Advanced

This chapter include the more advanced features used for network management and security.

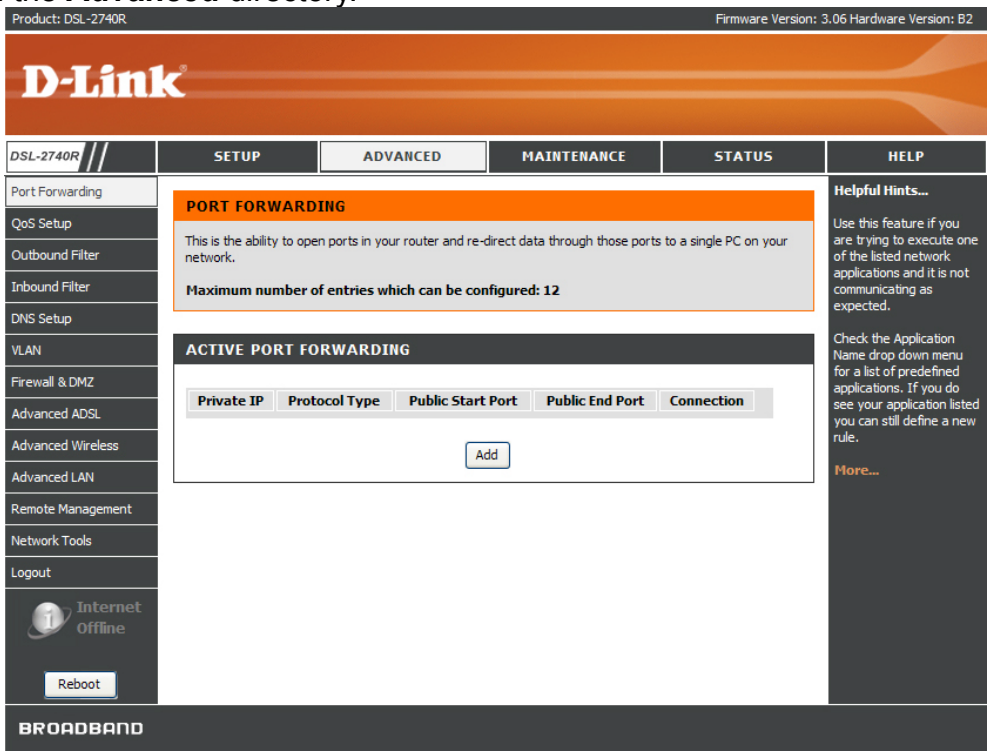
Port Forwarding

To access the **Port Forwarding** window, click the **Port Forwarding** button in the **Advanced** directory.

Port Forwarding is used to allow Internet users access to LAN services.

Click **Add** to enter a new entry. Enter an IP address in the Private IP field, select a Protocol Type from the drop-down menu, enter a range of ports in the Public Start Port and Public End Port fields, and then click the **Apply** button. Finally, click the **Reboot** button on the left panel to let your changes take effect.

To remove a port forwarding entry in the table, click the corresponding button. To modify an entry, click the corresponding button, make the desired changes, and then click the **Apply** button.

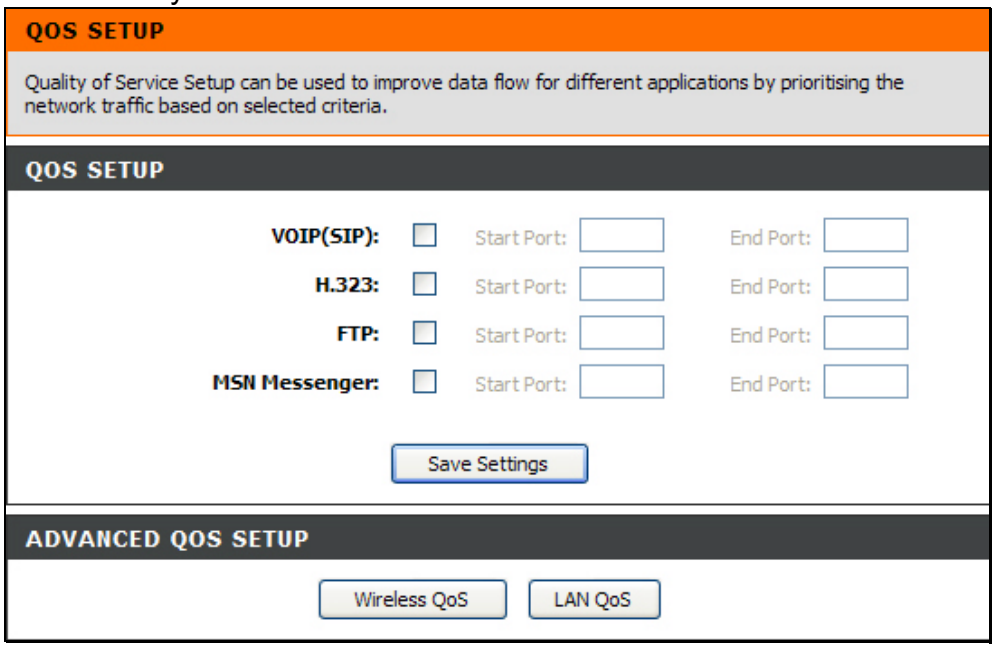


QoS Setup

To access the **QoS Setup** window, click the **QoS Setup** button in the **Advanced** directory.

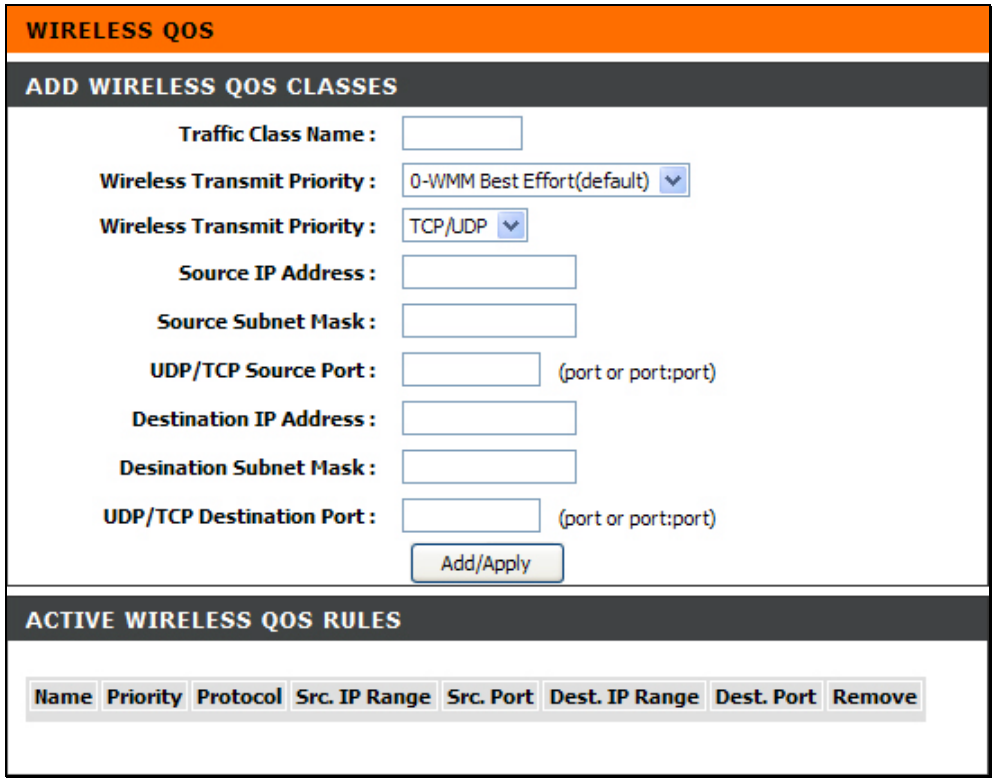
QoS or Quality of Service allows your Router to help prioritize the data packet flow in your Router and network. This is very important for time sensitive applications such as VoIP where it may help prevent dropped calls. Large amounts of non-critical data can be scaled so as not to affect these prioritized sensitive real-time programs.

Click the **Wireless Qos** to configure QoS on Wireless LAN.



Wireless QoS

This page allows you to configure the Wireless QoS.
Enter the Traffic Class Name, select the transmit prioriy and protocol, enter the source and destination IP Address, subnet mask and port.
Click the **Add/Apply** button to save this rule.

