USER MANUAL

DSL-2540B

VERSION 1.0

D-Link®

BROADBAND

Table of Contents

General Information

The D-Link DSL-2540B is an ADSL2+ router offering the convenience of 4 LAN ports for additional computers. This user manual provides you with a simple and easy-to-understand format to install and configure your router.

Package Contents

- ADSL2/2+ 4-Port Ethernet Router
- 12VDC, 1A DC CEC-compliant switching power adapter
- RJ-11 telephone cable
- RJ-45 Ethernet cable
- Quick Install Guide
- Documentation CD-ROM (QIG + user manual)

Note: *Using a power supply with a different voltage rating than the one included with the DSL-2540B will cause damage and void the warranty for this product.*

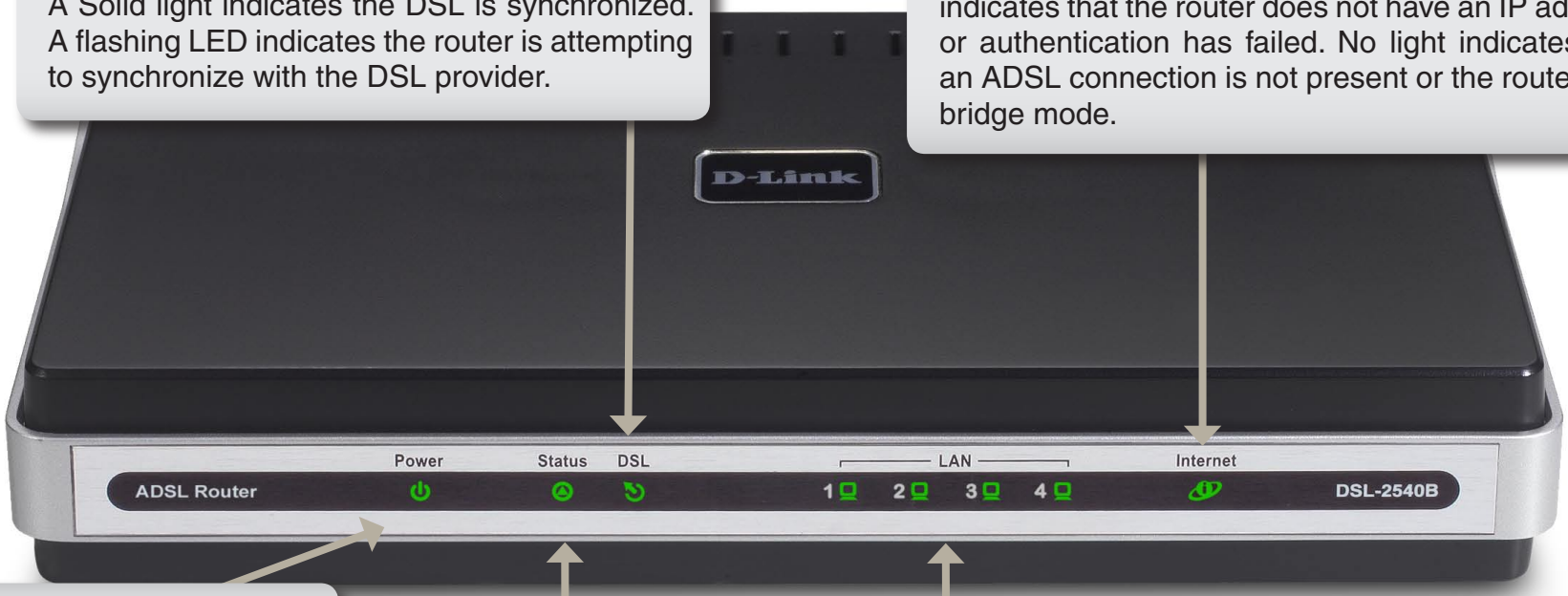
Important Safety Instructions

- Place your router on a flat surface close to the cables in a location with sufficient ventilation.
- To prevent overheating, do not obstruct the ventilation openings of this equipment.
- Plug this equipment into a surge protector to reduce the risk of damage from power surges and lightning strikes.
- Operate this equipment only from an electrical outlet with the correct power source as indicated on the adapter.
- Do not open the cover of this equipment. Opening the cover will void any warranties on the equipment.
- Unplug equipment first before cleaning. A damp cloth can be used to clean the equipment. Do not use liquid/aerosol cleaners or magnetic/static cleaning devices.

Front Panel View

DSL LED
A Solid light indicates the DSL is synchronized. A flashing LED indicates the router is attempting to synchronize with the DSL provider.

Internet LED
A solid green light indicates that the router has an IP address and is connected to the Internet. A red light indicates that the router does not have an IP address or authentication has failed. No light indicates that an ADSL connection is not present or the router is in bridge mode.

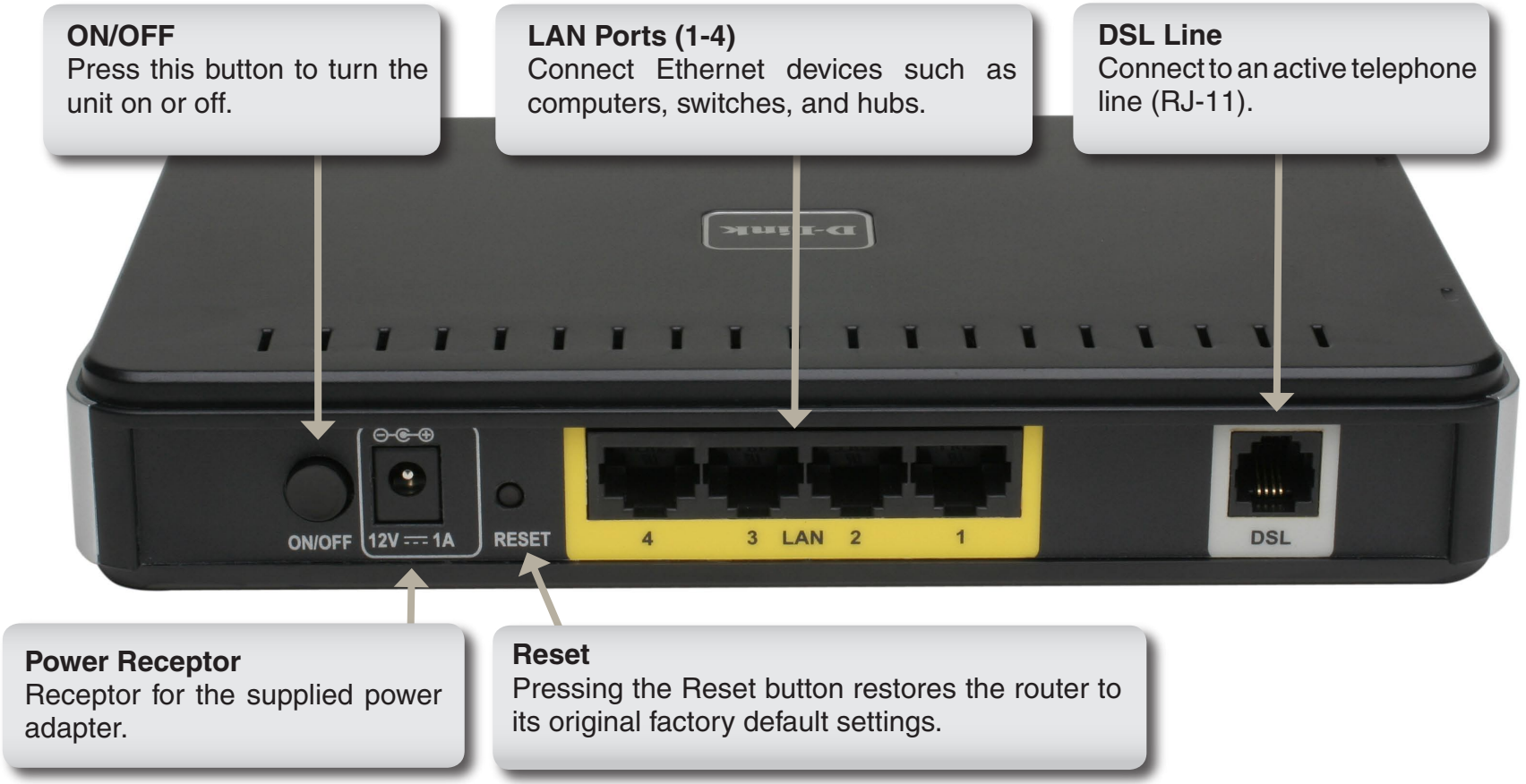


Power LED
A solid green light indicates the unit is powered up. A red light indicates a malfunction.

Status LED
A blinking light indicates traffic is passing through.

Local Network LEDs
A solid light indicates a connection to an Ethernet-enabled computer on ports 1-4. This LED blinks during data transmission.

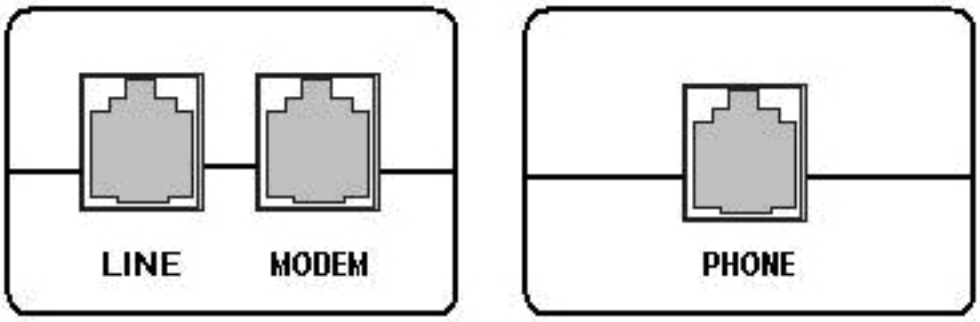
Rear Panel View



Installing the Router

Connect the ADSL and Telephone Lines

- Connect an RJ-11 cable between the wall phone jack and the line-end of the splitter (see diagram below).
- Attach another RJ-11 phone cable to the router-end of the splitter and the ADSL port on the rear panel of the router.
- The phone-end of the splitter will be connected to the telephone using a third RJ-11 phone cable.



NOTE: See connections on the installation diagram.

Connect the PC to the Router

- To use the Ethernet connection, connect the Ethernet cable from the computer directly to the router. Connect one end of the Ethernet cable to the port labeled LAN on the back of the router and attach the other end to the Ethernet port of your computer.

- If your LAN has more than one computer, you can attach one end of an Ethernet cable to a hub or a switch and the other to the Ethernet port (labeled LAN) on the router. Note that either a crossover or straight-through Ethernet cable can be used. The router automatically recognizes the type of connection that is required.

Connect the Power Adapter

- Complete the process by connecting the supplied 12VAC, 1A power adapter to the POWER connector on the back of the device and plug the adapter into a wall outlet or power strip. Then turn on and boot up your PC and any LAN devices, such as hubs or switches, and any computers connected to them.

Installation Diagram

Configuring Your Computer

Prior to accessing the router through the LAN port, note the following necessary configurations:

- Your PC's TCP/IP address: 192.168.1.x (where "x" is any number between 2 and 254)
- The router's default IP address: 192.168.1.1
- Subnet mask: 255.255.255.0

Below are the procedures for configuring your computer. Follow the instructions for the operating system that you are using.

Windows® 2000

These are instructions for configuring your Windows® 2000 operating system. If you are using Windows® XP please proceed to page 10.

1. In the Windows taskbar, click on the Start button and point to Settings > Control Panel > Network and Dial-up Connections (in that order).

2. Click on Local Area Connection. When you have the Local Area Connection Status window open, click on Properties.

3. Listed in the window are the installed network components. If the list includes Internet Protocol (TCP/IP), then the protocol has already been enabled, and you can skip to Step 10.

4. If Internet Protocol (TCP/IP) does not appear as an installed component, then click on Install.

5. In the Select Network Component Type window, click on protocol and then the Add button.

6. Select Internet Protocol (TCP/IP) from the list and then click on OK.

7. If prompted to restart your computer with the new settings, click OK.

8. After your computer restarts, click on the Network and Dial-up Connections icon again, and right click on the Local Area Connection icon and then select Properties.

9. In the Local Area Connection Properties dialog box, select Internet Protocol (TCP/IP) and then click on Properties.

10. In the Internet Protocol (TCP/IP) Properties dialog box, click in the radio button labeled Use the following IP address and type 192.168.1.x (where “x” is any number between 2 and 254) and 255.255.255.0 in the IP address field and Subnet Mask field.

11. Click on OK twice to save your changes and then close the Control Panel.

Windows® XP

1. In the Windows taskbar, click on the **Start** button then go to **Control Panel** and then click **Network Connections**.

2. In the **Network Connections** window, right click on the **Local Area Connection** icon and click on **Properties**.

3. Listed in the **Local Area Connection** window are the installed network components. Make sure the box for Internet Protocol (TCP/IP) is checked and then click on **Properties**.

4. In the Internet Protocol (TCP/IP) Properties dialog box, click on the radio button labeled **Use the following IP address** and type 192.168.1.x (where x is any number between 2 and 254) for the IP address field and 255.255.255.0 for the Subnet Mask field.

5. Click on **OK** twice to save your changes and then close the Control Panel.

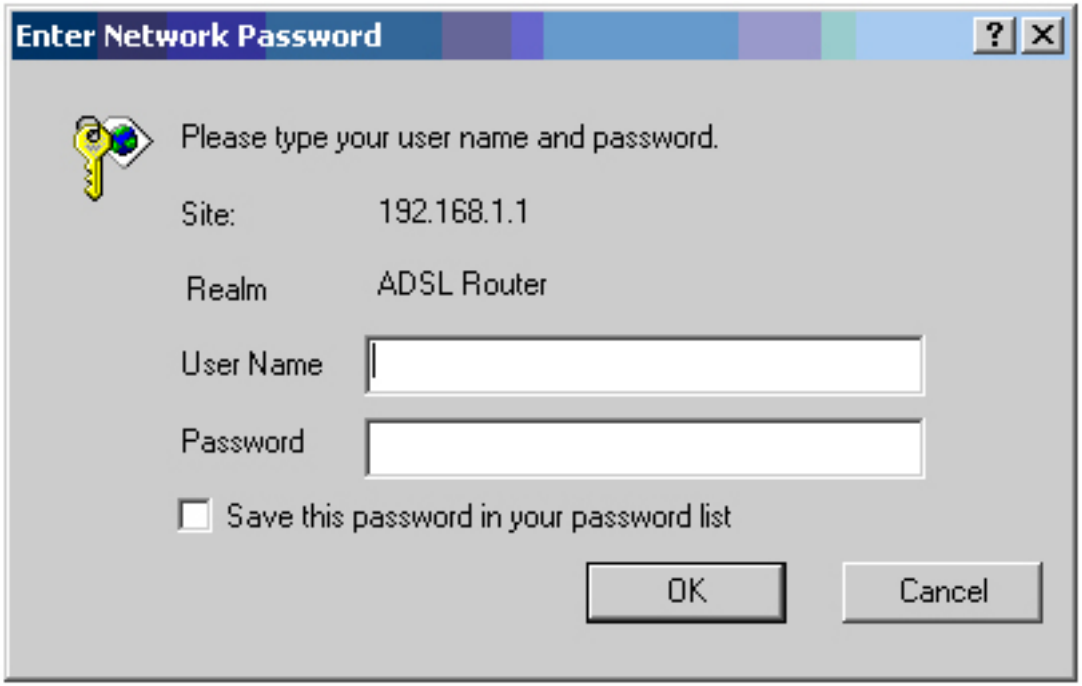
Log in to the Router

This section will explain how to log in to your router using the following steps:

1. Launch your web browser.

2. Enter the URL http://192.168.1.1 in the address bar and press **Enter**.

A login screen like the one below will be displayed after you connect to the user interface.



Note: *There are three account types, each requiring a different username and password.*

- The user account provides limited access to certain configurations (username / password: **user / user**).
- The admin account can perform all functions (username / password: **admin / admin**).
- The support account is for ISP technicians for maintenance purposes (username / password: **support / support**).

