remote access to your Router. The following settings are displayed.

Firewall Settings	
High	This security level only allows basic Internet functionality. Only Mail, News, Web, FTP, and IPSEC are allowed. No other traffic is allowed. Another restriction of high security is that it can't be modified by NAT configuration options. With High security, you are guaranteed to only pass the previously mentioned traffic.
Medium	This security level only allows basic Internet functionality by default, just like High security. Medium security, however, allows ustomisation through NAT configuration, so you can enable the traffic that you want to pass.
Low	The low security setting will allow all traffic except for known attacks. With low security, your Router is visible by other computers on the Internet.
Custom	Custom is a very advanced configuration option that allows you to edit the firewall configuration directly. Only the most expert users should try this.
Remote Logging	Contains the configuration for the firewall remote logging. Remote firewall logging allows the firewall logs to b sent to a machine running a syslog server*. If you desire to save the firewall logs, remote firewall logging must be enabled and the IP address of the syslog server must be configured.
Enable	This option enables remote logging of firewall logs.
Remote IP Address	The IP address of the syslog server machine on the local area network to which the firewall logs are to be sent.
*The syslog server must be configured to isten on udp port 514, which is usually the default port. In order for the logs to be saved to the syslog server, the server should be configured to save the logs to a file. Some of the free syslog servers available on the Internet are kiwisyslog, MT_syslog and 3Csyslog.	

Η

Home Page

The home page gives you a quick summary of the Router's state. The following settings are displayed.

Home Page	
Connection Overview	The Connection Overview section displays the status of the DSL connection.
	The DSL must show a state of "UP" in order for the Router to communicate
	with your service provider's network.
Connection Name	The Connection Name section displays all of the connection profiles that are
	defined by the Router. A connection profile is information that the Router needs
	to establish a connection to your ISP. The "PPP Status" columns will show a
	status of "UP" if the Router is currently using that profile to communicate. The



	command button allows you to control the connection state.
Profile Editor	Selecting the "Profile Editor" link will allow you to define or change any of the
	connection profile settings.

L

LAN Configuration

This screen contains the setting that controls how the Router interacts with the local devices connected to the Router. Westell does not recommend that you change these settings. The following settings are displayed.

LAN Configuration	
Router IP Address	This controls the IP address that the Router uses for local communication.
Subnet Mask	This setting specifies the subnet mask to use to determine if an IP address belongs to your local network.
DHCP Start Address	This setting specifies the start of the IP address pool that the Router uses to assign IP addresses to local devices.
DHCP End Address	This setting specifies the end address of the IP address pool used for automatic configuration of local devices.
DNS Server Enable	DNS stands for Domain Name System. This is an Internet standard that facilitates communication among devices. This allows a name to be used when specifying a device instead of an IP address. Normally you want this enabled.
DHCP Server Enable	DHCP stands for Dynamic Host Configuration Protocol. This is an Internet standard that allows the Router to automatically assign IP addresses to devices connected on the LAN network. It is advised that this opt ion is set to Enabled.

LAN Statistics

This page contains information regarding the configuration and status of your Local LAN. The following settings are displayed.

LAN Configuration	
Device IP Address	This displays the IP address that the ADSL router uses for local communication.
DHCP NetMask	This displays the subnet address that the ADSL router's DHCP server issues in
	DHCP responses.
DHCP Start Address	This setting specifies the start of the IP address pool that the Router uses to
	assign IP addresses to local devices.
DHCP End Address	This setting specifies the end address of the IP address pool used for automatic
	configuration of local devices.
DHCP Server Status	Displays the status, "ON" or "OFF" of the DHCP Server
DHCP Server	Displays which network "Public" or "Private" the DHCP server is serving IP
	addresses for.
Devices on LAN	This page displays the current devices the Router has found on your LAN. The
	name of the device, the Ethernet MAC address, and the status, "Active" or
	"Inactive" is displayed in the table.



P

Private LAN

This page contains the settings that control how the ADSL router interacts with the local devices connected to the router. It is not recommended that these settings be changed. The following settings are displayed.