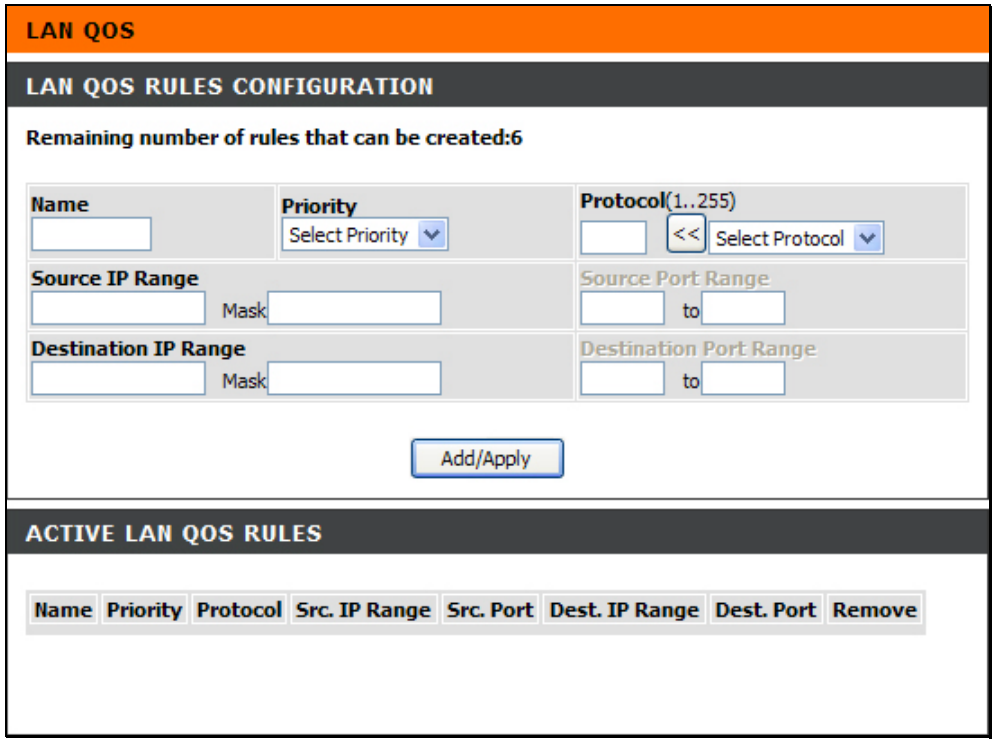


LAN QoS

This page helps you to set the priorities of LAN.

Enter a name of the rule, select the Priority, Protocol and enter the Source and Destination IP Address range and their subnet mask.

Click the **Add/Apply** button to save this rule.



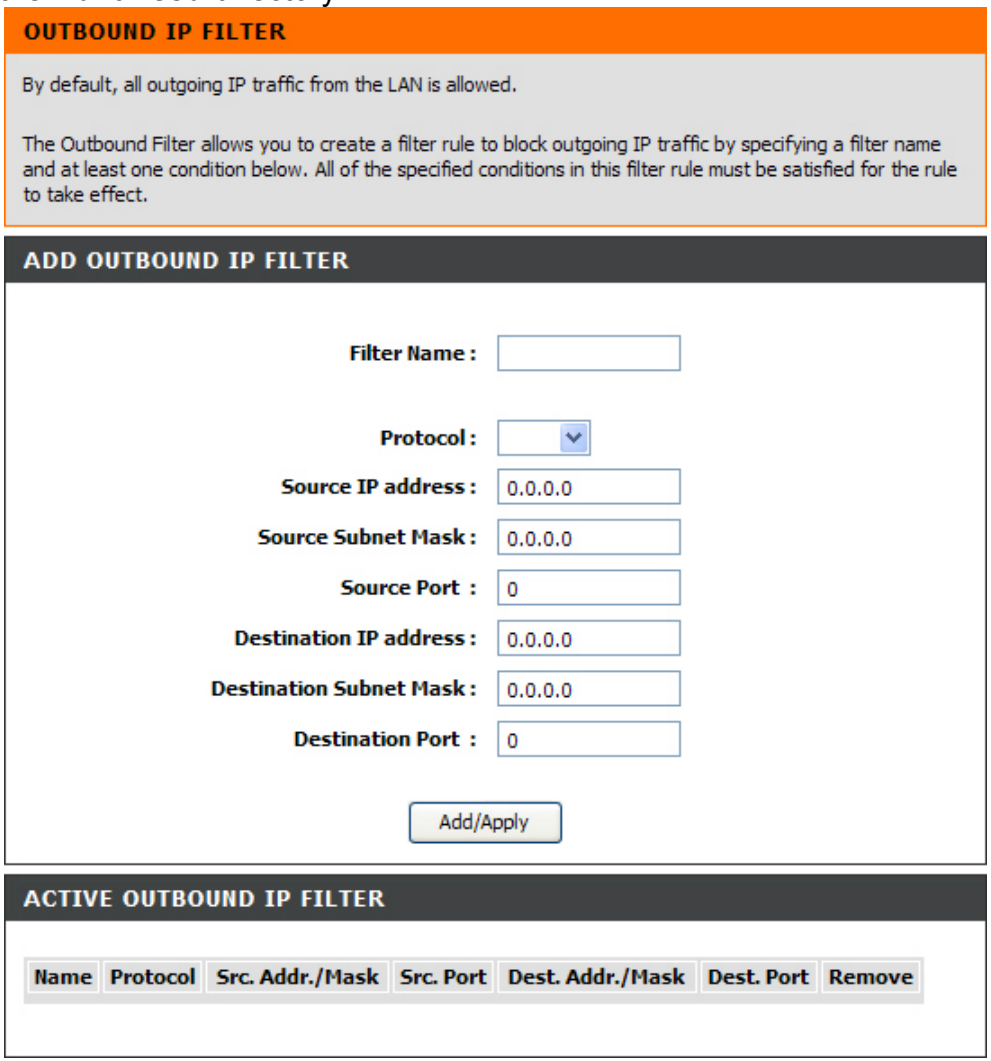
Outbound Filter

To access the **Outbound FIlter** window, click the **Outbound Filter** button in the **Advanced** directory.

The Outbound Filter allows you to create a filter rule to block outgoing IP traffic by specifying a filter name and at least one condition on this window. All of the specified conditions in this filter rule must be satisfied for the rule to take effect. Filters are used to allow or deny LAN or WAN users from accessing the Internet or your internal network.

Click the **Add/Apply** button and then click the **Reboot** button on the left panel to let your changes take effect.

Filters Parameter	Description
Name	Enter a name for the new filter.
Protocol	Select the transport protocol (*TCP*, *UDP, or ICMP*) that will be used for the filter rule.
Source IP Address & Source Subnet Mask	For an Outbound Filter, this is the IP address or IP addresses and their associated subnets on your LAN for which you are creating the filter rule. For an Inbound Filter, this is the IP address or IP addresses and their associated subnets for which you are creating the filter rule.
Source Port	The Source Port is the TCP/UDP port on either the LAN or WAN depending on if you are configuring an Outbound or Inbound Filter rule.
Destination IP Address & Destination Subnet Mask	Where the Destination IP address and subnet mask resides also depends on if you are configuring an Inbound or Outbound filter rule.
Destination Port	The Destination Port is the TCP/UDP port on either the LAN or WAN depending on if you are configuring an Outbound or Inbound Filter rule.



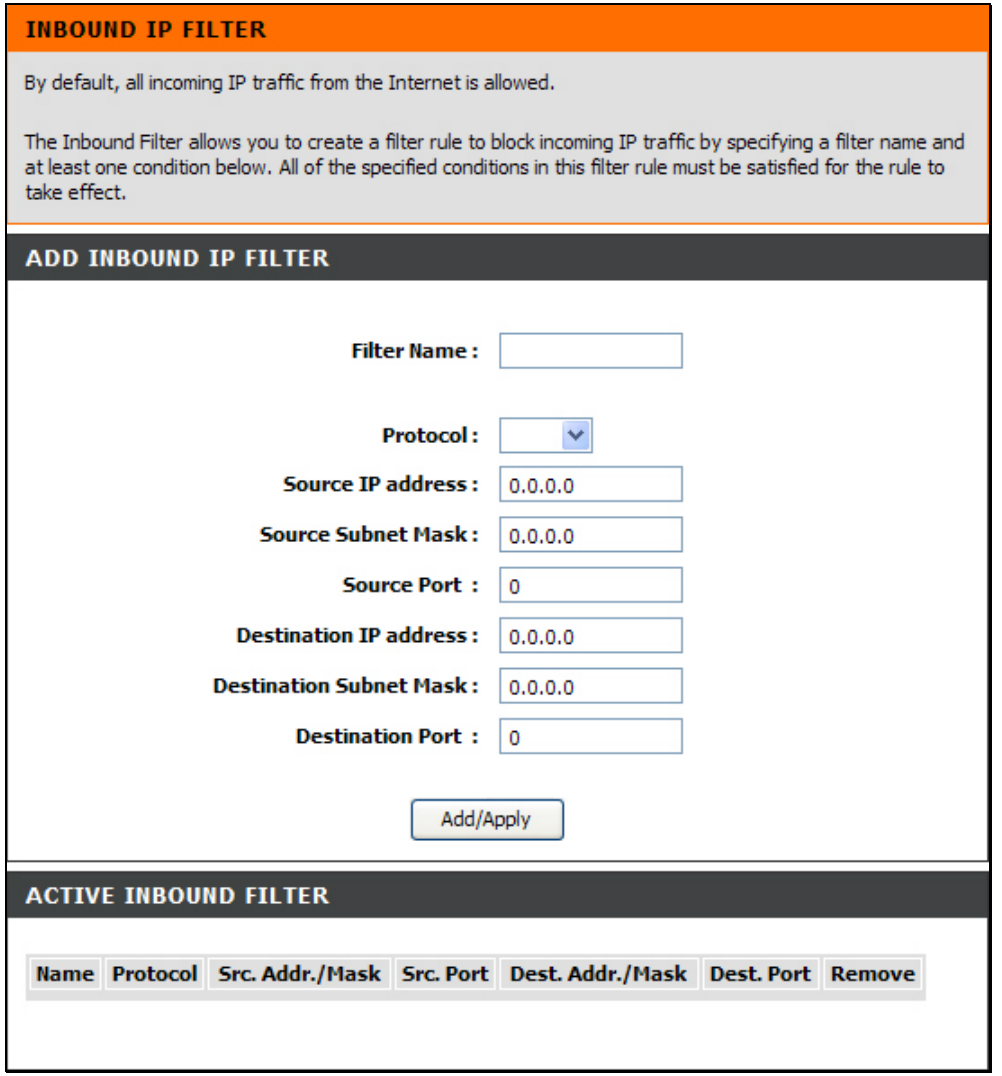
Inbound Filter

To access the **Inbound Filter** window, click the **Inbound Filter** button in the **Advanced** directory.