Note: *Passwords can be changed at any time.*

3. Enter your user name and password, and then click **OK** to display the user interface.

Note: *This manual has been prepared using the admin user name.*

Home

The home section provides configurations for general use, including a Quick Setup Wizard with steps to quickly set up your router for Internet connection. Also included in this section are LAN/WAN setup and DNS configuration. The below sections explains the setup for each.

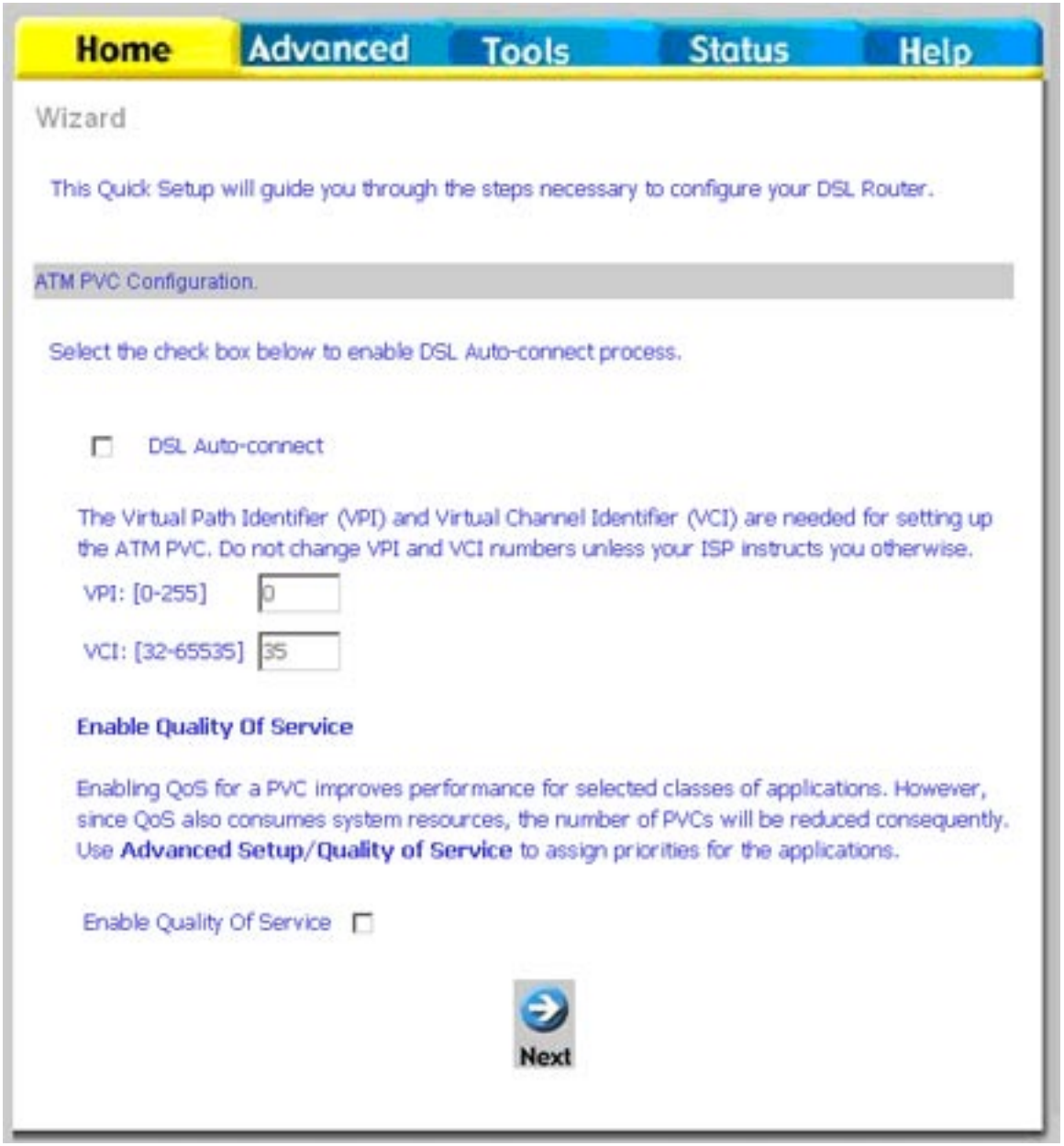
Wizard

This section will explain how to quickly configure the router if your only intention is to access the Internet.

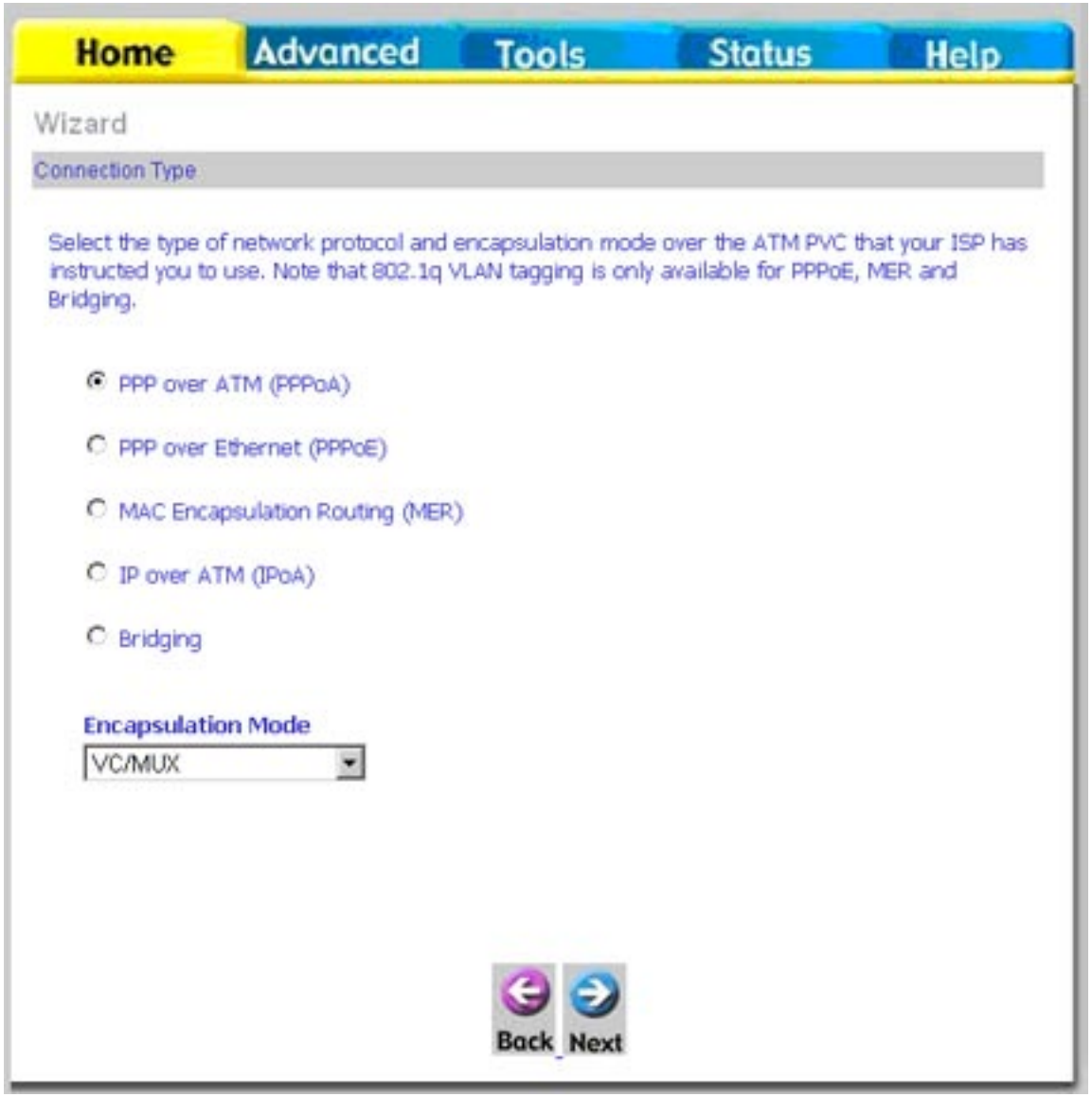
ATM PVC Configuration

To enable the auto-connect process, click on the box labeled **DSL Auto-connect**, a process that will automatically detect the first usable PVC and automatically detect PPPoE, PPPoA, and Bridge Protocol (with DHCP Server available). To continue, click on the **Next** button.

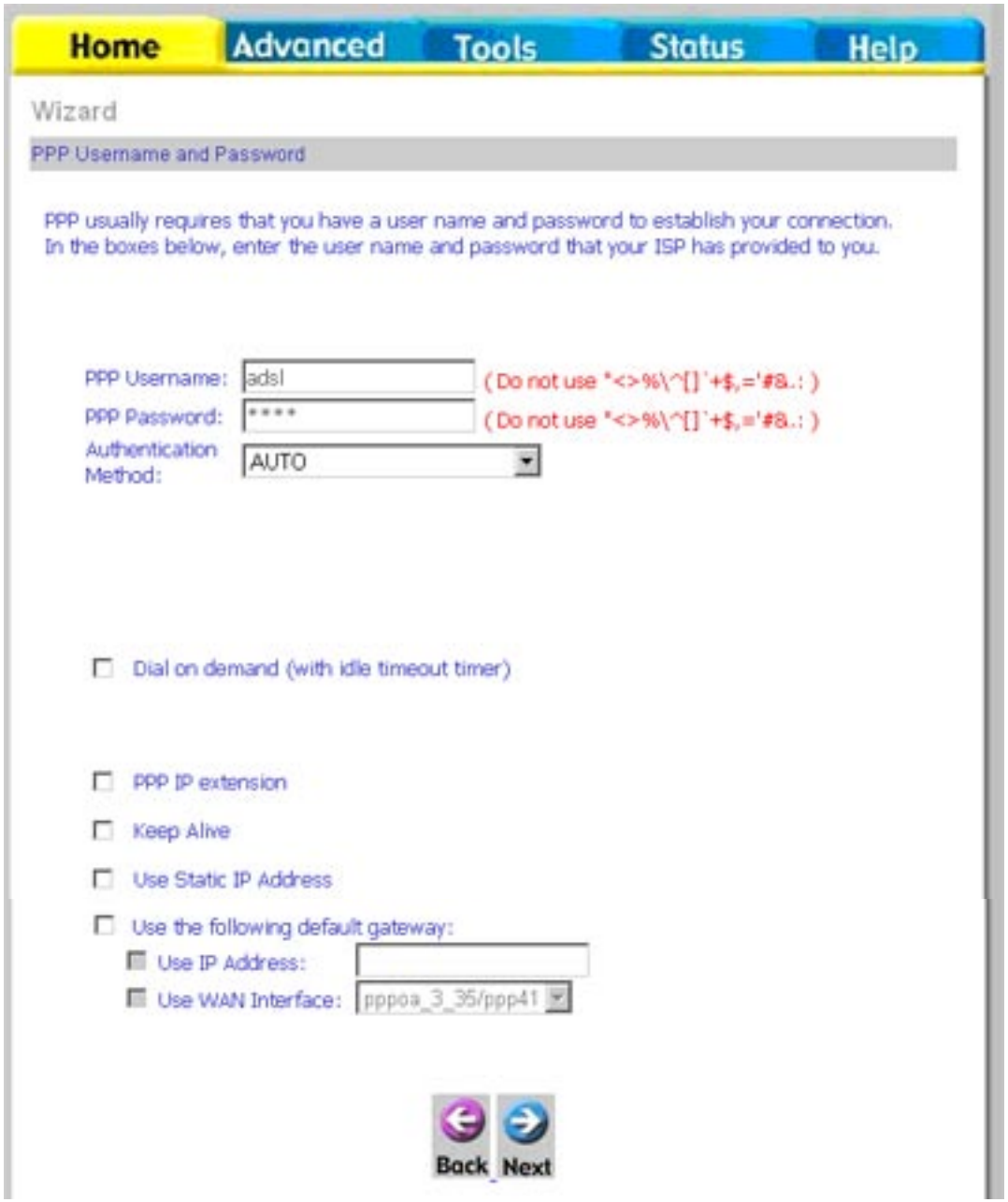
If you uncheck the **DSL Auto-connect** box, the resulting screen is seen below. Enter the VPI/VCI as indicated by your ISP. There is also an option to enable Quality of Service. When you are ready, click **Next** to continue.



Next is the Connection Type screen where you can select the type of network protocol and encapsulation mode over the ATM PVC that your ISP has instructed you to use. The following is a PPPoA example. Click **Next** to continue.

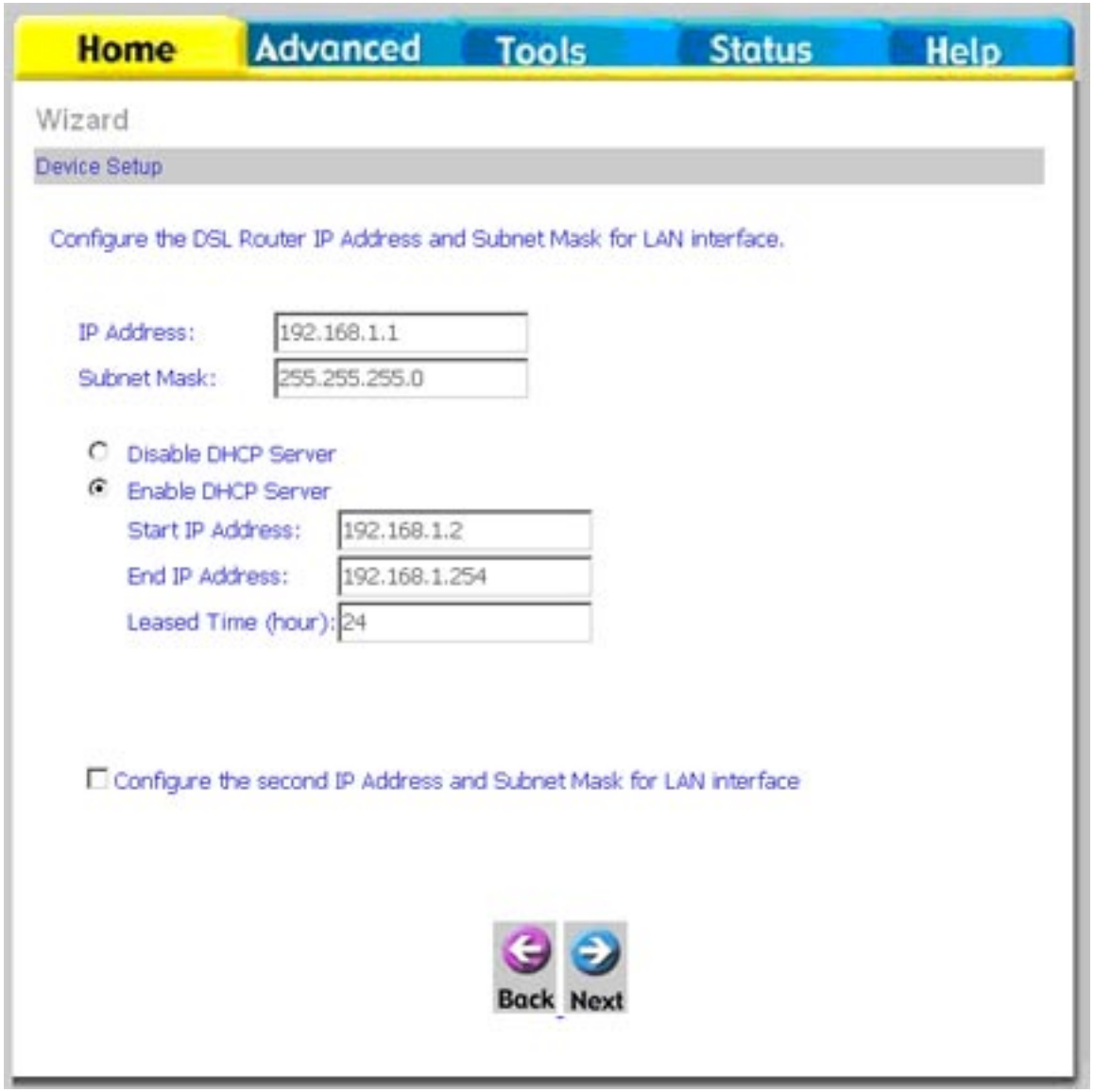


Enter the PPP username and password given by your ISP. Then decide if you will be using any features such as dial on demand, PPP IP extension, keep alive and then click on **Next**.