Private LAN	
Private LAN DHCP Server	Dynamic Host Configuration Protocol (DHCP) is an Internet standard that
Enable	allows the ADSL router to automatically assign IP addresses to devices
	connected on the LAN network. It is advised that this is enabled for Private
	LAN.
Private LAN Enable	This setting enables the Private NAT'ed interface. It is advised to leave this
	enabled.
Modem IP Address	This controls the IP address that the ADSL router uses for local
	communication.
Subnet Mask	This setting specifies the subnet mask to use to determine if an IP address
	belongs to your local network.
DHCP Start Address (If	This setting specifies the start of the IP address pool that the Router uses to
DHCP is enabled for	assign IP addresses to local devices.
Private LAN)	
DHCP End Address (If	This setting specifies the end address of the IP address pool used for automatic
DHCP is enabled for	configuration of local devices.
Private LAN)	
DHCP Lease (If DHCP is	This setting specifies the DHCP lease time.
enabled for Private LAN)	

Protocol

Protocol	
Protocol	This screen informs the Router which networking protocol to use when
	communicating with your ISP. This information is provided by your ISP.

Public LAN

This screen contains the settings that control how the ADSL router interacts with the local devices connected to the router. It is not recommended that these settings be changed. The following settings are displayed.

Public LAN	
Public LAN DHCP Server	Dynamic Host Configuration Protocol (DHCP) is an Internet standard that
Enable	allows the ADSL router to automatically assign IP addresses to devices
	connected on the LAN network. It is advised that this is enabled for Private
	LAN.
Public LAN Enable	This setting enables the Public interface. This feature allows a global subnet to
	exist behind your Router.
Modem IP Address	This controls the IP address that the ADSL router uses for local
	communication.
Subnet Mask	This setting specifies the subnet mask to use to determine if an IP address
	belongs to your local network.
DHCP Start Address (If	This setting specifies the start of the IP address pool that the Router uses to



DHCP is enabled for Public LAN)	assign IP addresses to local devices.
DHCP End Address (If DHCP is enabled for Public LAN)	This setting specifies the end address of the IP address pool used for automatic configuration of local devices.
DHCP Lease (If DHCP is enabled for Public LAN)	This setting specifies the DHCP lease time.

R

Remote Access

This page allows you to configure your Router so that it can be configured remotely. Once enabled, this feature can be manually disabled, or it will automatically disable after 20 minutes of configuration inactivity.

Remote Access	
Password	This is the password a remote user must enter to access your Router's interface.
	It must be at least 4 characters long and contain no spaces.
URL	This field contains the URL that must be placed in a remote PC's web browser
	in order to communicate with your Router. If this field says "Not Connected,"
	you are not currently connected to the Internet.
Enable Remote Access	When you have clicked on this button, entered a valid password, and connected
	to the Internet, Remote Access will be enabled.
Disable Remote Access	When you have clicked on this button, Remote Access will be disabled.

S

Single Static IP

This page contains the settings that would allow the PPP address received from the network to be propagated to a single LAN device behind the Router.

Single Static IP	
WAN IP Address	This is the PPP IP address the ISP has assigned the Router.
Selection box	This box contains the devices available to share the Single Static IP address the ISP has assigned the Router. The names listed in the select box will be populated by the Router's DHCP server based on DHCP requests. If a device's name cannot be determined, the current IP address of the device will be placed in the list. When the feature is enabled, the active machine will be highlighted in the select box and be displayed at the bottom of the page with the "disable" button. When the feature is disabled, no device in the select box will be highlighted and the "enable" button will be available. When the "User Configured PC" is selected, a local PC must be configured manually with the WAN IP address as its Ethernet adapter's address.



Τ

Trace

The Trace feature allows you to perform an IP trace route to a remote computer either within or beyond the Internet service provider's network. Enter either the IP address or the hostname of the remote host computer into the input box to the right of the Trace button. If you trace by name, DNS will be used to look up the appropriate IP address for that name.

Trace		
Success	Trace will display its progress in the text box. Trace will show three round trip	
	times and the DNS name (if available) of each intermediate router.	
Failure	Trace will display "*" when it does not receive a response or cannot determine the DNS name of an intermediate router. This is not necessarily an error, as some routers are configured to ignore trace route packets or do not have DNS name.	