The Inbound Filter allows you to create a filter rule to allow incoming IP traffic by specifying a filter name and at least one condition on this window. All of the specified conditions in this filter rule must be satisfied for the rule to take effect. By default, all incoming IP traffic from the Internet is blocked when the firewall is enabled.

Click the **Add/Apply** button and then click the **Reboot** button on the left panel to let your changes take effect.

Filters Parameter	Description
Name	Enter a name for the new filter.
Protocol	Select the transport protocol (*TCP*, *UDP, or ICMP*) that will be used for the filter rule.
Source IP Address & Source Subnet Mask	For an Outbound Filter, this is the IP address or IP addresses and their associated subnets on your LAN for which you are creating the filter rule. For an Inbound Filter, this is the IP address or IP addresses and their associated subnets for which you are creating the filter rule.
Source Port	The Source Port is the TCP/UDP port on either the LAN or WAN depending on if you are configuring an Outbound or Inbound Filter rule.
Destination IP Address & Destination Subnet Mask	Where the Destination IP address and subnet mask resides also depends on if you are configuring an Inbound or Outbound filter rule.
Destination Port	The Destination Port is the TCP/UDP port on either the LAN or WAN depending on if you are configuring an Outbound or Inbound Filter rule.



DNS Setup

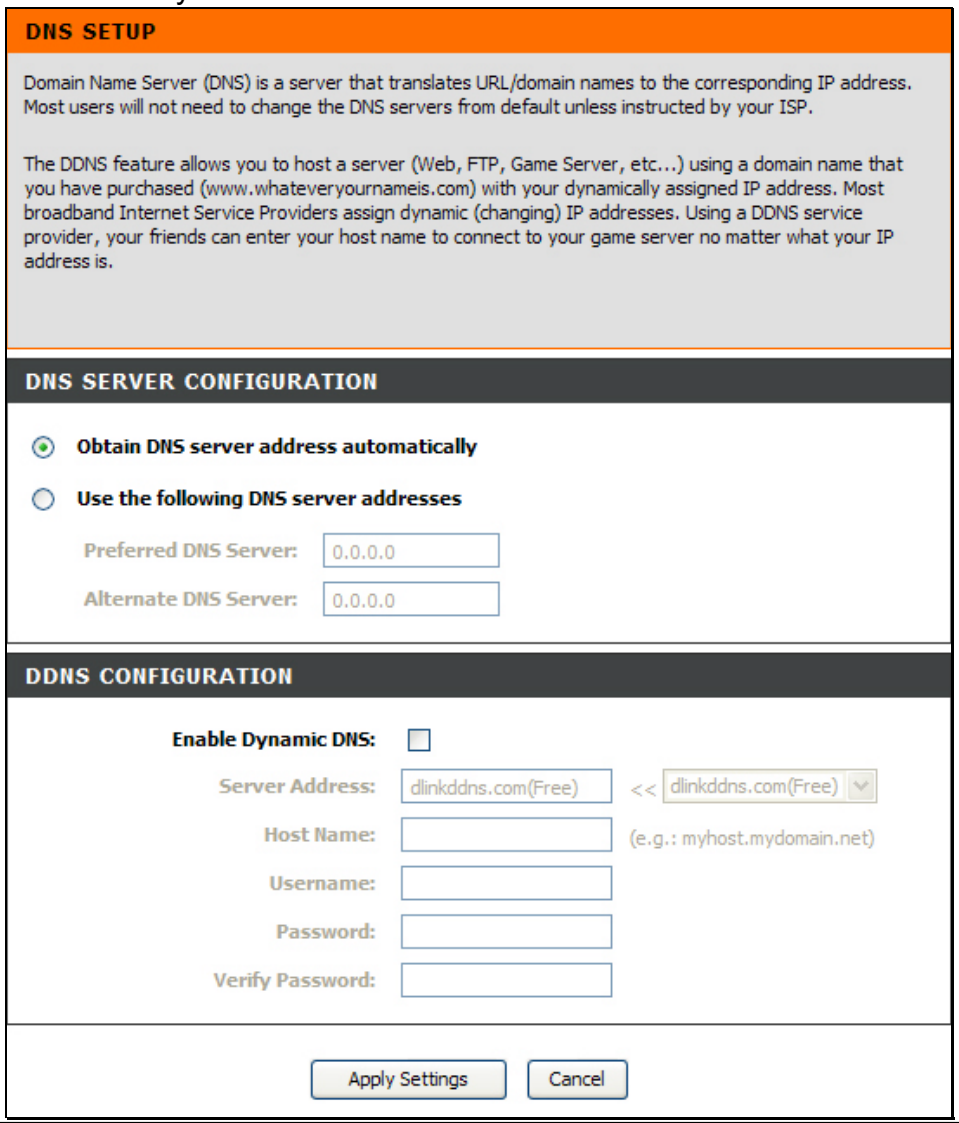
To access the **DNS Setup** window, click the **DNS Setup** button in the **Advanced** directory.

The Router can be configured to relay DNS settings from your ISP or another available service to workstations on your LAN. When using DNS relay, the Router will accept DNS requests from hosts on the LAN and forward them to the ISP's, or alternative DNS servers. DNS relay can use auto discovery or the DNS IP address can be manually entered by the user. Alternatively, you may also disable the DNS relay and configure hosts on your LAN to use DNS servers directly. Most users who are using the Router for DHCP service on the LAN and are using DNS servers on the ISP's network, will leave DNS relay enabled (either auto discovery or user configured).

If you have not been given specific DNS server IP addresses or if the Router is not pre-configured with DNS server information, select the "Obtain DNS server address automatically" option. Auto discovery DNS instructs the Router to automatically obtain the DNS IP address from the ISP through DHCP. If your WAN connection uses a Static IP address, auto discovery for DNS cannot be used.

If you have DNS IP addresses provided by your ISP, click the "Use the following DNS server addresses" radio button and enter these IP addresses in the available entry fields for the Preferred DNS Server and the Alternative DNS Server. When you have configured the DNS settings as desired, click the **Apply Settings** button and then click the **Reboot** button on the left panel to let your changes take effect.

The Router supports DDNS (Dynamic Domain Name Service). The Dynamic DNS service allows a dynamic public IP address to be associated with a static host name in any of the many domains, allowing access to a specified host from various locations on the Internet. This is enabled to allow remote access to a host by clicking a hyperlinked URL



in the form hostname.dyndns.org, Many ISPs assign public IP addresses using DHCP, this can make it difficult to locate a specific host on the LAN using standard DNS. If for example you are running a public web server or VPN server on your LAN, this ensures that the host can be located from the Internet if the public IP address changes. DDNS requires that an account be setup with one of the supported DDNS providers.

Tick the Enable Dynamic DNS check box, enter the required DDNS information, click the **Apply Settings** button, and then click the **Reboot** button on the left panel to let your changes take effect to set this information in the Router.

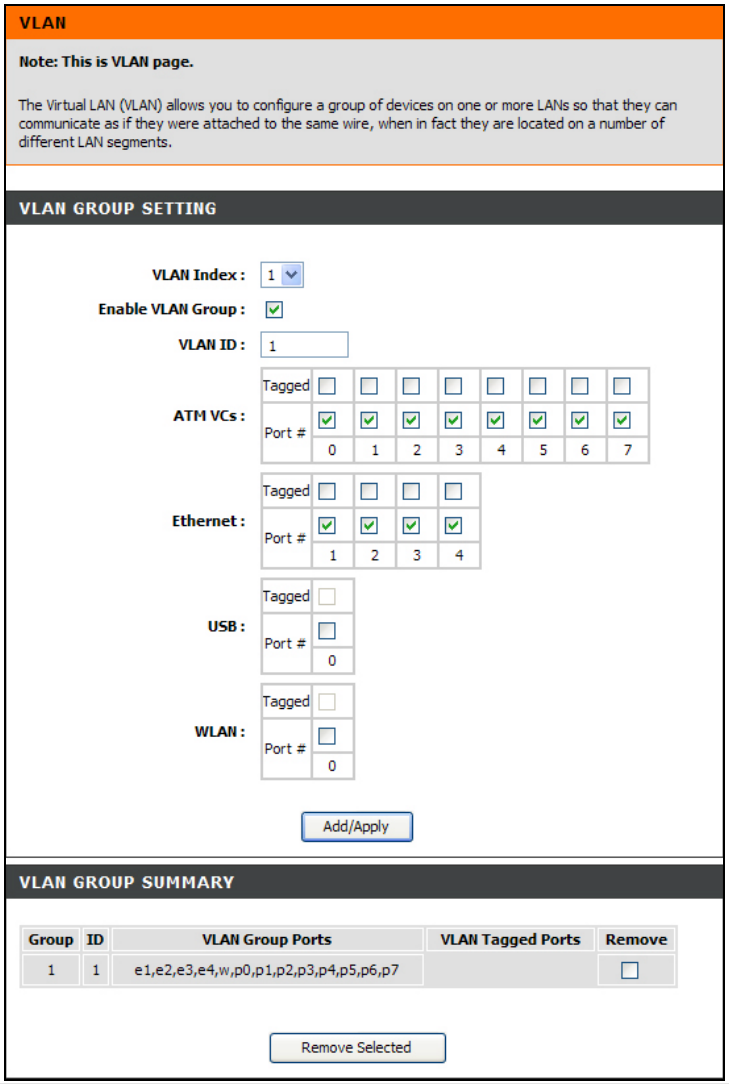
Note

DDNS requires that an account be setup with one of the supported DDNS servers prior to engaging it on the Router. This function will not work without an accepted account with a DDNS server.