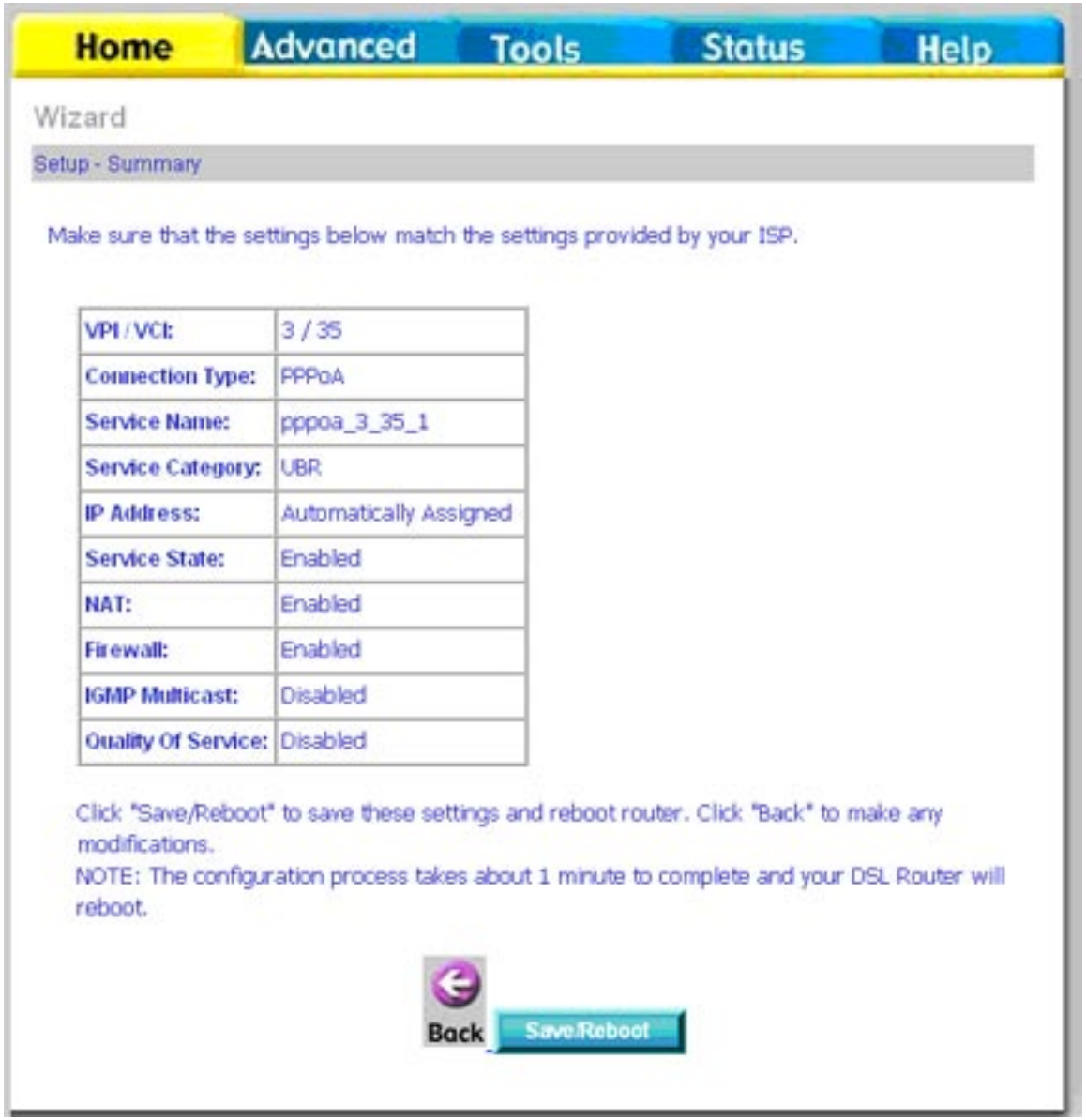


The next step is to configure the Network Address Translation (NAT) settings. For the example, NAT will be enabled. Leave the remaining fields at their defaults and click **Next** to continue.

In this section, you can configure the DSL Router IP address and Subnet Mask to make the LAN interface correspond to your LAN's IP Subnet. If you want the DHCP server to automatically assign IP addresses, then enable the DHCP server and enter the range of IP addresses that the DHCP server can assign to your computers. Disable the DHCP server if you would like to manually assign IP addresses. Click **Next** to continue.



After all WAN configurations are complete, the WAN Setup Summary screen displays all WAN settings that you have made. Check that the settings are correct before clicking on the **Save/Reboot** button. Clicking on **Save/Reboot** will save your settings and restart your router.



WAN

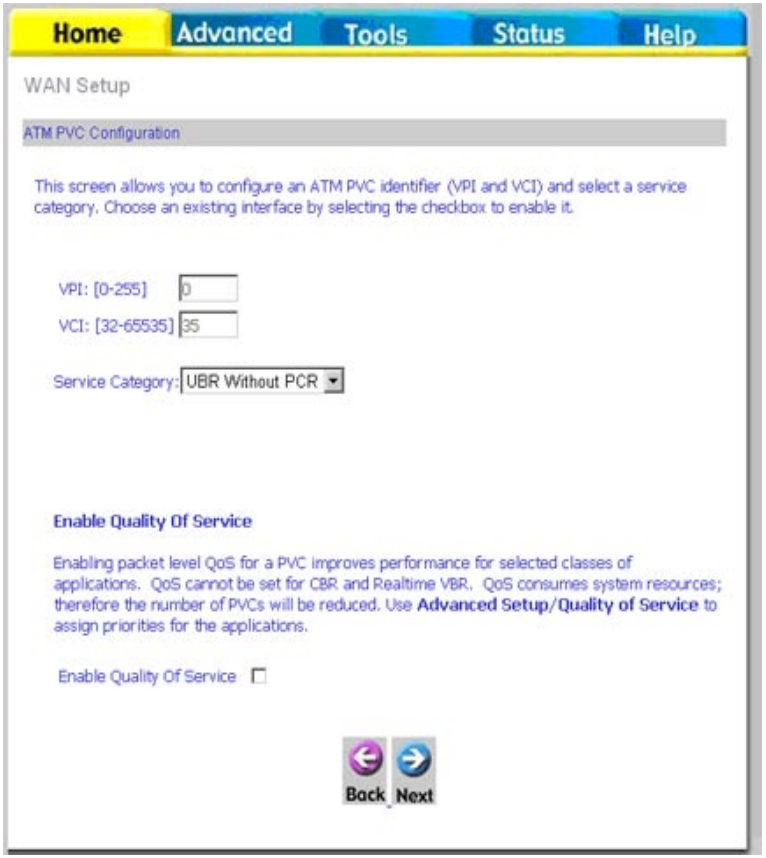
Configure the WAN settings as provided by your ISP.

Click on the **Add** button if you want to add a new connection for the WAN interface and to proceed to the ATM PVC Configuration screen as seen on page 21. The ATM PVC Configuration screen allows you to configure an ATM PVC identifier (VPI and VCI) and select a service category.

Note: *The Following settings are ISP dependant. For information regarding proper configuration, contact your ISP.*

VPI: Virtual Path Identifier. The valid range is 0 to 255.

VCI: Virtual Channel Identifier. The valid range is 32 to 65535.



Service Category: Five classes of traffic are listed:

UBR Without PCR (Unspecified Bit Rate without Peak Cell Rate): UBR service is suitable for applications that can tolerate variable delays and some cell losses. Applications suitable for UBR service include text/data/image transfer, messaging, distribution, and retrieval and also for remote terminal applications such as telecommuting.

UBR With PCR (Unspecified Bit Rate with Peak Cell Rate): UBR service is suitable for applications that can tolerate variable delays and some cell losses. The Peak Cell Rate is a determining factor in how often cells are sent in an effort to minimize lag or jitter caused by traffic inconsistencies.

CBR (Constant Bit Rate): Used by applications that require a fixed data rate that is continuously available during the connection time. It is commonly used for uncompressed audio and video information such as videoconferencing, interactive audio (telephony), audio / video distribution (e.g. television, distance learning, and pay-per-view), and audio / video retrieval (e.g. video-on-demand and audio library).

Non Realtime VBR (Non-Real-time Variable Bit Rate): Can be used for data transfers that have critical response-time requirements such as airline reservations, banking transactions, and process monitoring.

Realtime VBR (Real-time Variable Bit Rate): Used by time-sensitive applications such as real-time video. Rt-VBR service allows the network more flexibility than CBR.

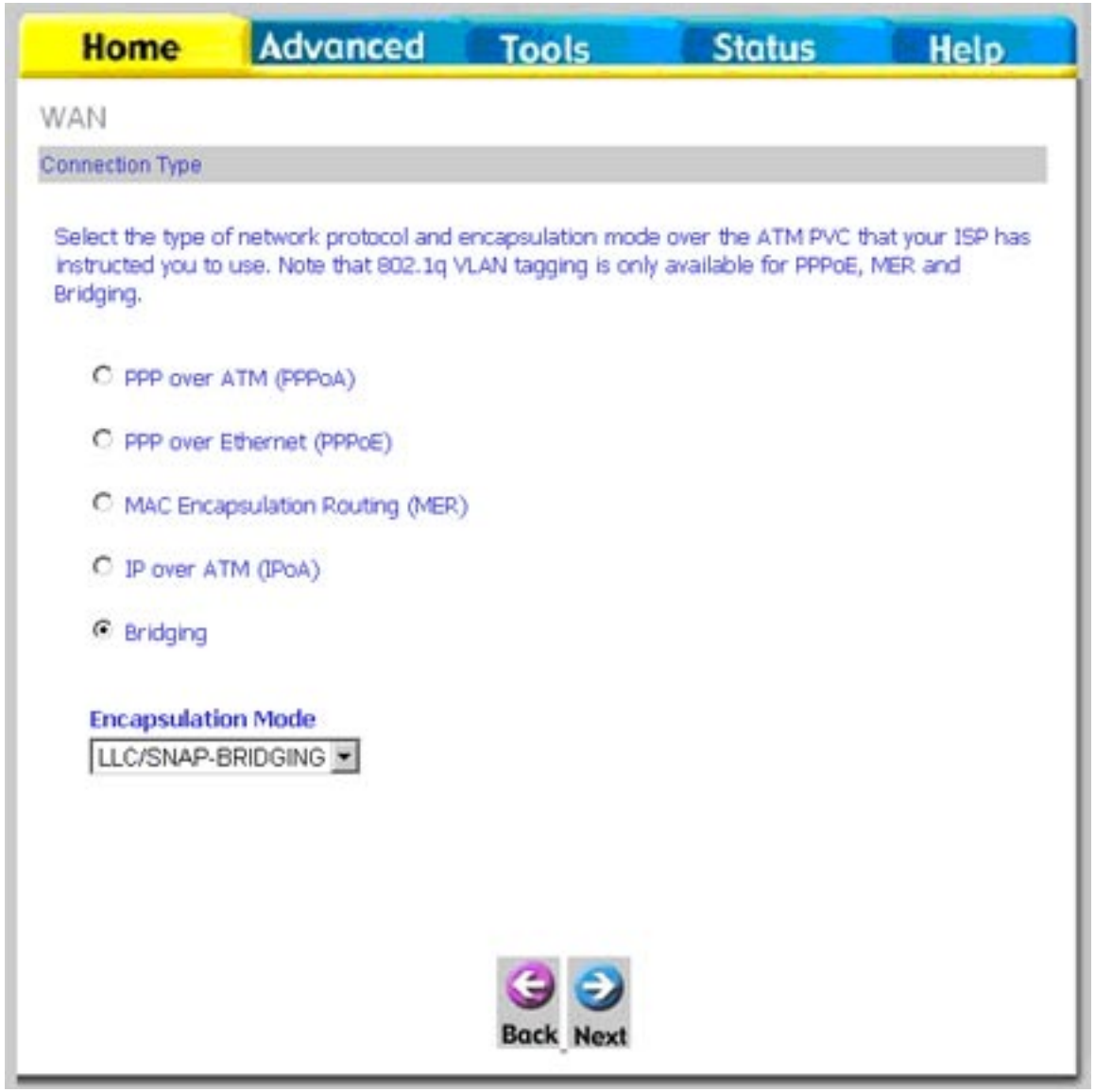
Quality of Service: Can be enabled only for UBR without PCR, UBR with PCR, and Non Realtime VPR.

This screen shows the types of network protocols and encapsulation modes that can be configured:

- PPP over ATM (PPPoA)
- PPP over Ethernet (PPPoE)
- MAC Encapsulation Routing (MER)
- IP over ATM (IpoA)
- Bridging

If you will be using VLAN tagging, click on the Enable 802.1q checkbox and then enter the VLAN ID number. When finished with your selections, click **Next** to continue.

Note: *These settings are ISP dependant. For information regarding proper configuration, contact your ISP.*



The following screen allows you to enter PPP username and password as well as make any selections regarding your connection.

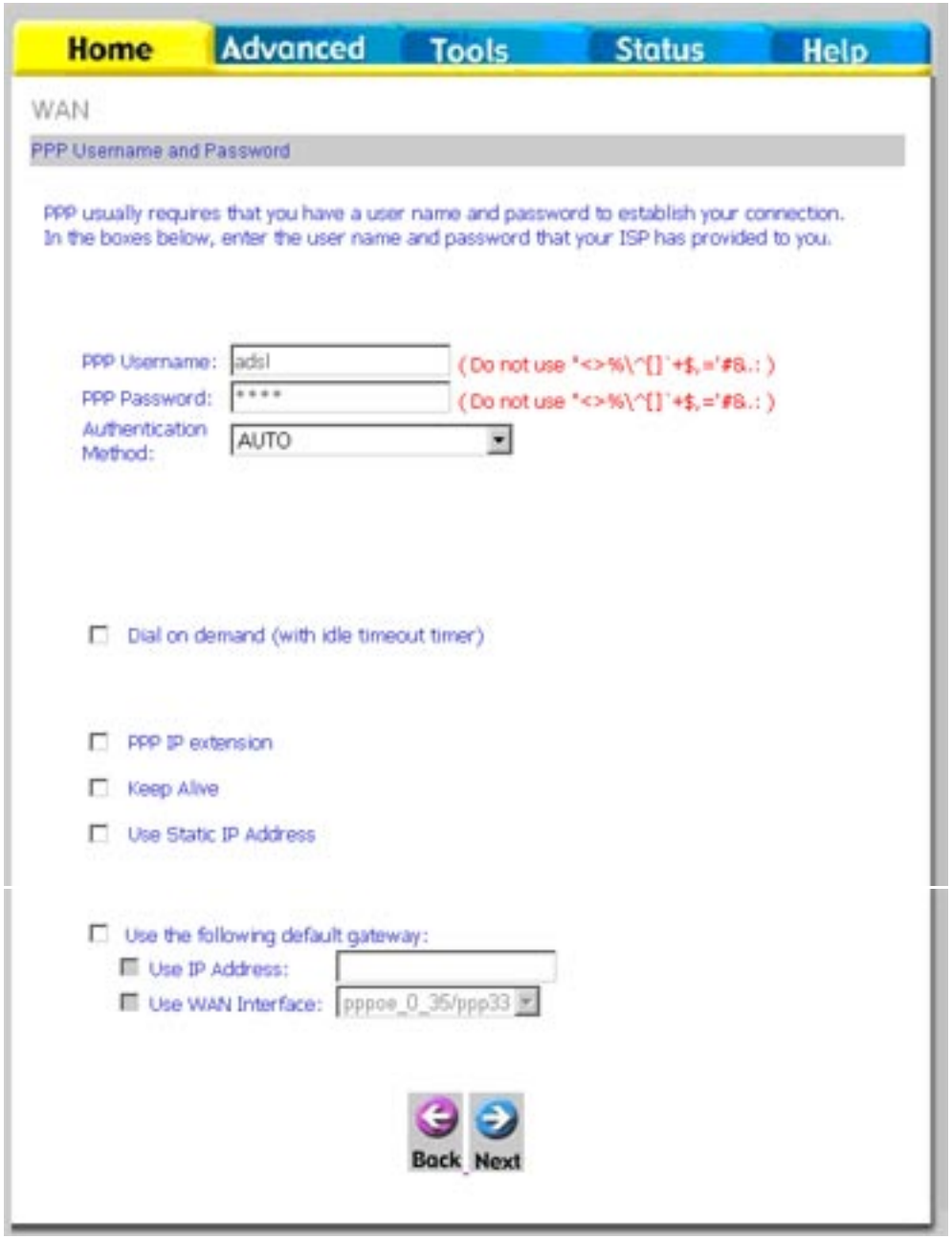
Dial on demand: Allows you to manually connect to the Internet so you are not permanently connected. Idle timeout timer is included.