Turbo

Turbo		
Turbo TCP is a sophisticated network traffic prioritization and queuing method that dramatically improves the performance of downstream TCP/FTP/HTTP transfers under heavy upstream bandwidth utilization conditions. This feature first assigns a high priority to TCP signaling packets in the upstream direction, then places the packet in one of several transmit queues based on this priority. Packets of unspecified priority, like TCP or UDP data, are assigned a low priority and placed in a low priority queue. The packets in the high priority queues are then transmitted before packets in the lower priority queues		
minimizing any transmit delays. Minimizing the transmit delay of the TCP messages upstream enables the server to send the TCP data		
downstream faster, resulting in a substantial throughput gain.		

U

Update Device

Update Device (Software Upgrade)		
Update Device	This screen is used to upgrade the Router's application image. The application	
(Software Upgrade)	image is specified by entering in the filename or by using the browse button.	



User Name

This screen is asks for information that will allow the Router to make a connection to the ISP on your behalf. The Router will need to know your Account ID and Account Password. This information is stored in the Router.

User Name			
Connection Name	This is a description of the default connection profile, which the Router will use. Feel free to use whatever description you desire.		
Account ID	Your Account Id is supplied by your ISP and is a text string that uniquely identifies you with your ISP.		
Account Password	The Account Password is a key phrase or text string that verifies your identify to the ISP.		

V

VC Configuration

VC Configuration Screen		
VC Configuration	This screen is an advanced screen. Modifying parameters on this screen can	
	cause severe disruption of your service. VC stands for "Virtual Connection." A	
	VC identifies a connection through the service provider's ATM network to your	
	ISP. It is not recommended that anything be changed on these pages unless	
	explicitly instructed by your service provider.	

VPI/VCI

VPI/VCI		
VPI/VCI	This screen asks for information that the Router needs to establish a	
	communication channel to your ISP. The VPI (Virtual Path Indicator) and VCI	
	(Virtual Channel Indicator) values are supplied by your ISP.	



19. APPENDIX B – HARDWARE FEATURES

19.1 LED Indicators

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

LED	State	Description
POWER	Solid Green	Power ON
	Off	Power OFF
	Flashing Red	Power-On Self Test (POST) in progress. The light can also
TOWER		flash red when the configuration is being updated.
	Red	POST failure (not bootable) or Device malfunction.
	Solid Amber	Router is in safeboot mode.
	Solid Green	Powered device connected to the associated port (includes
		devices with wake-on-lan capability where a slight voltage
ETHERNET	0.44	is supplied to an Ethernet connection)
	Off	Router power OFF, no cable, or no powered device is
		connected to the associated port.
	Solid Green	DSL good sync. (DSL has synchronized with ADSL line card.)
	Off	Router power OFF
	Flashing Green	DSL is attempting to synchronize with the ADSL line card.
DSL	Blinking Red/Green	Failed to train after three minutes. (Actual pattern would be
2.52	Dinking Red/Oreen	blinking green for three minutes followed by a solid red
		condition for five seconds and then repeat the pattern until
		the Router syncs.)
	Blinking Red	The DSL signal is not detected
	Solid Green	IP connected (the Router has a WAN IP address from IPCP
		or DHCP and DSL is up, or a static IP address is
		configured, PPP negotiation has successfully completed, if
		used, and DSL is up and no traffic detected).
		If the ID as DDD F and is drawned the light will serve in
		If the IP or PPPoE session is dropped, the light will remain green (if an ADSL connection is still Present.) The LED
		will turn red when it attempts to reconnect and DHCP or
INTERNET		PPPoE fails.
	OFF	Router power is OFF, Router is in bridge mode, or ADSL
		connection is not present.
	Flashing Green	Router is attempting to establish a PPP connection
	Red	IP connection attempted and failed (no DHCP response, no
		PPPoE response, PPPoE authentications failed, no IP
		address from IPCP or DHCP, etc. The RED state must time
		out after two minutes and the Internet LED must then return
		to the OFF state.