VLAN

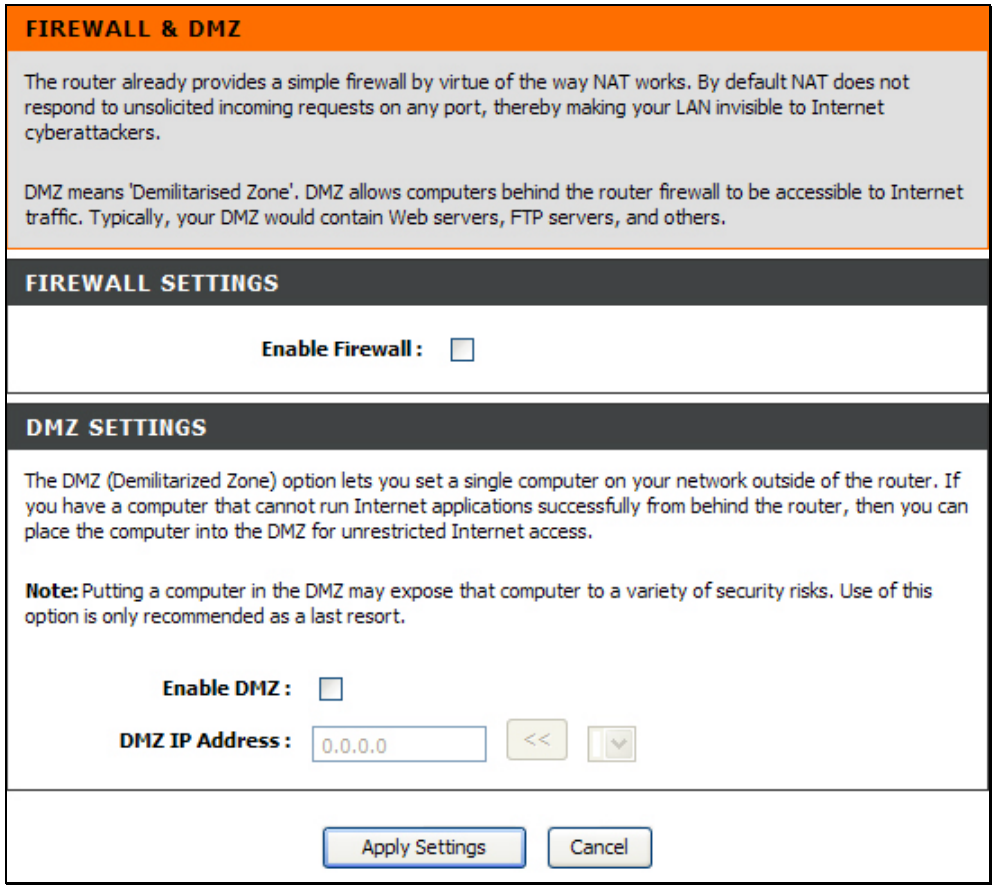
To access the **VLAN** window, click the **VLAN** button in the **Advanced** directory.

The Virtual LAN (VLAN) can group the devices even if they are not in the same LAN segment.
Select a number in the **VLAN Index** drop-down list, tick the **Enable VLAN Group** check box, .and tick the Port number and the corresponding tagged check boxes.
Click the **Add/Apply** button to create the VLAN group.



Firewall & DMZ

To access the **Firewall & DMZ** window, click the **Firewall & DMZ** button in the **Advanced** directory.



Firewalls may conflict with certain interactive applications such as video conferencing or playing Internet video games. For these applications, a firewall bypass can be set up using a DMZ IP address. The DMZ IP address is a “visible” address and does not benefit from the full protection of the firewall function. Therefore it is advisable that other security precautions be enabled to protect the other computers and devices on the LAN. It may be wise to use isolate the device with the DMZ IP address from the rest of the LAN.

If you want to use video conferencing, for example, and still use a firewall, you can use the DMZ IP address function. In this case, you must have a PC or server through which video conferencing will take place. The IP address of this PC or server will then be the DMZ IP address. You can designate the server’s IP address as the DMZ by going to the DMZ Settings section and typing in the IP address in the IP Address field provided and then enabling its status by ticking the Enable DMZ checkbox, clicking **Apply Settings**, and then clicking the **Reboot** button on the left panel to let your changes take effect.

For the system that uses the DMZ IP address, you may want to manually assign an IP address to it and adjust your DHCP server addresses so that the DMZ IP address is not included in the DHCP server range. This way you avoid possible IP address problems if you reboot the DMZ system.

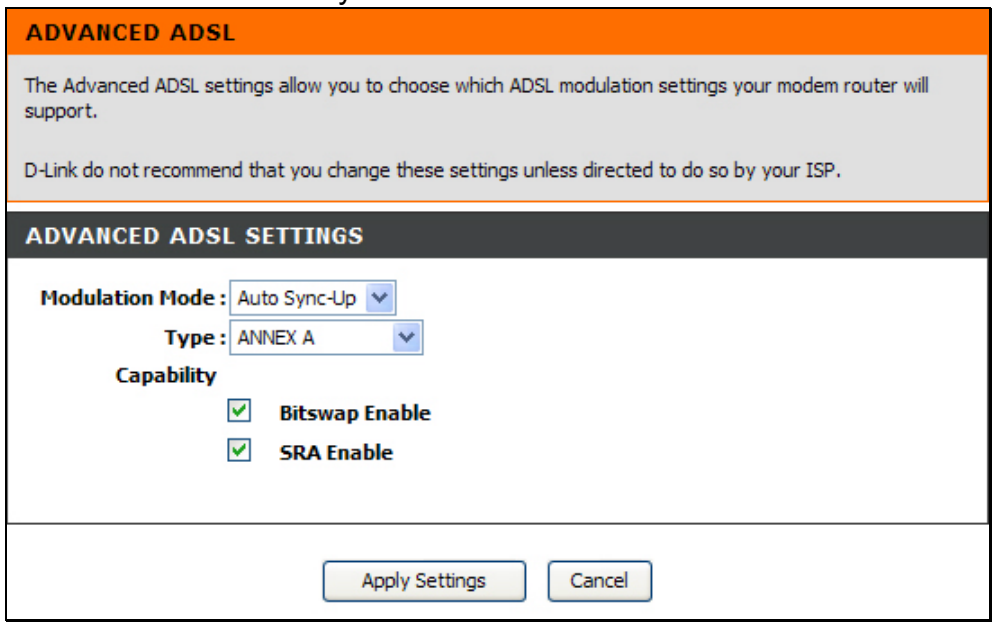
The Firewall Settings section allows the Router to enforce specific predefined policies intended to protect against certain common types of attacks. Tick the **Enable Firewall** check box, and click the **Apply Settings** button to active the function.

Advanced ADSL

To access the **Advanced ADSL** window, click the **Advanced ADSL** button in the **Advanced** directory.

This window allows the user to set the configuration for ADSL protocols. For most ADSL accounts the default settings *Autosense* will work. This configuration works with all ADSL implementations. If you have been given instructions to change the Modulation method used, select the desired option from the **Modulation Mode** and **Type** drop-down menu, and click the **Apply Settings** button. Click the **Reboot** button on the left panel to let your changes take effect.

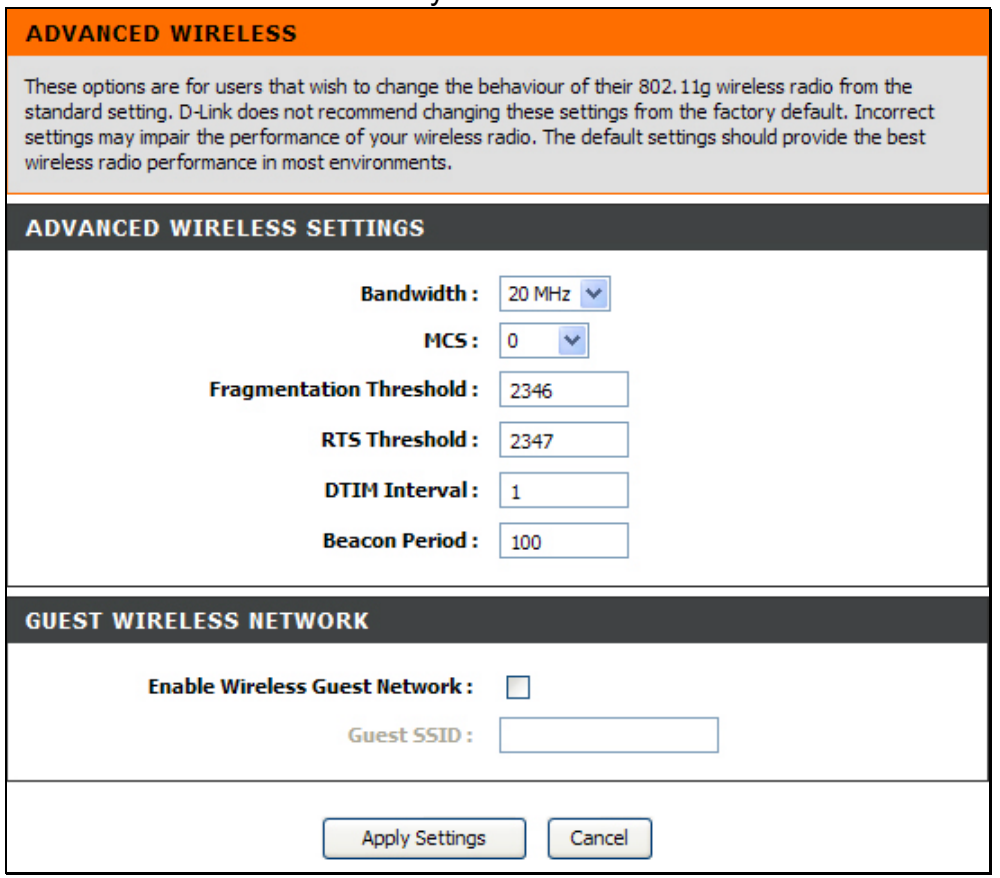
Leave the Capability setting at the bottom of the window unchanged unless otherwise instructed by your ISP. Both Bitswap Enable and Seemless Rate Adaption (SRA) Enable deal with tests that determine the line condition between your Router and the ISP's Central office.