PPP IP extension: Used by some ISP's. Check with your ISP to see if it is required.

Keep alive: Keeps you connected to your ISP even when no activity is present for a certain period of time.

Use static IP address: Select if you want to use a non-DHCP issued IP address to connect to the Internet. If selected, you will be asked to enter the static IP address.

Note: *These settings are ISP dependant. For information regarding proper configuration, contact your ISP.*



When finished, click **Next** to proceed to the NAT Settings screen.

This screen allows you to configure the Network Address Translation settings for the router.

Enable NAT: Select enable if you wish to share one WAN IP address for multiple computers on your LAN.

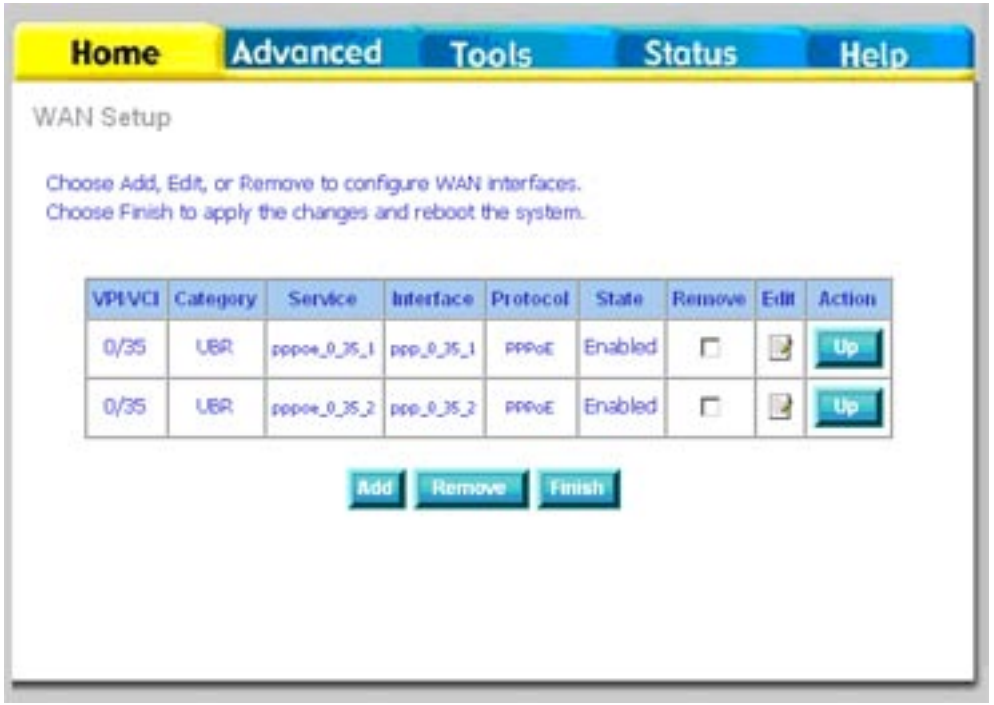
Enable Firewall: Select if you wish to enable the router's firewall for security.

Enable IGMP Multicast: Select enable if you wish to be able to provide multicasts, mostly used in video streaming.

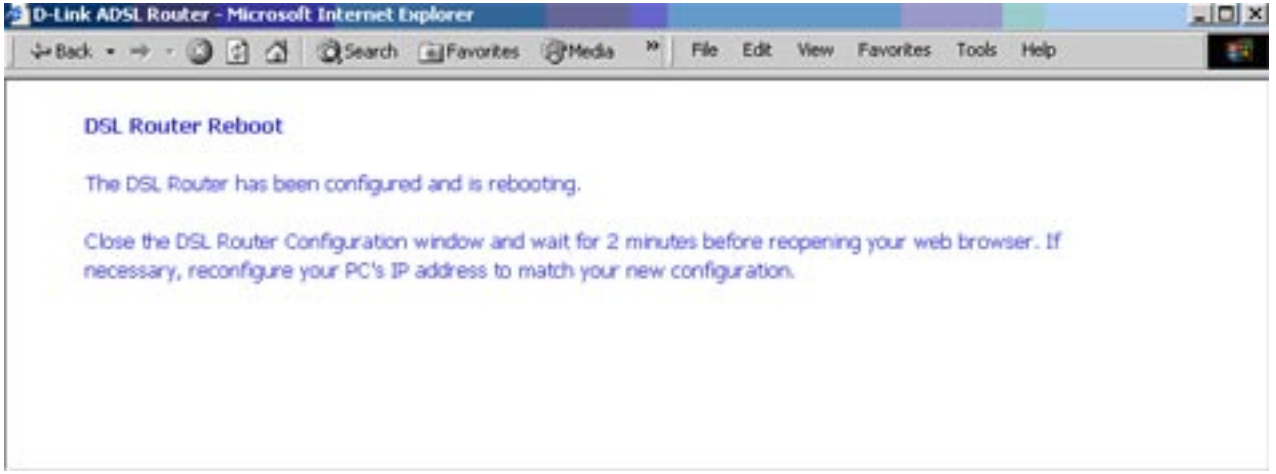
Enable WAN Service: Select if you wish to use WAN service and then set the service name.

When finished, click the **Next** button and the following WAN summary screen will be displayed. This screen will outline all WAN settings for review. When satisfied with the settings click on the **Apply** button.

After you apply the configuration, it will return to the WAN Setup screen showing the new configuration. Select the **Finish** button to save the changes and reboot the router.



When the router restarts the DSL Router Reboot screen will appear during the reboot process.



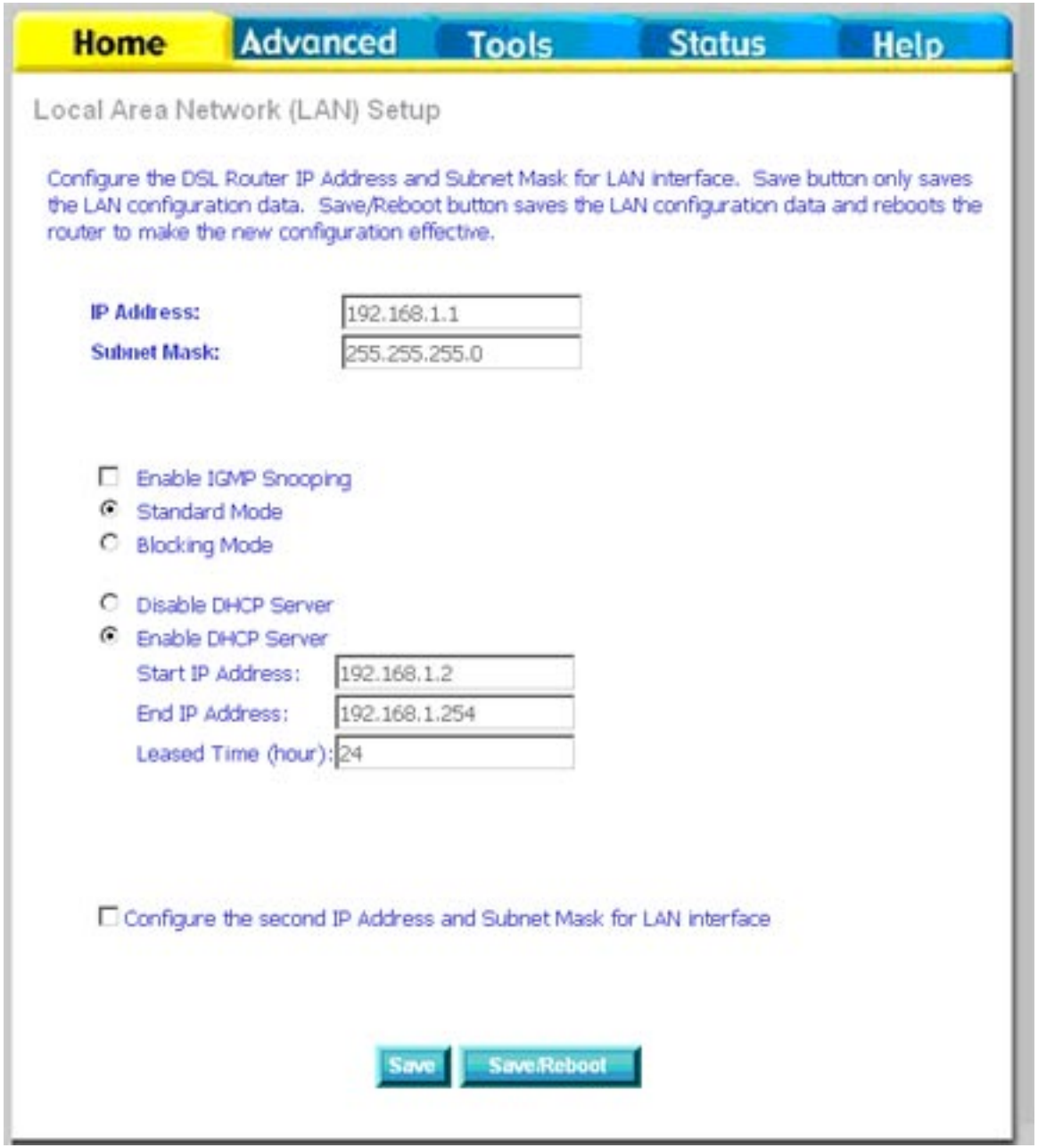
LAN

You can configure the DSL Router IP address and Subnet Mask for the LAN interface.

If you will be multicasting (e.g. video streaming) you can enable IGMP snooping. IGMP snooping allows the router to efficiently determine where the multicast traffic came from and where it is headed. There are two IGMP snooping options: standard or blocking mode.

If you want the DHCP server to automatically assign IP addresses, select enable DHCP server and enter the range of IP addresses that the DHCP server can assign. Select Disable DHCP server if you would like to manually assign IP addresses.

The **Save** button only saves the LAN configuration data, but does not apply the configuration. Select the **Save/Reboot** button to save the LAN configuration data, reboot the router and apply the new configuration.

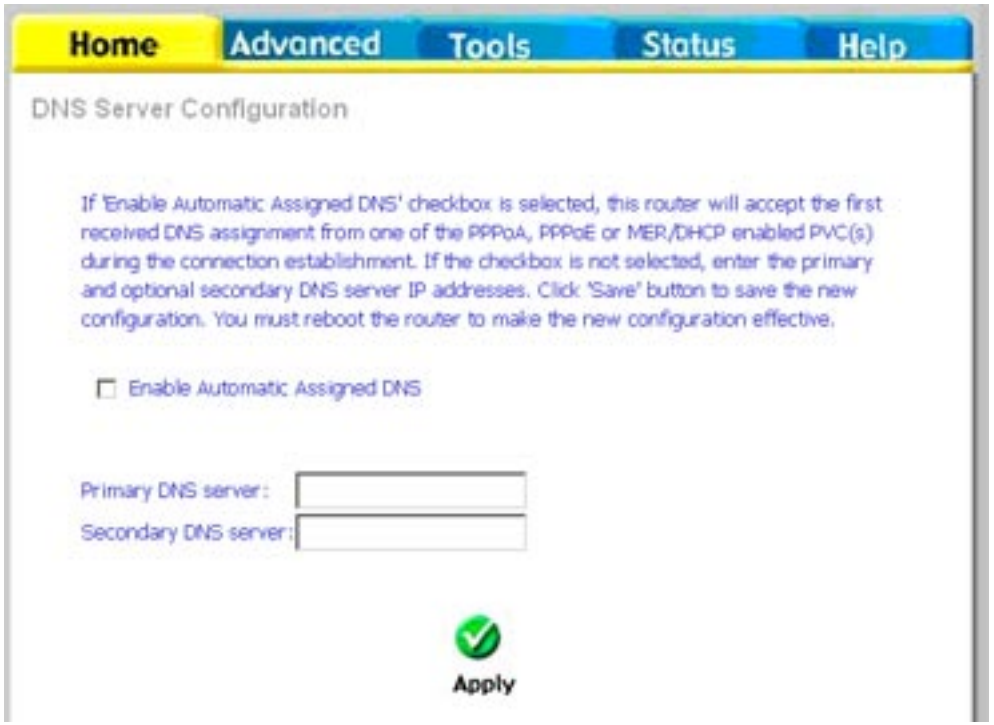


DNS

DNS Server Configuration

Use the DNS Server screen to request automatic assignment of a DNS or to specify a primary and secondary DNS.

If you uncheck the **Enable Automatic Assigned DNS** checkbox, two additional fields will appear: **primary** and **secondary DNS server**. Enter one primary and one secondary DNS address in each field. Click **Apply** to save the configuration.



Dynamic DNS

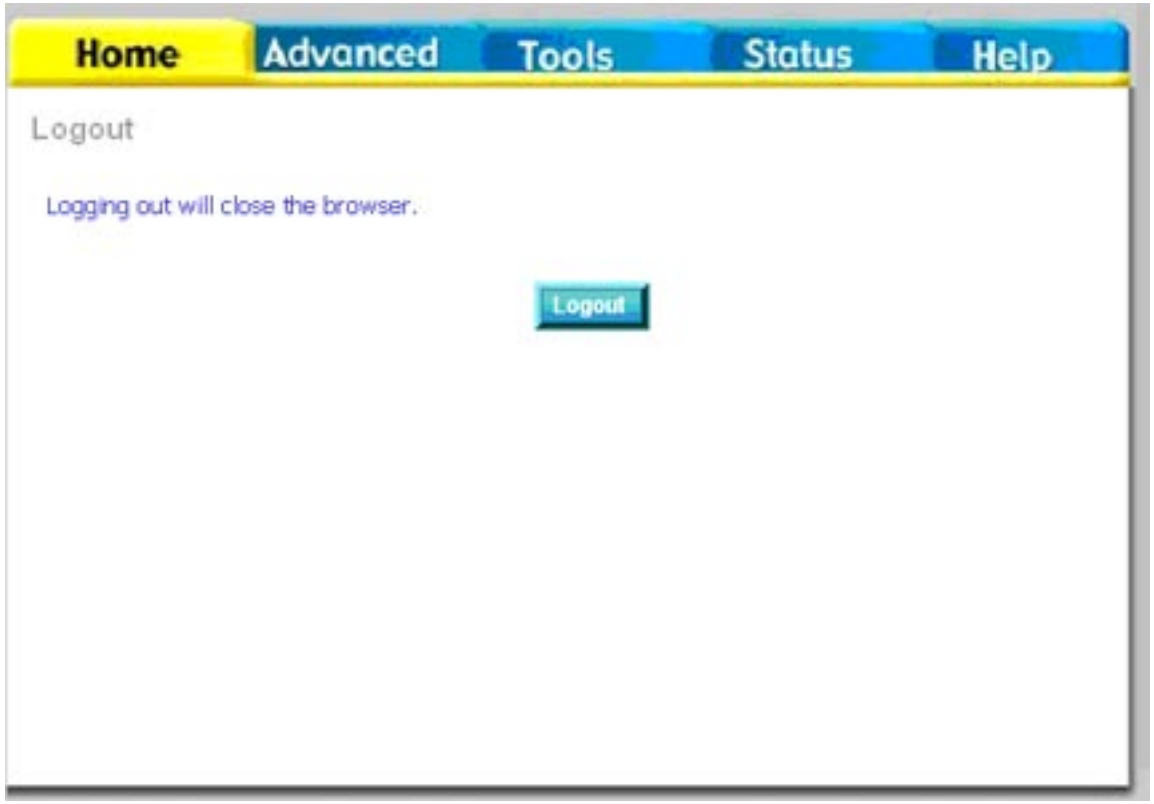
Dynamic DNS is a service for allowing an Internet domain name to be assigned to a changing IP address. This makes it possible for other sites on the Internet to establish connections to you without needing to track the IP address themselves.