LED States and Descriptions (Model 6200, 6300)



LED	State	Description
	Solid Green	Power ON
	Off	Power OFF
POWER	Red	POST (power on self test) failure (not bootable) or Device
		malfunction.
	Solid Amber	Router is in safeboot mode.
	Solid Green	Powered device connected to the associated port (includes
		devices with wake-on-lan capability where a slight voltage
ETHERNET —		is supplied to an Ethernet connection)
	Flashing Green	LAN activity present (traffic in either direction)
	Off	Router power OFF, no cable, or no powered device is
		connected to the associated port.
	Solid Green	Powered device connected to the associated port (Link
USB		established) USB LAN activity present (traffic in either direction)
USD	Flashing Green Off	Router power OFF, no cable, or no powered device is
	Oli	connected to the associated port.
	Solid Green	DSL good sync. (DSL has synchronized with ADSL line
	Sond Green	card.)
DSL	Off	Router power OFF
	Flashing Green	DSL is attempting to synchronize with the ADSL line card.
	Solid Green	IP connected (the Router has a WAN IP address from IPCP
		or DHCP and DSL is up, or a static IP address is
		configured, PPP negotiation has successfully completed, if
		used, and DSL is up and no traffic detected).
		If the IP or PPPoE session is dropped, the light will remain
		green (if an ADSL connection is still Present.) The LED
		will turn red when it attempts to reconnect and DHCP or
INTERNET	OFF	PPPoE fails.
	Urr	Router power is OFF, Router is in bridge mode, or ADSL connection is not present.
	Flickering Green	IP connected and IP traffic is passing through the device (in
	Thekering Green	either direction).
	Red	IP connection attempted and failed (no DHCP response, no
		PPPoE response, PPPoE authentications failed, no IP
		address from IPCP or DHCP, etc. The RED state must time
		out after two minutes and the Internet LED must then return
		to the OFF state.

LED States and Descriptions (Models 6201, 6301, 6301B)


19.2 Cable Connectors and Switch Locations

Models 6200, 6300

- DSL Connector (RJ-11)
- Ethernet Connector (RJ-45)
- Reset Button
- Power Connector



Model 6201

- DSL Connector (RJ-11)
- USB Connector
- Ethernet Connector (RJ-45)
- Reset Button
- Power Connector





Westell Router (Models 6200, 6201, 6300, 6301, 6301B)

Models 6301, 6301B

- DSL Connector (RJ-11)
- USB Connector
- Ethernet Connector (RJ-45)
- Reset Button
- Power Connector
- ON/OFF Switch



19.3 Connector Descriptions

The following table displays the connector types.

SYMBOL	NAME	Туре	FUNCTION
	DSL LINE	6-pos, 4-pin (RJ-11) modular jack	Connects to an ADSL-equipped telephone jack or DSL connection of a POTS splitter.
	USB	4-pin USB Series B connector	Connects the USB device to the PC.
~ 15V	POWER	Barrel connector	Power source.
	ETHERNET	8-pos, 6-pin (RJ-45) modular jack	Connects the Ethernet device to the PC.



19.4 Pinout Descriptions

The following tables list the pinout descriptions.

DSL Pinouts

Pinout	Description
1, 2, 5, 6	Not Used
3	DSL Tip
4	DSL Ring

USB Series B Connector Pinouts

Pin	Name	Description	Cable Color
1	VBUS/Vcc	5 Vdc	Red
2	D –	Data –	White
3	D +	Data +	Green
4	GND	Ground	Black

Ethernet Pinouts

Pinout	Description
1	Rx+
2	Rx-
3	Tx+
4,5,7,8	Not Used
6	Tx-



20. APPENDIX C – DIAGNOSTIC SOFTWARE

20.1 Installing Diagnostic Software for Windows

Note: Your service provider may require that you install the diagnostic software for technical support. However, the software is not required to operate your Router. Diagnostic software installation is optional.

The diagnostic software should be used as directed by your service provider to troubleshoot problems with your DSL service.

Begin the diagnostic software installation. On the installation CD run: D:\Diagnostic Icon\Setup.exe

Where "D:\" is the drive letter of your CD-ROM. Click on **Next** to continue.





Westell Router (Models 6200, 6201, 6300, 6301, 6301B)

Choose a directory to install the application. Click on **Next** to accept the default directory or to browse to another location.

Westell Diagnostic Icon Installation		
Please select the directory to place the applic	ation folder.	
D:\Program Files\Westell\Diagnostic Icon	Browse	
	< Back Next >	Cancel

If you clicked on Next, the Modem Detect screen will be displayed. Click on Next.