Advanced Wireless

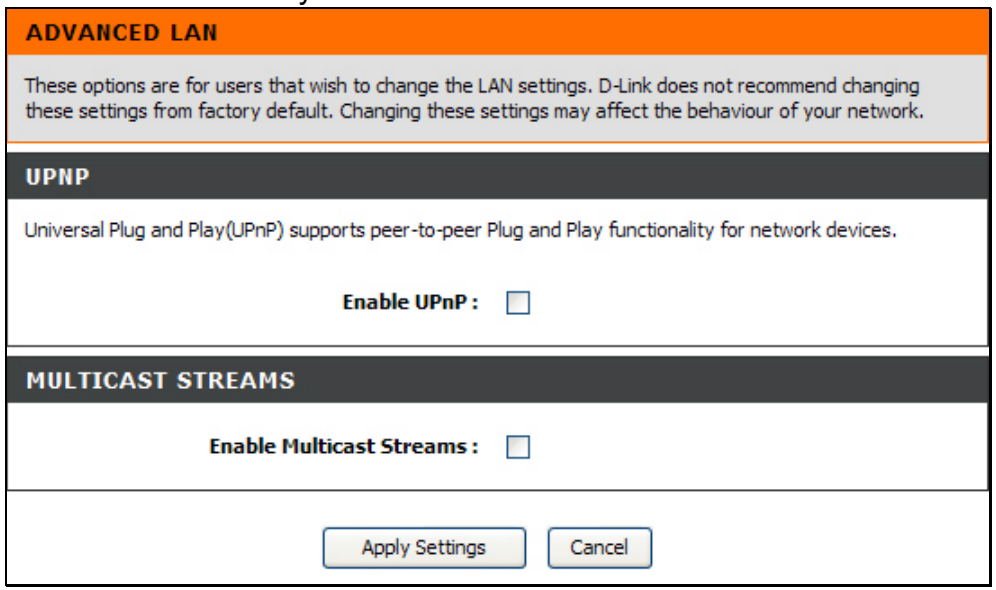
To access the **Advanced Wireless** window, click the **Advanced Wireless** button in the **Advanced** directory.

In this page, you can configure more advanced settings of 802.11g wireless radio. However, it is recommended to remain as default unless your ISP requests to change it.



Advanced LAN

To access the **Advanced LAN** window, click the **Advanced LAN** button in the **Advanced** directory.



UPnP supports zero-configuration networking and automatic discovery for many types of networked devices. When enabled, it allows other devices that support UPnP to dynamically join a network, obtain an IP address, convey its capabilities, and learn about the presence and capabilities of other devices. DHCP and DNS service can also be used if available on the network. UPnP also allows supported devices to leave a network automatically without adverse effects to the device or other devices on the network. UPnP is a protocol supported by diverse networking media including Ethernet, Firewire, phone line, and power line networking.

To enable UPnP for any available connection, tick the Enable UPnP check box, select the connection or connections on which you will enable UPnP listed under Available Connections and click the **Apply Settings** button. Click the **Reboot** button on the left panel to let your changes take effect.

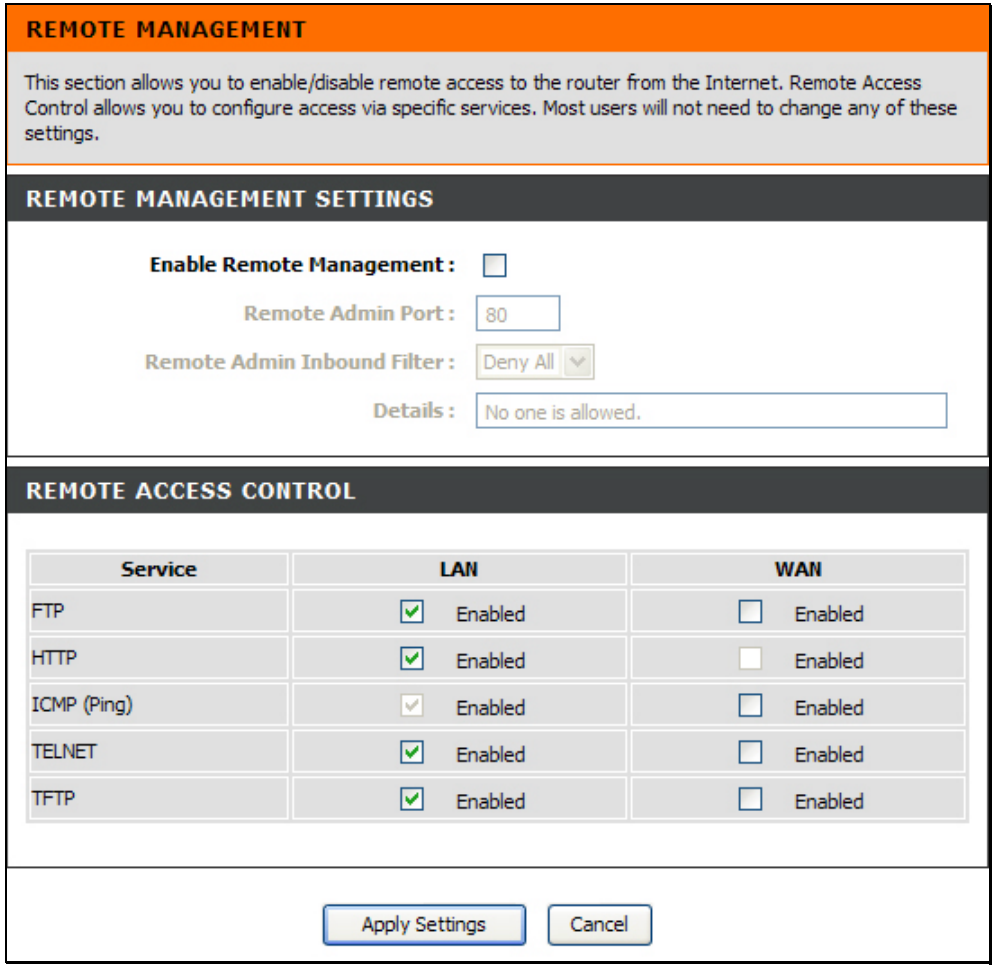
When “Enable Multicast Streams (IGMP)” is ticked, Multicast packets are allowed to pass in both directions on the WAN interface. Most users will want to leave this on. Click **Apply Settings**.

Remote Management

To access the **Remote Management** window, click the **Remote Management** button in the **Advanced** directory.

The Router allows remote Web and Telnet management in the top section of the window. Tick the **Enable Remote Management** check box, enter a remote admin port number, select the method of Inbound filter in the **Remote Admin Inbound Filter**, enter optional identifying information in the **Details** field if desired, and click the **Apply Settings** button.

Use the Access Control section in the middle of the window to restrict a service from being accessed via the WAN interface. Click the **Apply Settings** button and then click the **Reboot** button on the left panel to let your changes take effect.



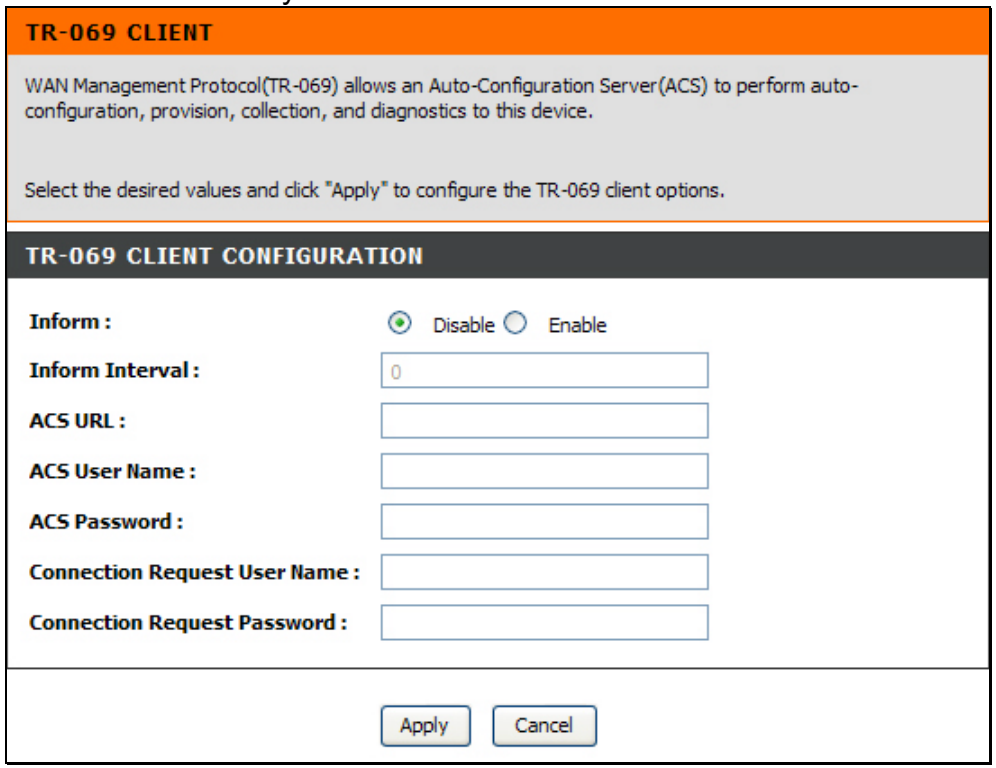
Network Tools

To access the **Network Tools** window, click the **Network Tools** button in the **Advanced** directory.