Click on Add to set up a dynamic DNS configuration.

This screen allows you to add a dynamic DNS address from DynDNS.org or TZO. First select the DDNS provider (*DynDNS.org or TZO)* from which you have obtained a dynamic DNS address. Enter the hostname and the interface that you are using. Also enter the username and password assigned by the DNS service. Click on **Apply** to save these configurations.

Logout

To log out of the router's user interface at any time during the setup, click on the **Logout** button. A confirmation screen will appear confirming that you really want to log out.



Advanced Setup

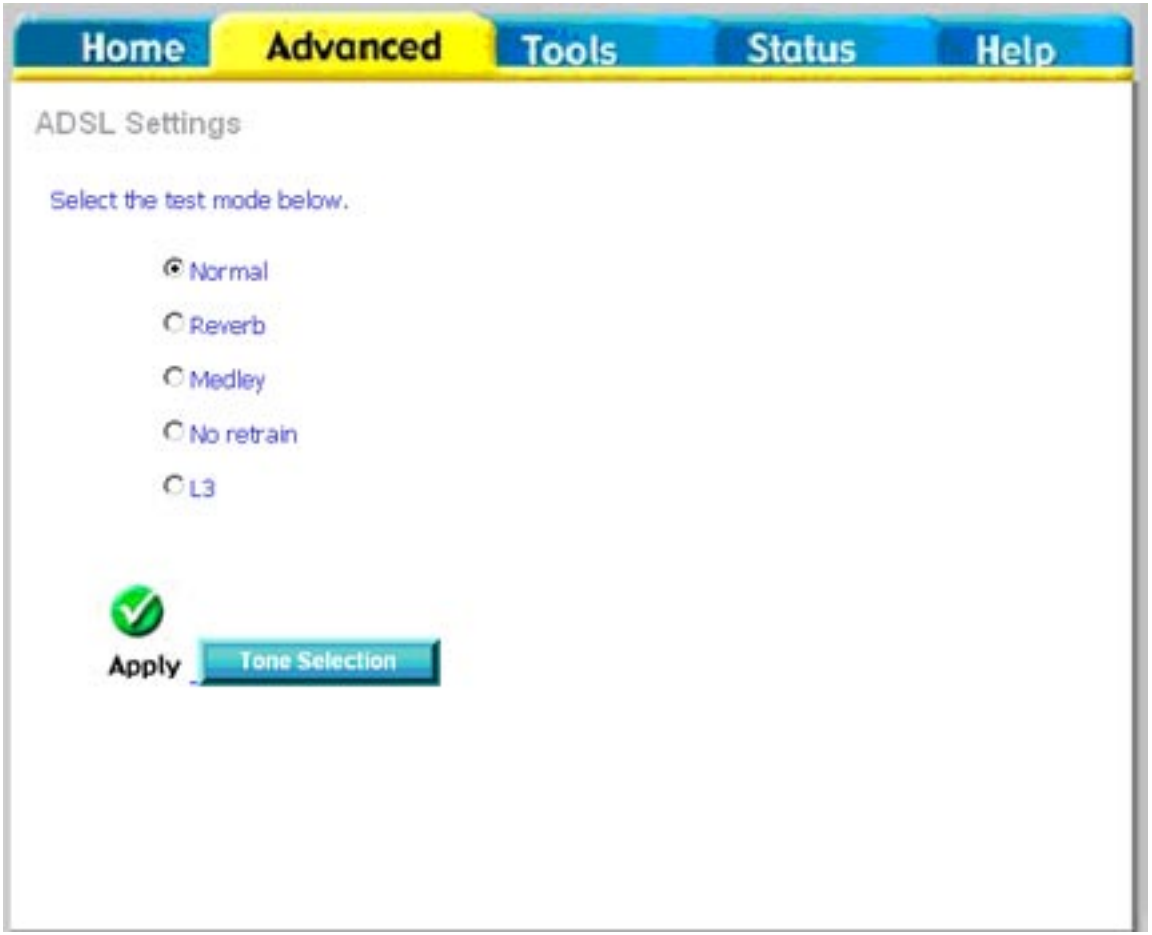
This section of the setup is an advanced version of the quick setup. If you want to make specific configurations to your router such as creating a virtual server, DMZ, RIP, Quality of Service (QoS), etc., consider going through this advanced setup for a more comprehensive configuration.

ADSL

The ADSL settings page contains modulation and capability settings. Consult your ISP to determine the correct settings. Click **Apply** if you are finished or click on **Advanced Settings** if you want to configure more advanced settings.

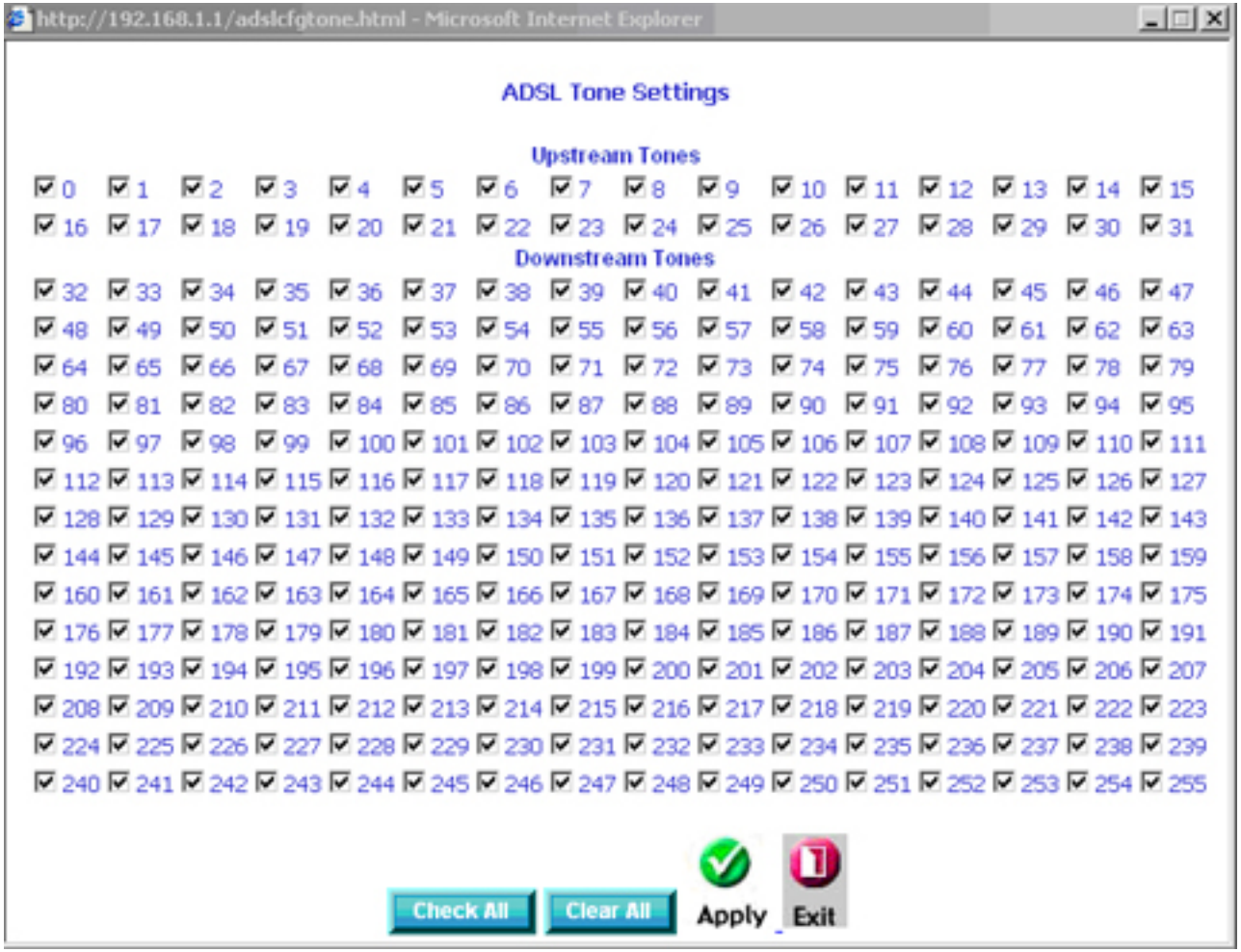
ADSL Settings

The test mode can be selected from the ADSL Advanced Settings page. Test modes include normal, reverb, medley, no retrain, and L3. After you make your selection, click on **Apply** to save these settings first before you go to **Tone Selection**.



ADSL Tone Settings

The frequency band of ADSL is split into 256 separate tones, each spaced 4.3125 kHz apart. Each tone carries separate data, so the router operates as if 256 separate routers were running in parallel. The tone range is from 0 to 31 for upstream and from 32 to 255 for downstream. Do not change these settings unless directed by your ISP.



Virtual Server

If you enable NAT (Network Address Translation), you can configure the Virtual Server, Port Triggering, and DMZ Host.

NAT—Virtual Servers Setup

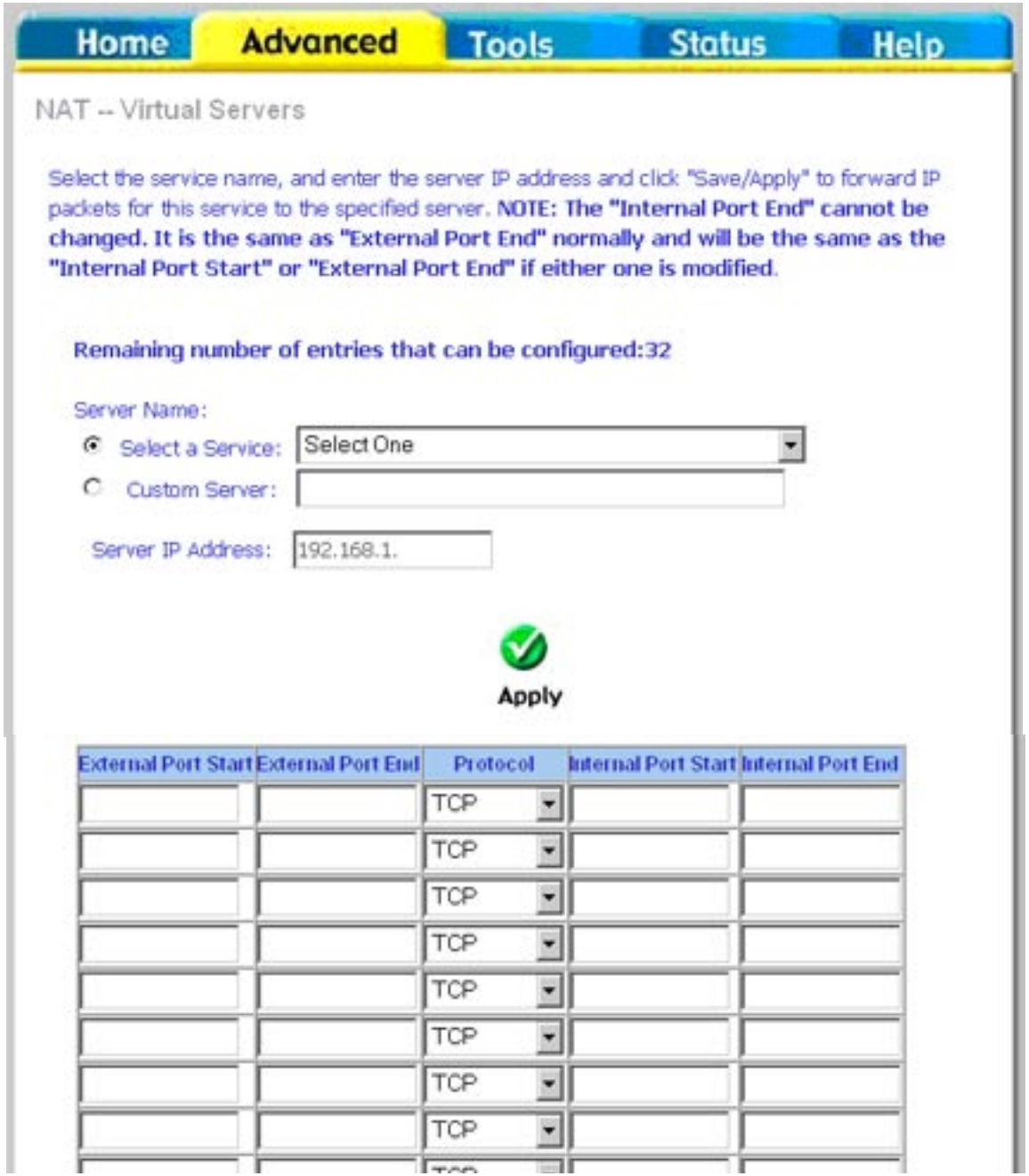
A virtual server allows you to direct incoming traffic from the WAN side to a specific IP address on the LAN side. This is useful if you have software that requires communication with the Internet (e.g. peer-to-peer, games, etc.).

This figure shows the Virtual Servers Setup page that allows you to configure your virtual server(s). Click on the **Add** button to configure a virtual server.

Select a virtual server from the drop-down list and then enter the server IP address. The Server IP Address would normally be the IP address of the computer on your network which is using the application or game.

See **Networking Basics** in the Appendix section of this manual to determine your IP address.

Once you are satisfied with your selection, click **Apply** once.



The following screen appears after you save your selection. To add additional virtual servers, click on the **Add** button. If you need to remove any of the server names, select the check box in the remove column and click on the **Remove** button.

DMZ

You can define the IP address of the DMZ Host on this screen. The DMZ is used to forward all IP packets coming into the router to a specified IP address. Enter the IP address and click **Apply**.

SNMP

SNMP (Simple Network Management Protocol) is a network protocol that provides a means to monitor the status and performance of the router, as well as make configuration changes. It enables a management station to configure, monitor and receive trap messages from network devices that are configured for SNMP.

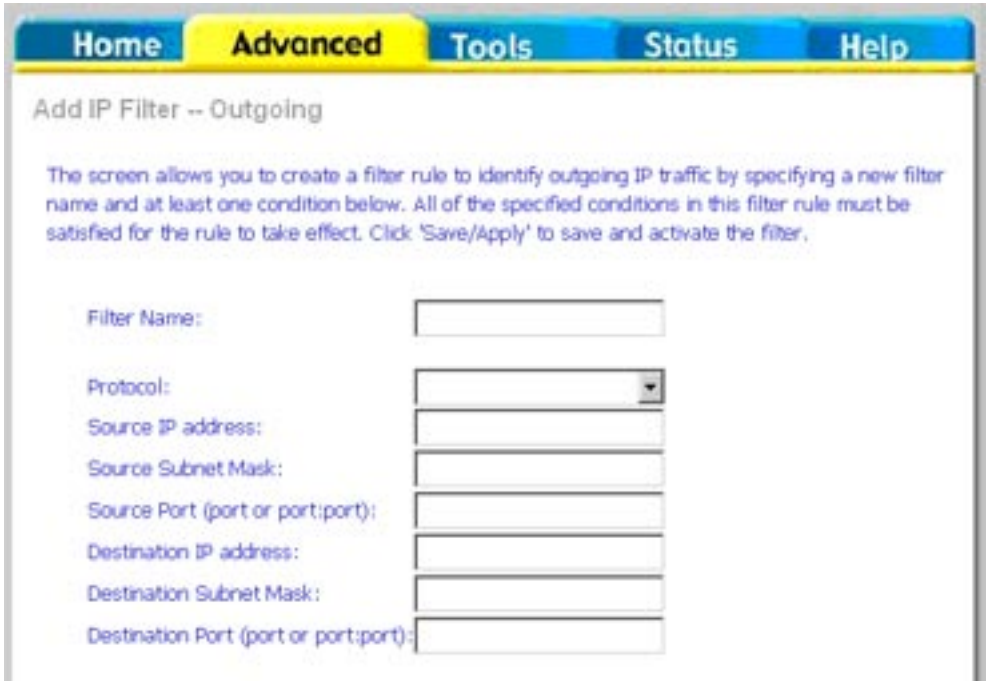
To configure the SNMP agent select **Enable,** Enter a Read Community, Set Community, System Name, Location, Contact, and the IP address of the Trap Manager. To save the configuration click **Apply.**

Filter Outbound

Outgoing IP Filtering Setup

The outgoing filter will block the LAN traffic from entering the WAN side. Click on the **Add** button to create filters.