🐲 Modem Detect 🛛 🗙
To automatically detect your modem, click Next. To look on a specific IP, select from the list and click 'Try This One'.
Available TCP/IP Adapter addresses 169.254.162.210
Computed broadcast IP Address: 169.254.255.255
Reading Transceiver Information
< Back Next > Cancel



When the diagnostic software has finished loading, the **Setup Complete** screen will be displayed. Select **Run application now**, and then click on **Done**. An icon for the diagnostic features will be placed in your taskbar.

🤣 Setup Complete	×
WESTELL	Install is complete. The application can be run from: Start->Programs->Westell->Diagnostic Icon Thank you for choosing Westell DSL Products. Run application now Run application every boot
	Done

The diagnostic software can affect key settings of your communications software, and should only be run when instructed by your service provider. For additional details on the diagnostic functions, see the Diagnostic Icon Information Panels.

Your Router software installation is complete. Follow the instructions provided by your service provider to configure your Westell Router and browser settings.



If your computer already has an Ethernet adapter or NIC installed, you may have to disable the adapter or set a static IP address in the PC for the Router. Contact your service provider for more details.

Diagnostic Icon Information Panels

From the Start Menu, select Programs > Westell > Diagnostic Icon. The Administration Diagnostic Panel opens.



Note: When the diagnostic application begins, the system places the following icon in the taskbar.





The About Panel

The About Panel displays information on the Router hardware model and software versions.

Westell Modem Brow	sei	×
Model Number:	A90-610015-06	
Serial Number:	03BS07426651	
MAC Address:	00:60:0f:74:b5:9a	
Software Version:	unt:03.00.04+	
Software Model:	NAT Combo	
Description:	WireSpeed Dual Connect	
Boot Loader:	unt:03.00.04+	Ī
Receiving O		
Transmitting () USER NOT LO	DGGED ON	Qlose

To display the **Menu** screen, right click on the **About Panel**. The following **Menu** screen will be displayed. Choose one of the options from the **Menu** screen.





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If you selected About from the Menu screen, the following screen will be displayed. It displays information about the Router's software version and copyright date.

OTE: The actual information displ	ADSL Modem Browser
1	USB Diagnostic Icon Version VER:01.02.00 OK Copyright (C) 2001 www.westell.com

Menu Screen Options

Modem Browser-This option brings up the About Panel if it is has not already been accessed. About- This option displays a screen containing the software version and the copyright date. Stop Modem-This option instructs the Router to stop transmitting diagnostic data. Exit-This option terminates the application.

20.2 Uninstalling Diagnostic Software for Windows

1.

1.

This section provides instructions on how to uninstall the diagnostic software.

From the Start Menu, select Programs > Westell > Uninstall Diagnostic Icon. The Uninstall Westell Diagnostic Icon will be displayed. Click on Next.

🕺 Uninstall Westell Diagnostic Icon 🛛 🗙		
Welcome! This program will Uninstall the Westell Diagn Application	ostic Icon	
Click Next to Uninstall the Diagnostic Icon Application		
< Back Next >	Cancel	



If you clicked on Next, the **Confirmation** screen will be displayed. Click on **Yes** to confirm that you want to uninstall the diagnostic icon application.

Confirmation		
?	Are you sure you want to Uninstall Diagnostic Icon?	
	Yes No	

When the system is finished uninstalling the diagnostic icon application, the **Uninstall Complete** screen will be displayed. Click on **Done**.

🗭 Uninstall Complete	×
WESTELL	Uninstall is complete. It is recommended that you reboot your computer now. Thank you for choosing Westell DSL Products.
	Done Cancel



21. TECHNICAL SUPPORT INFORMATION

Westell Technical Support

Contact your ISP to ensure that your ADSL is properly configured.

Phone: 0870 240 6751

22. WARRANTY INFORMATION

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

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

FREEPOST ADSL RMA Service Centre Scotland Phone: 0870 240 6751

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



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24. PUBLICATION INFORMATION

Westell® LiteLine[™] Ethernet (Model 6200) Westell LiteLine[™] Combo (Model 6201) Westell ProLine[™] Ethernet (Model 6300) Westell ProLine[™] Combo (Model 6301) Westell ProLine[™] Combo Annex B (Model 6301B)

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