The Network Tools page allows you to setup WAN Management Protocol (TR069). Enable the function can help the terminals connect to the Auto Configuration Server (ACS) and establish configuration automatically.

Click the **Enable** radio button under Inform. Enter the ACS URL, and ACS and Connection Request username and password in the corresponding fields.

Click the **Apply** button when you are satisfied that all the settings are configured correctly.



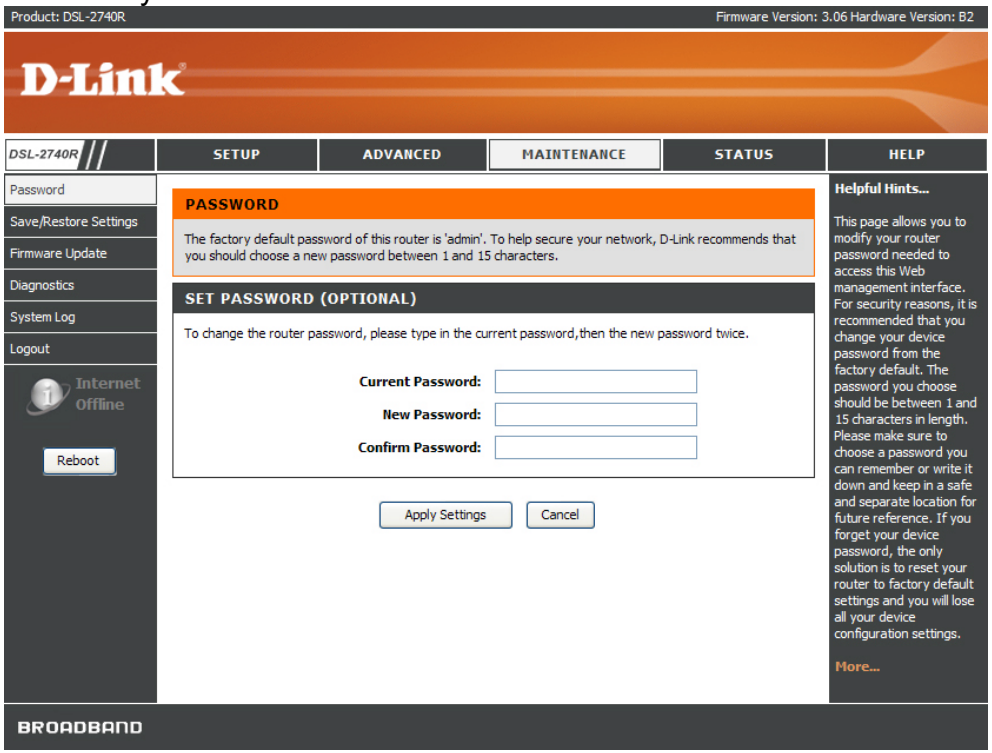
Maintenance

The **Maintenance** directory features an array of options designed to help you get the most out of your Router.

Password

To access the **Password** window, click the **Settings** button in the **Maintenance** directory.

To change the Administrator's password, type the Current Password in the first field, the New Password in the second field, and enter the password again in the Confirm Password field to be certain you have typed it correctly. Click the **Apply Settings** button and then click the **Reboot** button on the left panel to let your changes take effect. The system User Name remains "admin," this cannot be changed using the Web manager interface.



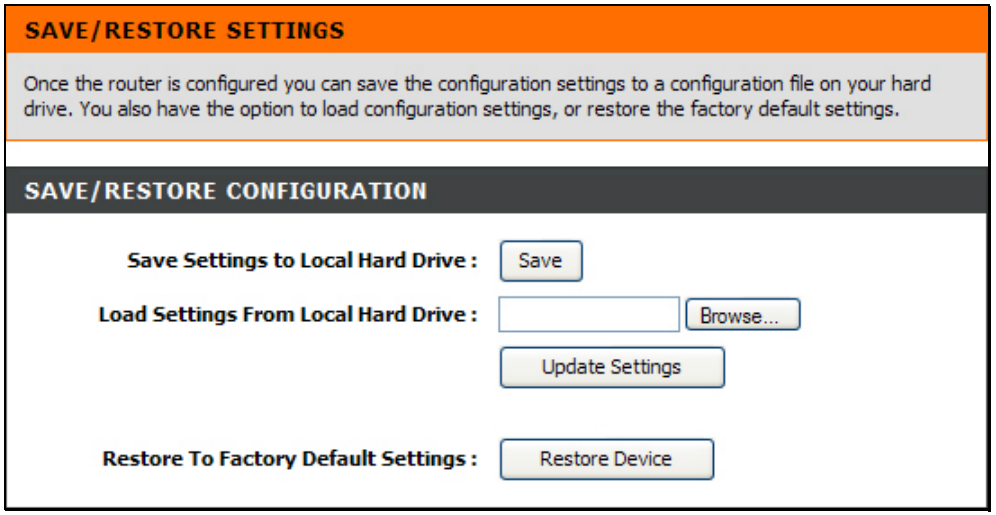
Save/Restore Settings

To access the **Save/Restore Settings** window, click the **Save/Restore Settings** button in the **Maintenance** directory.

Once you have configured the Router to your satisfaction, it is a good idea to back up the configuration file to your computer. To save the current configuration settings to your computer, click the **Save** button. You will be prompted to select a location on your computer to put the file. The file type is bin and may be named anything you wish.

To load a previously saved configuration file, click the **Browse** button and locate the file on your computer. Click the **Upload Settings** button to load the settings from your local hard drive. Confirm that you want to load the file when prompted. The Router will reboot and begin operating with the configuration settings that have just been loaded.

To reset the Router to its factory default settings, click the **Restore Device** button. You will be prompted to confirm your decision to reset the Router. The Router will reboot with the factory default settings including IP settings (192.168.1.1) and Administrator password (admin).



Firmware Update

To access the **Firmware Update** window, click the **Firmware Update** button in the **Maintenance** directory.

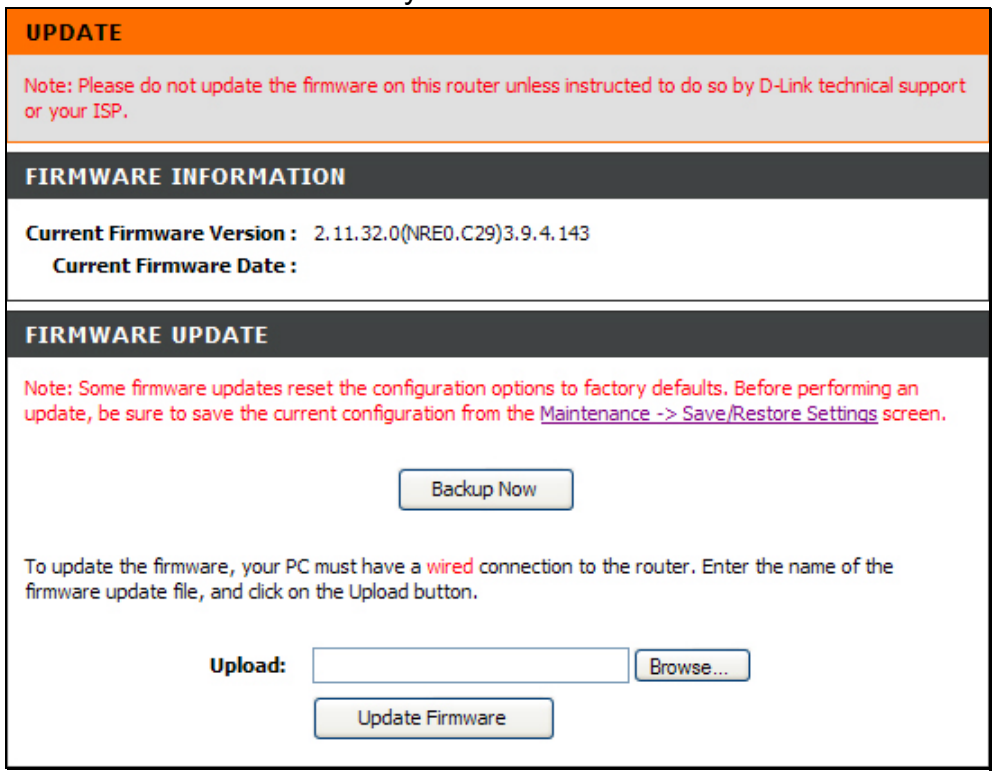
Use this window to load the latest firmware for the device. Note that the device configuration settings may return to the factory default settings, so make sure you save the configuration settings with the **Save/Restore Settings** window described on the previous page.

To upgrade firmware, type in the name and path of the file or click on the **Browse** button to search for the file. Click the **Update Firmware** button to begin copying the file. The file will load and restart the Router automatically.

To save your current configuration file to your computer, click the **Backup Now** button. A **File Download** dialog box will open. Click the **Save** button and then designate the location for the configuration file in the **Save As** window that immediately opens. The default location is your desktop.