This next screen will appear when you click **Add**. Enter the filter name, source information (from the LAN side), and destination information (from the WAN side). Then click **Apply** to save.



The following screen will appear when you create an IP filter. This screen lists the IP filters that were added from the previous screen. To change your settings, click on the **Add** or **Remove** buttons.

Filter Inbound

Incoming IP Filtering Setup

Incoming IP filter allows specified the WAN traffic to pass through the firewall. Click the **Add** button to add incoming filter settings.

The Add IP Filter screen will appear when you click **Add**. Enter a filter name, protocol, source address information (from the WAN side) and destination address information (to the LAN side). Select the WAN interface and when ready, click **Apply** to add the filter.

The following screen appears when you create an IP filter. The screen lists the IP filters that were added from the previous screen. To change your settings, click the **Add** or **Remove** buttons.

Bridge Filters

MAC Filtering Setup

MAC filtering can forward or block traffic by MAC address. You can change the policy or add settings to the MAC filtering table using the MAC Filtering Setup screen.

If you click **Change Policy**, a confirmation dialog allows you to verify your change. Select **Yes** to continue, or **No** to cancel.

If you want to add an entry to the MAC filtering table, Select **Add** from the MAC Filtering Setup screen. The Add MAC Filter screen should then appear. Select a Protocol Type, enter the Destination and Source MAC address, the necessary Frame Direction, and WAN interface (bridge mode only). Click **Apply** to save.

After you save the settings, a screen showing the settings will appear. On this screen you will be able to view and delete MAC filtering rules.

Routing

Routing - Static Route

The Static Route page can be used to add a routing table (a maximum of 32 entries can be configured). To proceed, click **Add**.

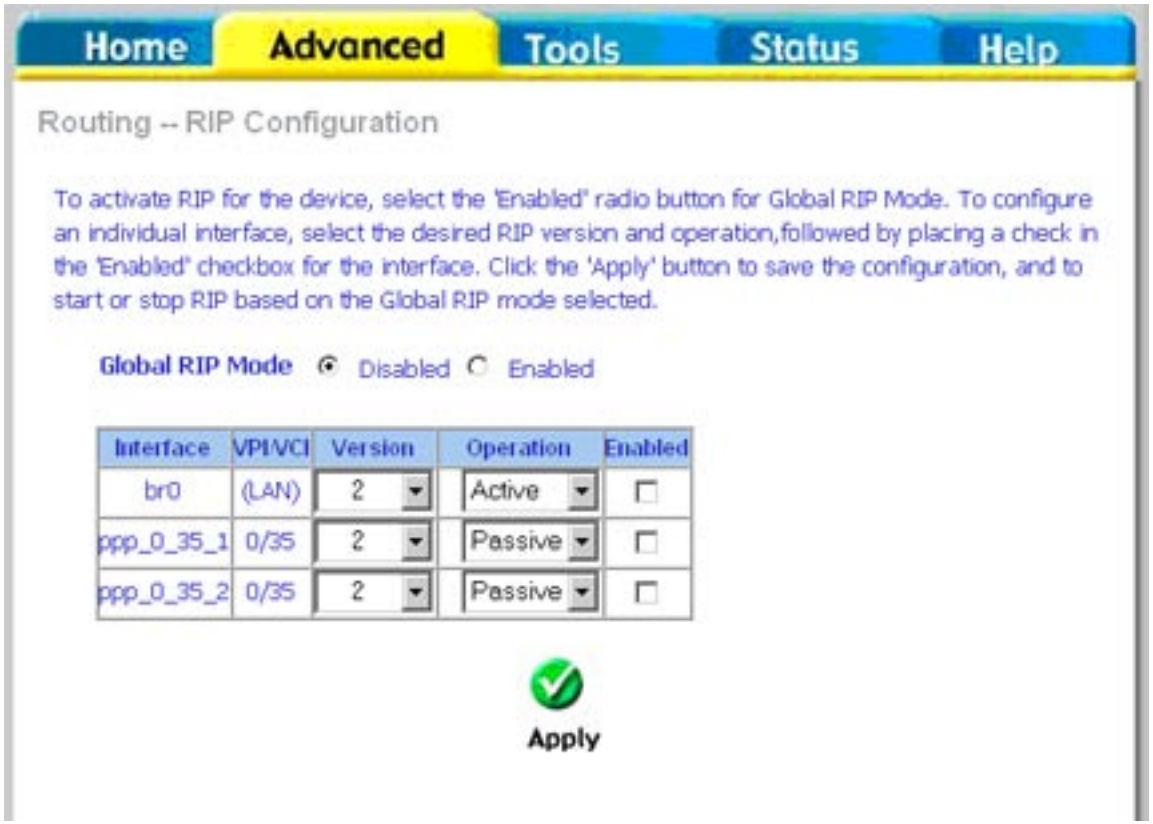
On the Static Route Add page, enter the destination network address, subnet mask, gateway and select an available WAN interface. When complete, click **Apply**.

RIP

RIP (Routing Information Protocol) is a process of moving a packet from one node to another by forwarding the packet to the next router. It determines a route based on the smallest hop count between source and destination routers.

If RIP is enabled, the router operation can be configured as active or passive. Click **Apply** to save any changes.

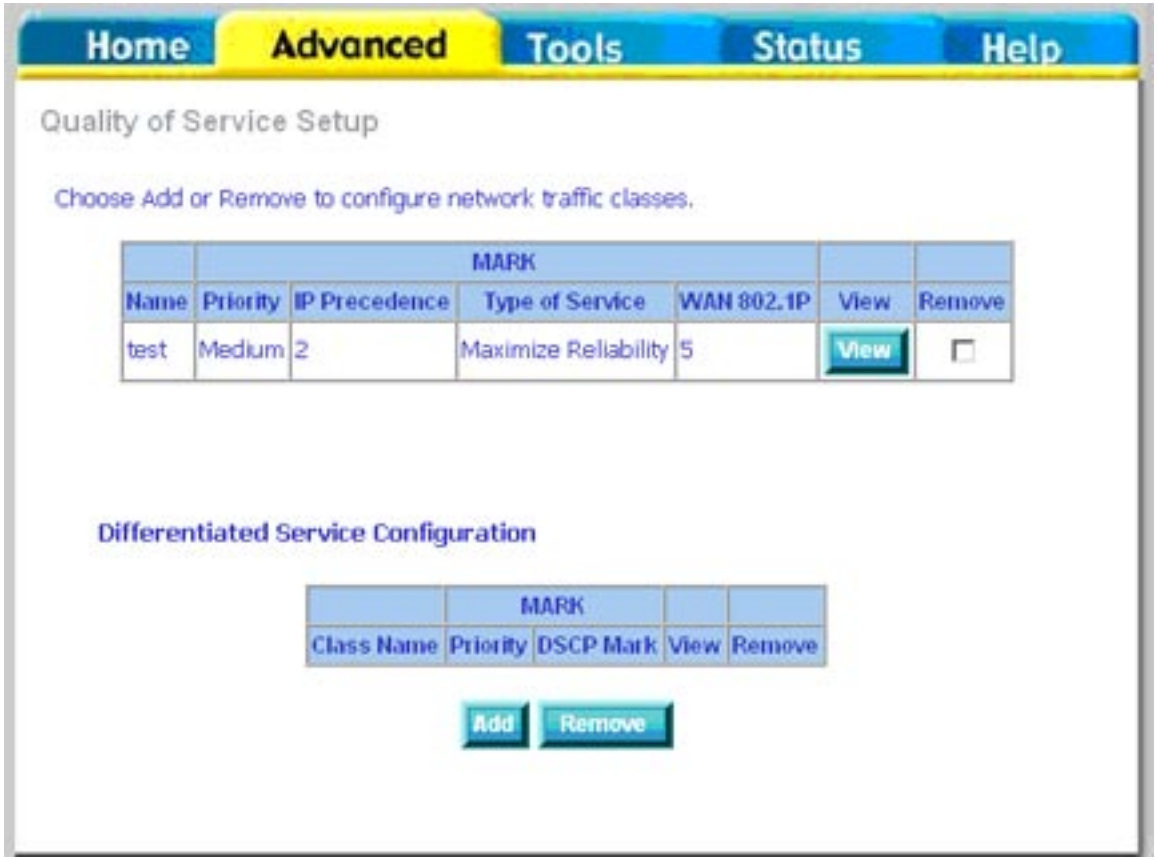
If RIP is set to active, the router will advertise its routes (reachability information) to others; if RIP is set to passive, the router will not advertise its routes, but will listen and update its routes based on other routers' advertisements.



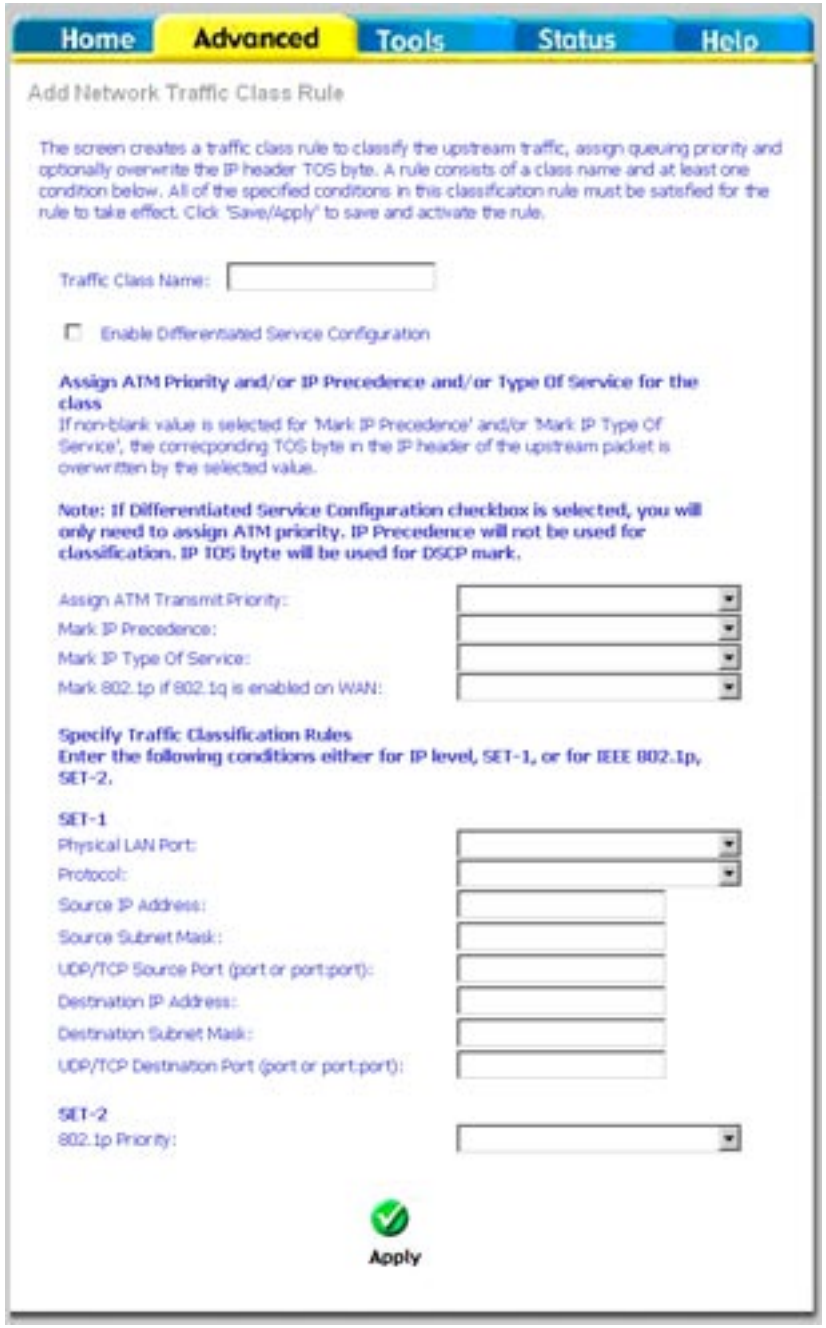
Quality of Service

QoS (Quality of Service) is a method of identifying, classifying and assigning priorities to traffic that passes through the router. This ensures that time sensitive data (e.g. video streaming) is given priority over other non-essential data.

You can configure the Quality of Service to apply different priorities to traffic on the router. Click **Add** to view the Add Network Traffic Class Rule screen.



This screen allows you to add a network traffic class rule. A rule consists of a traffic class name and at least one condition. All configured conditions must first be met before the rule takes effect. Click **Apply** to save any changes.



Tools

The tools section contains various administrator functions to maintain your router. Sections include the following: Admin, Time, Remote Log, System, Firmware, and Test.

- Admin: Allows you to change the password for the various user names available
- Time: Allows you to set the router's time
- Remote Log: Allows you to view logs of the router's activities
- System: Allows you to perform functions such as save/reboot, backup, update settings, and restore default settings
- Firmware: Allows you to upgrade your router with new available firmware versions
- Test: Allows you to view test information for your Internet connection

Admin

There are three usernames and passwords (**admin, support**, and **user)** that can be used to control your router. The passwords for these usernames can be changed on the Admin screen. Select the Username, enter the Old Password, enter a New Password, and then confirm the new password. When you are ready, click **Apply** at the bottom of the page.

Time

The Time Settings page allows you to automatically synchronize your time with a time server on the Internet.

To set the router's time, click on the **automatically synchronize with Internet time servers** checkbox. Addional time settings will appear below the checkbox.

Select from the list of NTP (Network Time Protocol) time servers. Then select the time zone that you are in and click **Apply** to save.

Remote Log

The System Log screen allows you to view the system log and configure the system log options.

To view the system log, click on the **View System Log** button.

Note: *When you click on the View System Log button, the System Log screen is located under the Status section (see screen on right). To return to the previous screen to configure system log, remember to click on the Tools tab (located on top row) first and then click on Remotelog.*

The System Log screen shows the date/time of the log, the facility that was logged, the severity level and the log message. Click on **Refresh** to view any new information that has been logged.

System log when log is disabled.

If the log is enabled, the system will log selected events including Emergency, Alert, Critical, Error, Warning, Notice, Informational, and Debugging. All events above or equal to the selected log level will be logged and displayed.

System log when log is enabled.

To configure the system log, click the **Configure System Log** button.

From the configuration screen, set the log to Enable, select the Log Level, Display Level and Mode. If the selected mode is “Remote” or “Both”, events will be sent to a specified IP address and UDP port of a remote system log server. If the selected mode is “Local” or “Both”, events will be recorded and viewed locally. Select the desired values and click **Apply** to save the system log options.

System

The system section includes several tools on one page, including save and reboot, backup settings, update settings, and restore default settings.

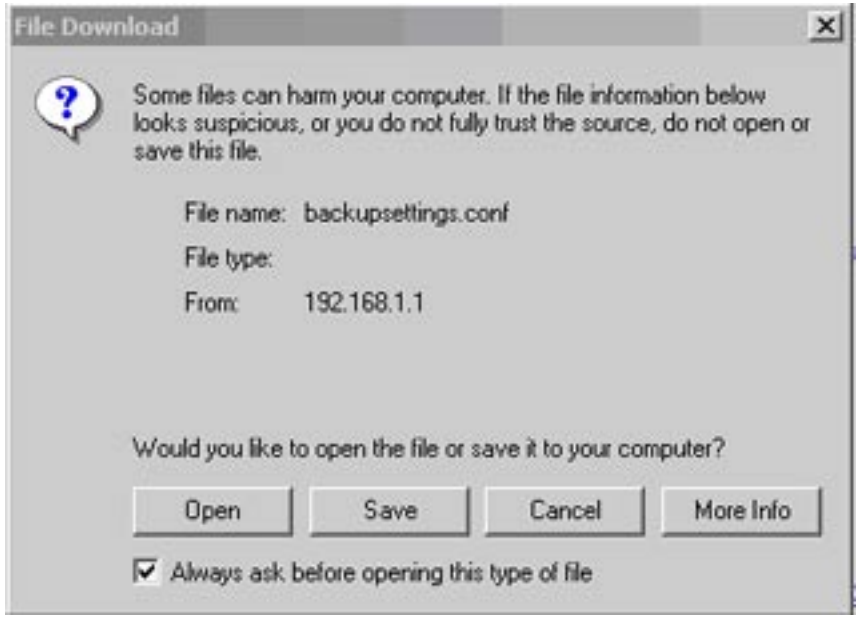
Save and Reboot

The Save/Reboot button, when clicked, will save all configuration changes made on the router and restart the device. All new configuration settings will take effect when the router starts up again.

Backup Settings

The Backup Settings button allows you to save your router configuration to a file on your computer so that it may be accessed again later. This feature is useful if you have changed the configuration on the router, but would like to revert to a previous configuration.

To save your current configuration, click the **Backup Settings** button. The following pop-up screen will appear with a prompt to open or save the file to your computer.



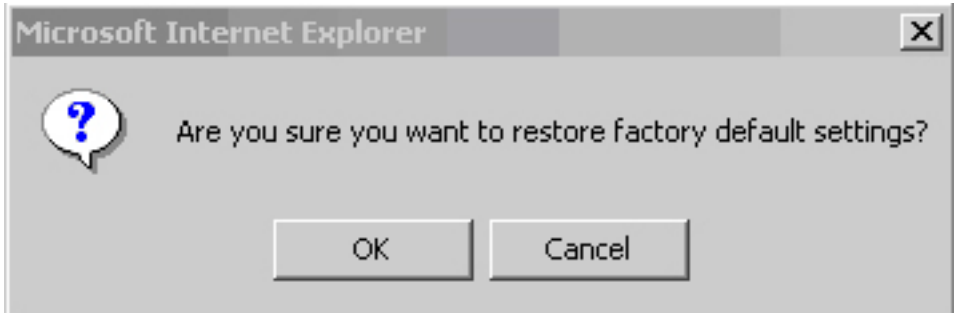
Update Settings

To load a previously saved configuration file onto your router, click **Browse**, select the file on your computer and then click on Update Settings.

The router will restore settings and reboot to activate the restored settings.

Restore Default Settings

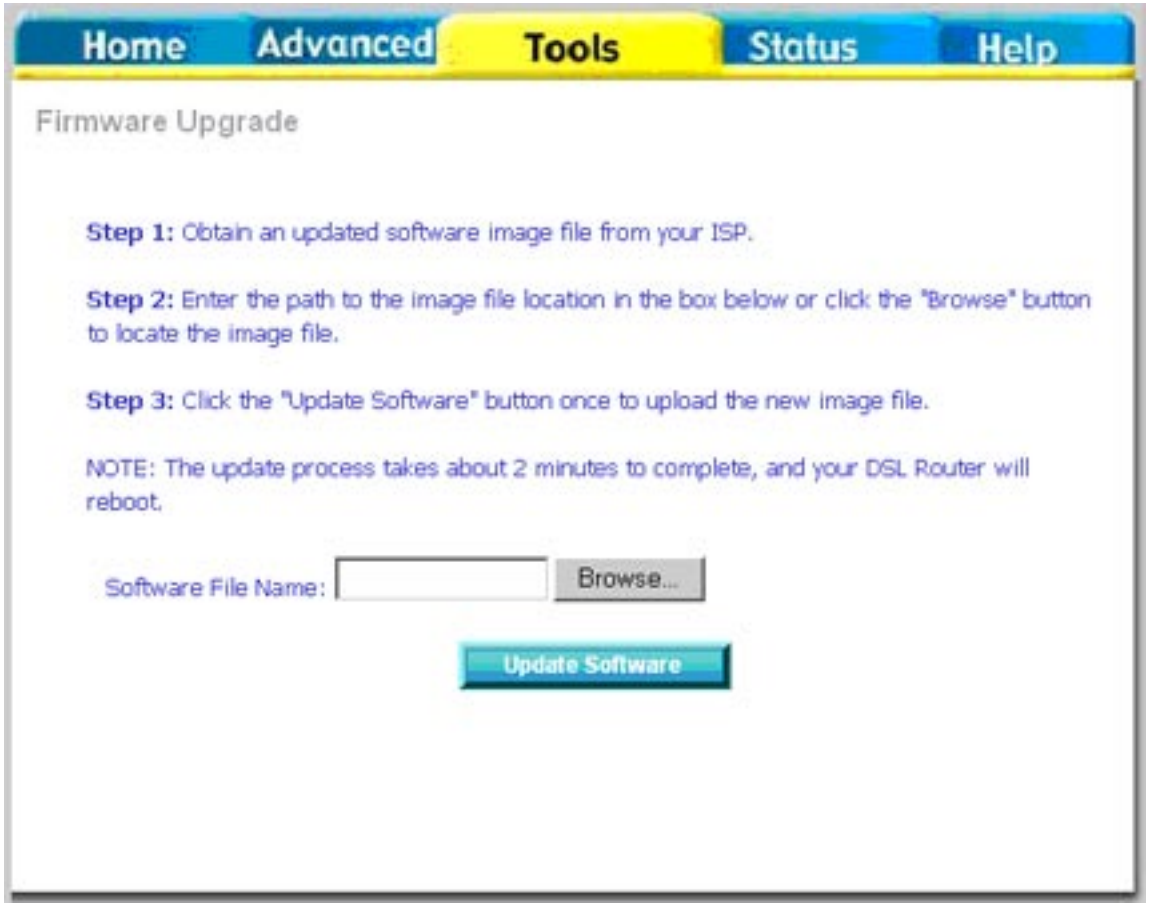
Restore Default Settings will delete all current settings and restore the router to factory default settings. Click on the **Restore Default Settings** button to proceed. The following confirmation dialog will appear confirming your decision to restore default settings. Click on **OK** to continue.



Firmware

If your ISP releases new software for this router, follow these steps to perform an upgrade.

1. Obtain an updated software image file (firmware) from your ISP.
2. Enter the path of the image file location or click the **Browse** button to locate the image file.
3. Click the **Update Software** button once to upload the new image file.



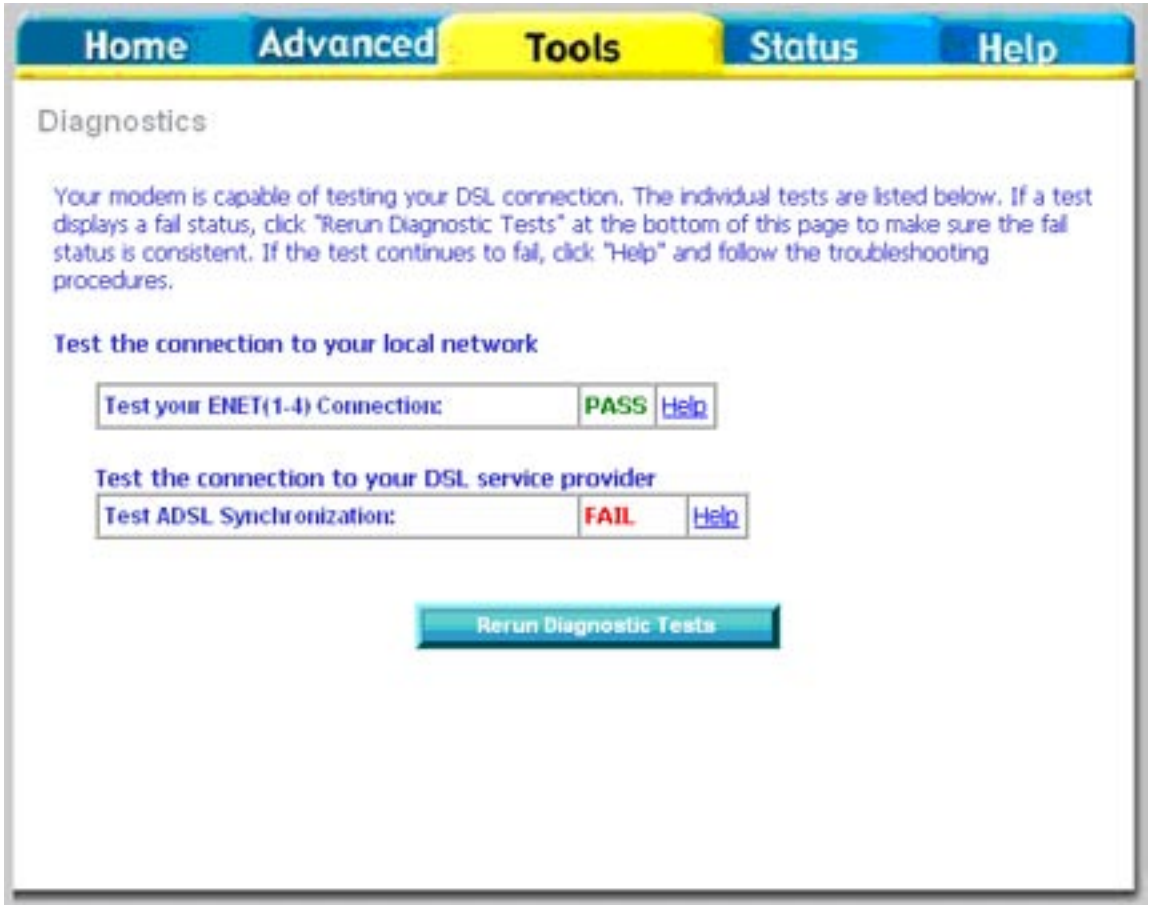
Test

The diagnostics screen allows you to run diagnostic tests to check your DSL connection. The results will show test results of three connections:

- Connection to your local network
- Connection to your DSL service provider
- Connection to your Internet service provider

There are three buttons at the bottom of the page:

- Next Connection (appears only if you have created more than one connection)
- Test
- Test with OAM F4

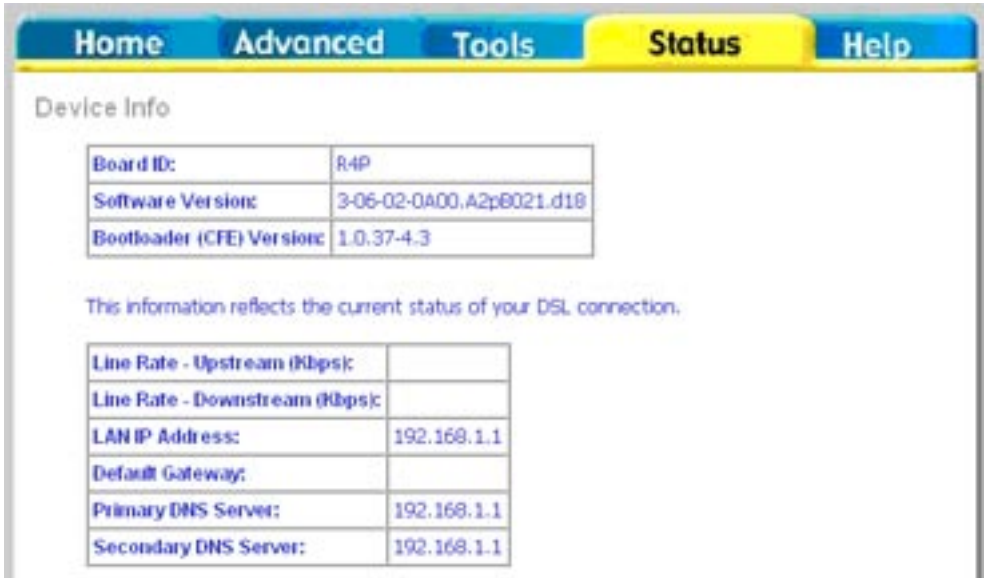


Status

The status section allows you to view general and status information for your router's connection.

Device Info

The Device Info page shows details of the router such as the version of the software, bootloader, LAN IP address, etc. It also displays the current status of your DSL connection.

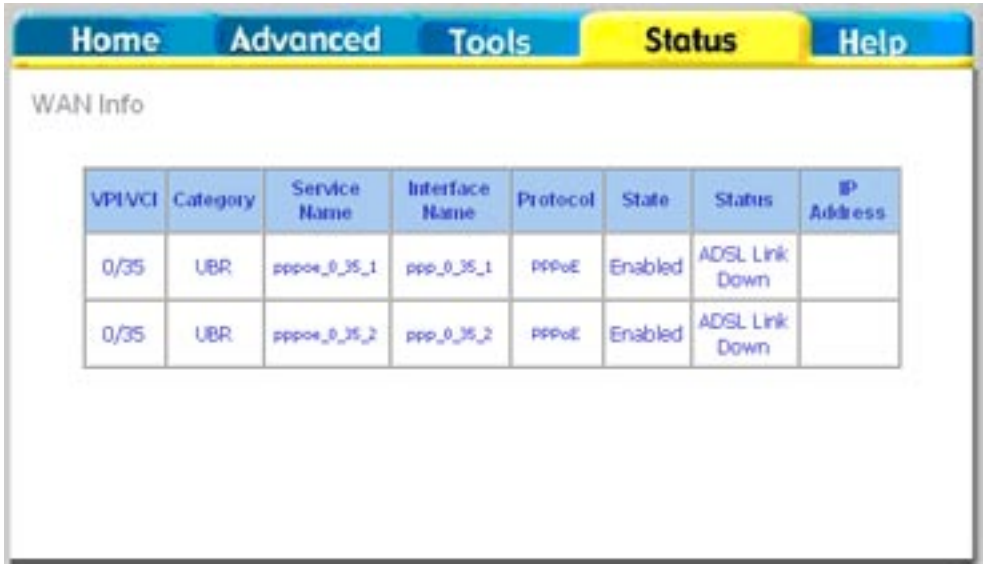


DHCP Clients

Access the DHCP Leases screen by clicking **DHCP** under **Status**. This shows the computers, identified by the hostname and MAC address, that have acquired IP addresses by the DHCP server. The table will also show the time the DHCP lease will expire.

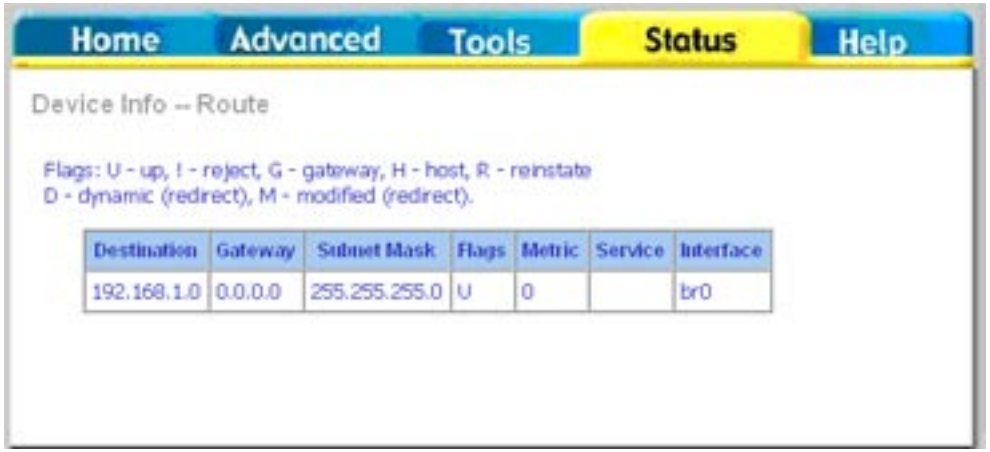
WAN Info

The WAN Info screen displays WAN connections previously set up in the Home section. There is an extra “Status” column used for connection status information, displaying either ADSL Link Down or ADSL Link Up.