Note

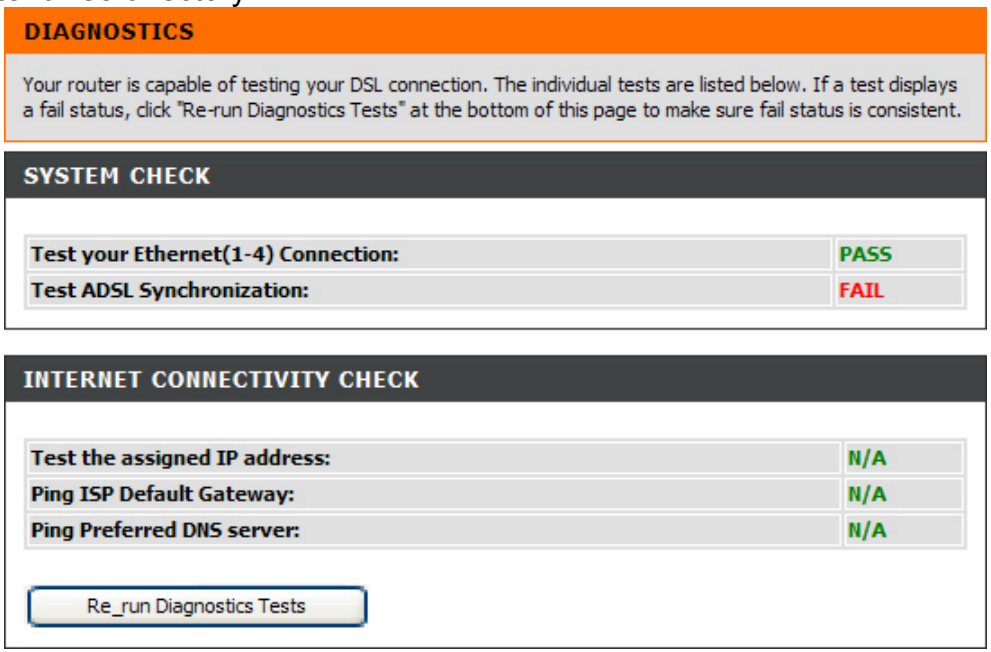
Performing a Firmware Upgrade can sometimes change the configuration settings. Be sure to backup the Router's configuration settings before upgrading the firmware.



Diagnostics

To access the **Diagnostic** window, click the **Diagnostics** button in the **Maintenance** directory.

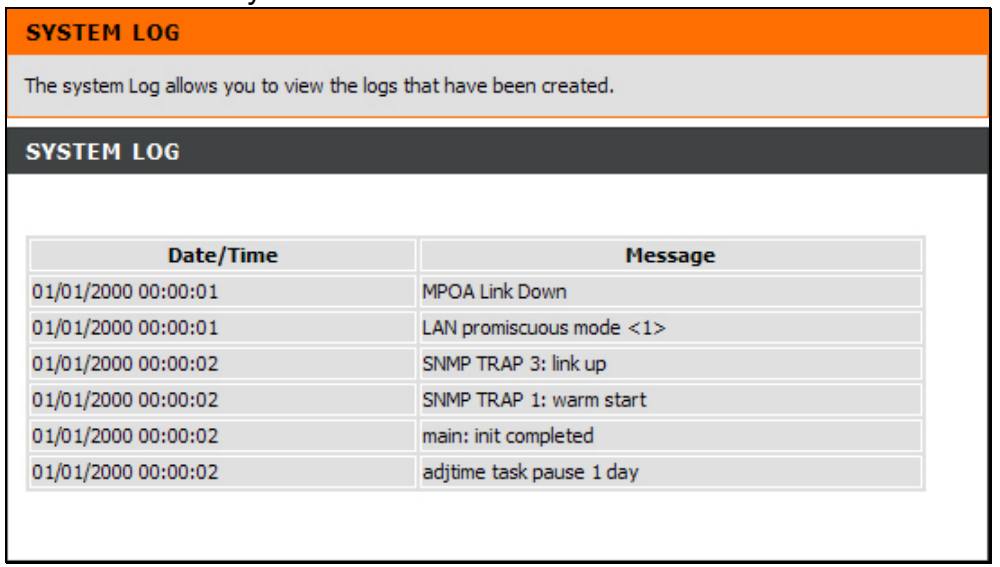
This window is used to test connectivity of the Router. A Ping test may be done through the local or external interface to test connectivity to known IP addresses. The diagnostics feature executes a series of tests of your system software and hardware connections. Use this window when working with your ISP to troubleshoot problems.



System Log

To access the **System Log** window, click the **System Log** button in the **Maintenance** directory.

This window displays the system log information of the Router.



Status

Use the various read-only windows to view system information and monitor performance.

Device Info

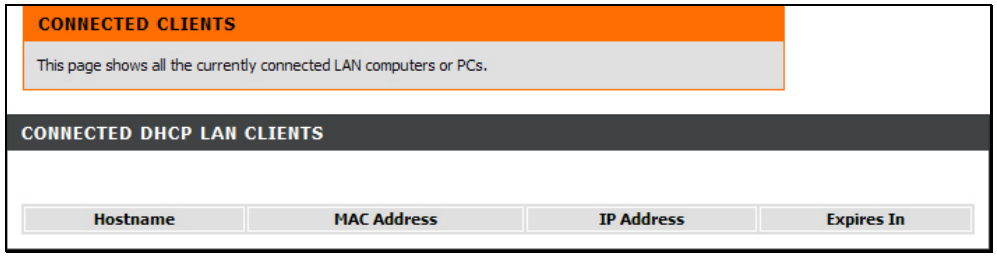
To access the **Device Info** window, click the **Device Info** button in the **Status** directory.

Use this window to quickly view basic current information about the LAN and WAN interfaces and device information including Firmware Version and MAC address.

Connected Clients

To access the **Connected Clients** window, click the **Connected Clients** button in the **Status** directory.

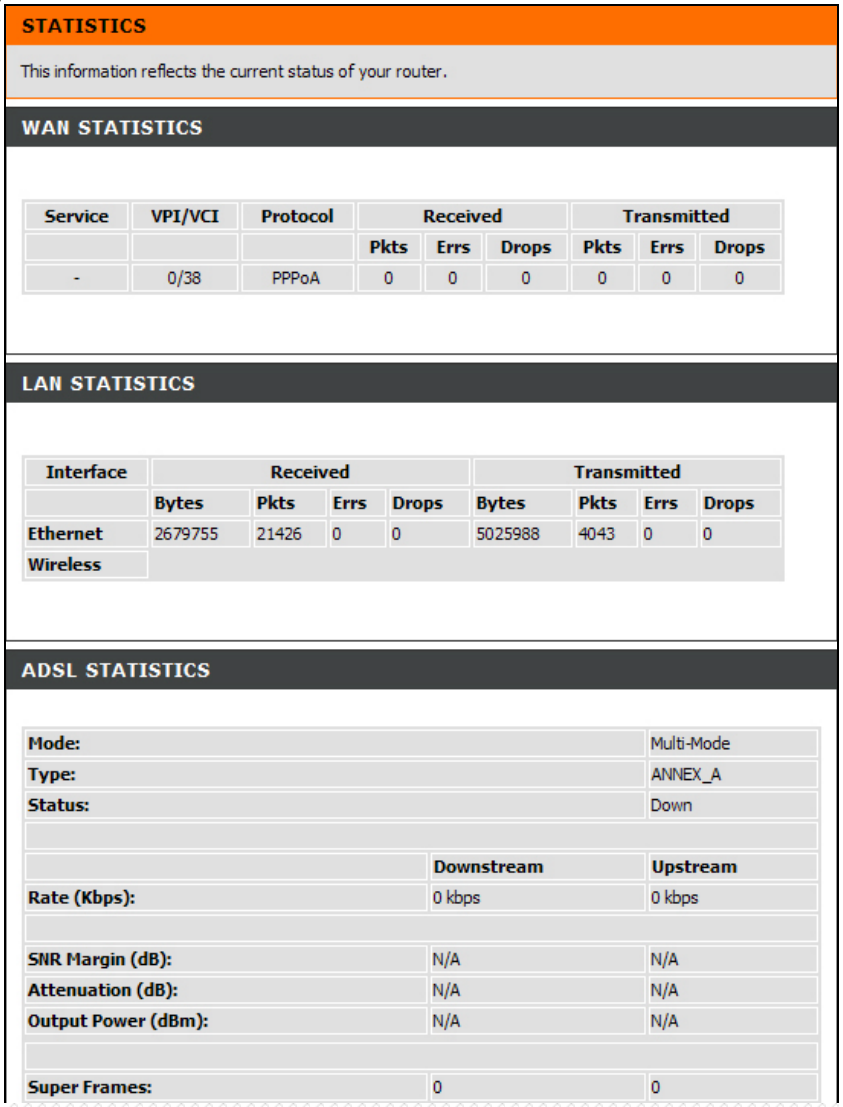
The Connected LAN Clients list displays active DHCP clients when the router is acting as a DHCP server.



Statistics

To access the **Statistics** window, click the **Statistics** button in the **Status** directory.

Use this window to monitor traffic on the Ethernet or ADSL connection.
This window also displays information concerning ADSL status.



STATISTICS

This information reflects the current status of your router.

WAN STATISTICS

Service	VPI/VCI	Protocol	Received			Transmitted		
			Pkts	Errs	Drops	Pkts	Errs	Drops
-	0/38	PPPoA	0	0	0	0	0	0

LAN STATISTICS

Interface	Received				Transmitted			
	Bytes	Pkts	Errs	Drops	Bytes	Pkts	Errs	Drops
Ethernet	2679755	21426	0	0	5025988	4043	0	0
Wireless								

ADSL STATISTICS

Mode:		Multi-Mode
Type:		ANNEX_A
Status:		Down
	Downstream	Upstream
Rate (Kbps):	0 kbps	0 kbps
SNR Margin (dB):	N/A	N/A
Attenuation (dB):	N/A	N/A
Output Power (dBm):	N/A	N/A
Super Frames:	0	0

Help

To access the **Help** window, click the **Help** directory.

Troubleshooting

This chapter provides solutions to problems that might occur during the installation and operation of the DSL-2740R. Read the following descriptions if you are having problems. (The examples below are illustrated in Windows® XP. If you have a different operating system, the screenshots on your computer will look similar to the following examples.)

1. How do I configure my DSL-2740R Router without the CD-ROM?

- Connect your PC to the Router using an Ethernet cable.
- Open a web browser and enter the address http://192.168.1.1
- The default username is 'admin' and the default password is 'admin'.
- If you have changed the password and cannot remember it, you will need to reset the Router to the factory default setting (see question 2), which will set the password back to 'admin'.

Note: Please refer to the next section "Networking Basics" to check your PC's IP configuration if you can't see the login windows.

2. How do I reset my Router to the factory default settings?

- Ensure the Router is powered on.
- Press and hold the reset button on the back of the device for approximately 5 to 8 seconds.
- This process should take around 1 to 2 minutes.

Note: Resetting the Router to the factory default settings will erase the current configuration settings. To reconfigure your settings, login to the Router as outlined in question 1, then run the Quick Setup wizard.

3. What can I do if my Router is not working correctly?

There are a few quick steps you can take to try and resolve any issues:

- Follow the directions in Question 2 to reset the Router.
- Check that all the cables are firmly connected at both ends.
- Check the LEDs on the front of the Router. The Power indicator should be on, the Status indicator should flash, and the DSL and LAN indicators should be on as well.

- Please ensure that the settings in the Web-based configuration manager, e.g. ISP username and password, are the same as the settings that have been provided by your ISP.

4. Why can't I get an Internet connection?

For ADSL ISP users, please contact your ISP to make sure the service has been enabled/connected by your ISP and that your ISP username and password are correct.

5. What can I do if my Router can't be detected by running the installation CD?

- Ensure the Router is powered on.
- Check that all the cables are firmly connected at both ends and all LEDs work correctly.
- Ensure only one network interface card on your PC is activated.
- Click on **Start** > **Control Panel** > **Security Center** to disable the firewall.

Note: There is a potential security issue if the firewall is disabled on your PC. Please remember to turn it back on once you have finished the whole installation procedure. This will enable you to be able to surf the Internet without any problem.

Networking Basics

Check Your IP Address

After you install your new D-Link adapter, by default, the TCP/IP settings should be set to obtain an IP address from a DHCP server (i.e. wireless router) automatically. To verify your IP address, please follow the steps below.

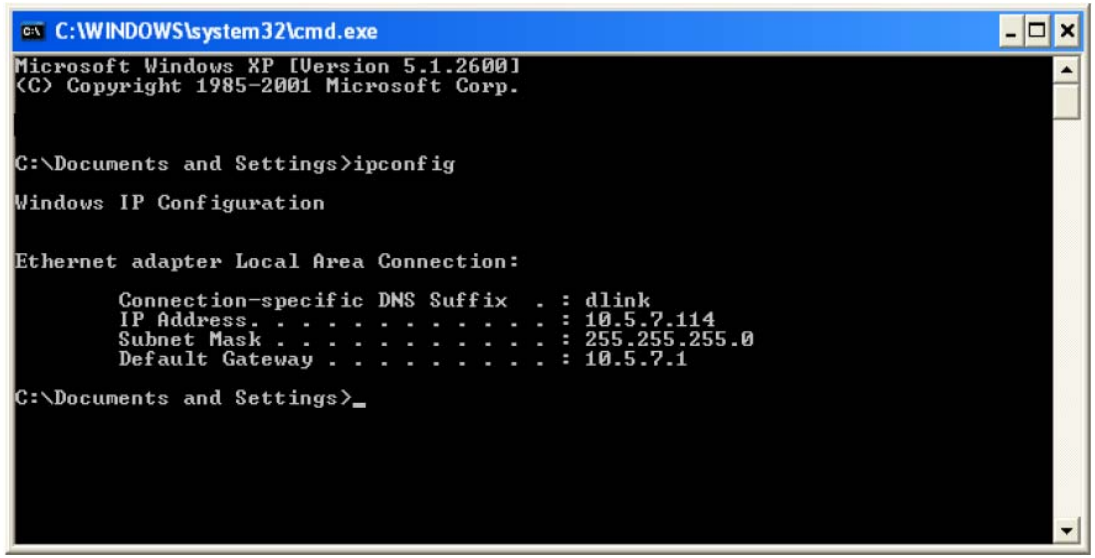
Click on **Start** > **Run**. In the run box type ***cmd*** and click on the **OK**.

At the prompt, type ***ipconfig*** and press **Enter**.

This will display the IP address, subnet mask, and the default gateway of your adapter.

If the address is 0.0.0.0, check your adapter installation, security settings, and the settings on your router. Some firewall software programs may block a DHCP request on newly installed adapters.

If you are connecting to a wireless network at a hotspot (e.g. hotel, coffee shop, airport), please contact an employee or administrator to verify their wireless network settings.



Statically Assign An IP Address

If you are not using a DHCP capable gateway/router, or you need to assign a static IP address, please follow the steps below:

Step 1
Windows® XP - Click on **Start** > **Control Panel** > **Network Connections**.
Windows® 2000 - From the desktop, right-click on the **My Network Places** > **Properties**.

Step 2
Right-click on the **Local Area Connection** which represents your D-Link network adapter and select **Properties**.

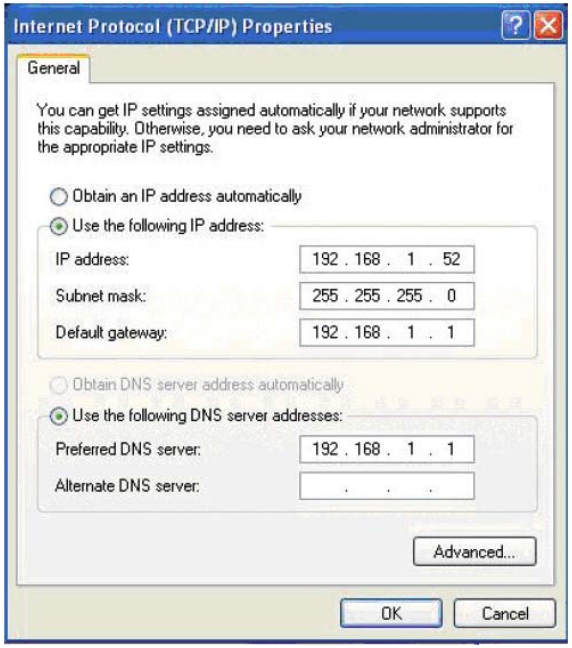
Step 3
Highlight **Internet Protocol (TCP/IP)** and click on the **Properties**.

Step 4
Click on the **Use the following IP address** and enter an IP address that is on the same subnet as your network or the LAN IP address on your router.

Example: If the router's LAN IP address is 192.168.1.1, make your IP address 192.168.1.X where X is a number between 2 and 99. Make sure that the number you choose is not in use on the network. Set Default Gateway the same as the LAN IP address of your router (192.168.1.1).

Set Primary DNS the same as the LAN IP address of your router (192.168.1.1). The Secondary DNS is not needed or you may enter a DNS server from your ISP.

Step 5
Click on the **OK** twice to save your settings.



Technical Specifications

ADSL Standards

- Full-rate ANSI T1.413 Issue 2
- ITU G.992.1 (G.dmt) AnnexA/C/I
- ITU G.992.2 (G.lite) Annex A/C
- ITU G.994.1 (G.hs)

ADSL2 Standards

- ITU G.992.3 (G.dmt.bis) Annex A/J/K/L/M
- ITU G.992.4 (G.lite.bis) Annex A

ADSL2+ Standards

- ITU G.992.5 Annex A/L/M

Protocols

- IEEE 802.1d Spanning Tree
- TCP/UDP
- ARP
- RARP
- ICMP
- RFC1058 RIP v1
- RFC1213 SNMP v1 & v2c
- RFC1334 PAP
- RFC1389 RIP v2
- RFC1577 Classical IP over ATM
- RFC1483/2684 Multiprotocol Encapsulation over ATM Adaptation Layer 5 (AAL5)
- RFC1661 Point to Point Protocol
- RFC1994 CHAP
- RFC2131 DHCP Client / DHCP Server
- RFC2364 PPP over ATM
- RFC2516 PPP over Ethernet

Data Transfer Rate

- G.dmt full rate downstream: up to 8 Mbps / upstream: up to 1 Mbps
- G.lite: ADSL downstream up to 1.5 Mbps / upstream up to 512 Kbps
- G.dmt.bis full rate downstream: up to 12 Mbps / upstream: up to 1 Mbps
- ADSL full rate downstream: up to 24 Mbps / upstream: up to 1 Mbps

Media Interface

- ADSL interface: RJ-11 connector for connection to 24/26 AWG twisted pair telephone line
- LAN interface: four RJ-45 ports for 10/100BASE-T Ethernet connection