Route Info

The Route Info section displays route information showing the IP addresses of the destination, gateway, and subnet mask as well as other route information.



Log

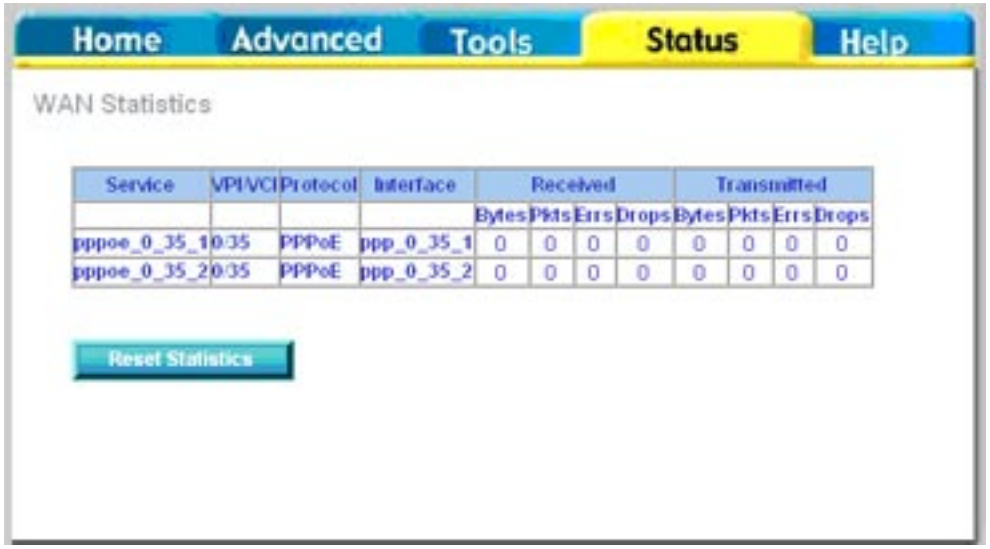
This is the same screen as seen in the Remotelog section under tools.

LAN

The LAN section shows received and transmitted packet information for the Ethernet interface. Click on **Reset Statistics** to renew the information.

WAN

The WAN section shows received and transmitted packet information for the WAN connections that you have set up. Click on **Reset Statistics** to renew the information.



ADSL

Information contained in the ADSL screen is useful for troubleshooting and diagnosing connection problems.

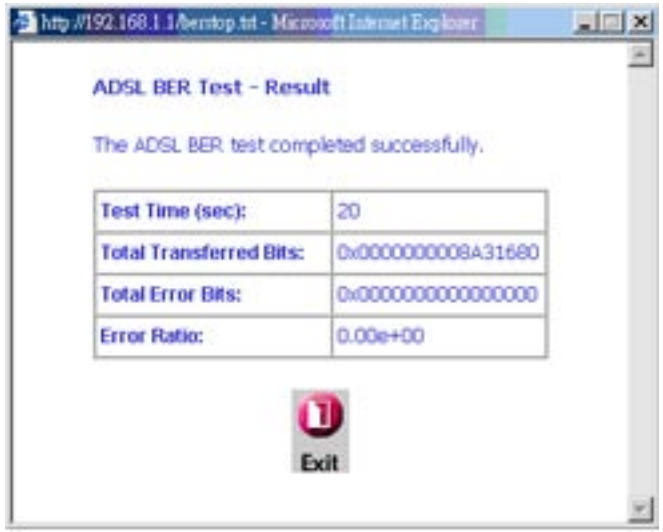
ADSL BER Test

A Bit Error Rate Test (BER Test) is a test that reflects the ratio of error bits to the total number transmitted.

If you click on the **ADSL BER Test** button at the bottom of the ADSL Statistics page, the following pop-up screen will appear allowing you to set the tested time and to begin the test. Click **Start** to begin the test.

When you start the ADSL BER Test, the following progress window will display the connection speed as well as the length of time that the test will run for. At any time during the test, click on the **Stop** button to terminate the test.

When the test is complete, the following window will display the test results showing the test time, total transferred bits, total error bits and error ratio. Click **Exit** to close the window.



Troubleshooting

This chapter provides solutions to problems that can occur during the installation and operation of the DSL-2540B. 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. Why can't I access the web-based configuration utility?

When entering the IP address of the D-Link router (192.168.1.1 for example), you are not connecting to a website on the Internet or have to be connected to the Internet. The device has the utility built-in to a ROM chip in the device itself. Your computer must be on the same IP subnet to connect to the web-based utility.

- Make sure you have an updated Java-enabled web browser. We recommend the following:
    - Internet Explorer 6.0 or higher
    - Netscape 8 or higher
    - Mozilla 1.7.12 (5.0) or higher
    - Opera 8.5 or higher
    - Safari 1.2 or higher (with Java 1.3.1 or higher)
    - Camino 0.8.4 or higher
    - Firefox 1.5 or higher

- Verify physical connectivity by checking for solid link lights on the device. If you do not get a solid link light, try using a different cable or connect to a different port on the device if possible. If the computer is turned off, the link light may not be on.

- Disable any Internet security software running on the computer. Software firewalls such as Zone Alarm, Black Ice, Sygate, Norton Personal Firewall, and Windows® XP firewall may block access to the configuration pages. Check the help files included with your firewall software for more information on disabling or configuring it.

- Configure your Internet settings:

    - Go to **Start** > **Settings** > **Control Panel**. Double-click the **Internet Options** Icon. From the **Security** tab, click the button to restore the settings to their defaults.

    - Click the **Connection** tab and set the dial-up option to Never Dial a Connection. Click the LAN Settings button. Make sure nothing is checked. Click **OK**.

    - Go to the **Advanced** tab and click the button to restore these settings to their defaults. Click **OK** three times.

    - Close your web browser (if open) and open it.

- Access the web management. Open your web browser and enter the IP address of your D-Link router in the address bar. This should open the login page for your the web management.

- If you still cannot access the configuration, unplug the power to the router for 10 seconds and plug back in. Wait about 30 seconds and try accessing the configuration. If you have multiple computers, try connecting using a different computer.

2. What can I do if I forgot my password?

If you forgot your password, you must reset your router. Unfortunately this process will change all your settings back to the factory defaults.

To reset the router, locate the reset button (hole) on the rear panel of the unit. With the router powered on, use a paperclip to hold the button down for 10 seconds. Release the button and the router will go through its reboot process. Wait about 30 seconds to access the router. For information about logging into the router see page 12.

Networking Basics

Check your IP address

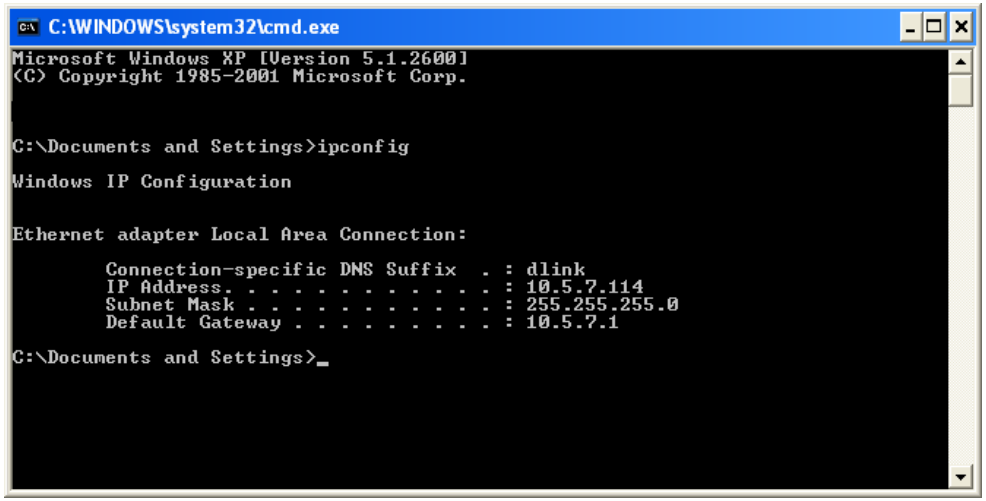
After you install your new D-Link adapter, by default, the TCP/IP settings should be set to obtain an IP address from a DHCP server (i.e. wireless router) automatically. To verify your IP address, please follow the steps below.

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

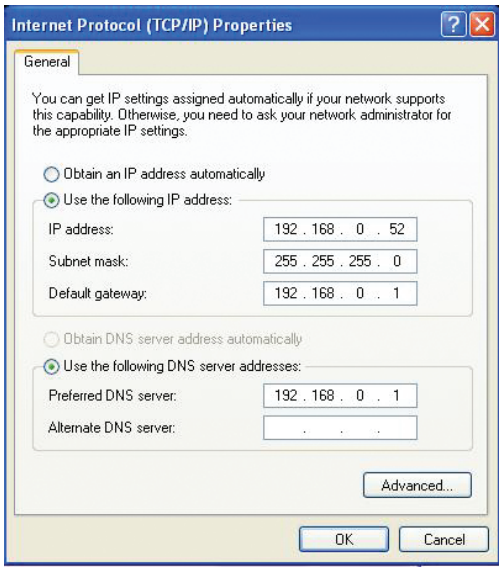
If you are not using a DHCP capable gateway/router, or you need to assign a static IP address, please follow the steps below:

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

Step 4
Click **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 192.168.0.1, make your IP address 192.168.0.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 (192.168.0.1).

Set Primary DNS the same as the LAN IP address of your router (192.168.0.1). The Secondary DNS is not needed or you may enter a DNS server from your ISP.

Step 5
Click OK twice to save your settings.

Contacting Technical Support

U.S. and Canadian customers can contact D-Link technical support through our web site or by phone.

Before you contact technical support, please have the following ready:

- Model number of the product (e.g. DSL-2540B)
- Hardware Revision (located on the label on the bottom of the router (e.g. rev A1))
- Serial Number (s/n number located on the label on the bottom of the router).

You can find software updates and user documentation on the D-Link website as well as frequently asked questions and answers to technical issues.

For customers within the United States:

Phone Support:
(877) 453-5465

Internet Support:
http://support.dlink.com

For customers within Canada:

Phone Support:
(800) 361-5265

Internet Support:
http://support.dlink.ca

Warranty

Subject to the terms and conditions set forth herein, D-Link Systems, Inc. (“D-Link”) provides this Limited Warranty:

- Only to the person or entity that originally purchased the product from D-Link or its authorized reseller or distributor, and
- Only for products purchased and delivered within the fifty states of the United States, the District of Columbia, U.S. Possessions or Protectorates, U.S. Military Installations, or addresses with an APO or FPO.

Limited Warranty: D-Link warrants that the hardware portion of the D-Link product described below (“Hardware”) will be free from material defects in workmanship and materials under normal use from the date of original retail purchase of the product, for the period set forth below (“Warranty Period”), except as otherwise stated herein.

- Hardware (excluding power supplies and fans): One (1) year
- Power supplies and fans: One (1) year
- Spare parts and spare kits: Ninety (90) days

The customer's sole and exclusive remedy and the entire liability of D-Link and its suppliers under this Limited Warranty will be, at D-Link’s option, to repair or replace the defective Hardware during the Warranty Period at no charge to the original owner or to refund the actual purchase price paid. Any repair or replacement will be rendered by D-Link at an Authorized D-Link Service Office. The replacement hardware need not be new or have an identical make, model or part. D-Link may, at its option, replace the defective Hardware or any part thereof with any reconditioned product that D-Link reasonably determines is substantially equivalent (or superior) in all material respects to the defective Hardware. Repaired or replacement hardware will be warranted for the remainder of the original Warranty Period or ninety (90) days, whichever is longer, and is subject to the same limitations and exclusions. If a material defect is incapable of correction, or if D-Link determines that it is not practical to repair or replace the defective Hardware, the actual price paid by the original purchaser for the defective Hardware will be refunded by D-Link upon return to D-Link of the defective Hardware. All Hardware or part thereof that is replaced by D-Link, or for which the purchase price is refunded, shall become the property of D-Link upon replacement or refund.

Limited Software Warranty: D-Link warrants that the software portion of the product (“Software”) will substantially conform to D-Link’s then current functional specifications for the Software, as set forth in the applicable documentation, from the date of original retail purchase of the Software for a period of ninety (90) days (“Software Warranty Period”), provided that the Software is properly installed on approved hardware and operated as contemplated in its documentation. D-Link further warrants that, during the Software Warranty Period, the magnetic media on which D-Link delivers the Software will be free of physical defects. The customer’s sole and exclusive remedy and the entire liability of D-Link and its suppliers under this Limited Warranty will be, at D-Link’s option, to replace the non-conforming Software (or defective media) with software that substantially conforms to D-Link’s functional specifications for the Software or to refund the portion of the actual purchase price paid that is attributable to the Software. Except as otherwise agreed by D-Link in writing, the replacement Software is provided only to the original licensee, and is subject to the terms and conditions of the license granted by D-Link for the Software. Replacement Software will be warranted for the remainder of the original Warranty Period and is subject to the same limitations and exclusions. If a material non-conformance is incapable of correction, or if D-Link determines in its sole discretion that it is not practical to replace the non-conforming Software, the price paid by the original licensee for the non-conforming Software will be refunded by D-Link; provided that the non-conforming Software (and all copies thereof) is first returned to D-Link. The license granted respecting any Software for which a refund is given automatically terminates.

Non-Applicability of Warranty: The Limited Warranty provided hereunder for Hardware and Software portions of D-Link’s products will not be applied to and does not cover any refurbished product and any product purchased through the inventory clearance or liquidation sale or other sales in which D-Link, the sellers, or the liquidators expressly disclaim their warranty obligation pertaining to the product and in that case, the product is being sold “As-Is” without any warranty whatsoever including, without limitation, the Limited Warranty as described herein, notwithstanding anything stated herein to the contrary.

Submitting A Claim: The customer shall return the product to the original purchase point based on its return policy. In case the return policy period has expired and the product is within warranty, the customer shall submit a claim to D-Link as outlined below:

- The customer must submit with the product as part of the claim a written description of the Hardware defect or Software nonconformance in sufficient detail to allow D-Link to confirm the same, along with proof of purchase of the product (such as a copy of the dated purchase invoice for the product) if the product is not registered.
- The customer must obtain a Case ID Number from D-Link Technical Support at 1-877-453-5465, who will attempt to assist the customer in resolving any suspected defects with the product. If the product is considered defective, the customer must obtain a Return Material Authorization (“RMA”) number by completing the RMA form and entering the assigned Case ID Number at https://rma.dlink.com/.
- After an RMA number is issued, the defective product must be packaged securely in the original or other suitable shipping package to ensure that it will not be damaged in transit, and the RMA number must be prominently marked on the outside of the package. Do not include any manuals or accessories in the shipping package. D-Link will only replace the defective portion of the product and will not ship back any accessories.
- The customer is responsible for all in-bound shipping charges to D-Link. No Cash on Delivery (“COD”) is allowed. Products sent COD will either be rejected by D-Link or become the property of D-Link. Products shall be fully insured by the customer and shipped to **D-Link Systems, Inc., 17595 Mt. Herrmann, Fountain Valley, CA 92708**. D-Link will not be held responsible for any packages that are lost in transit to D-Link. The repaired or replaced packages will be shipped to the customer via UPS Ground or any common carrier selected by D-Link. Return shipping charges shall be prepaid by D-Link if you use an address in the United States, otherwise we will ship the product to you freight collect. Expedited shipping is available upon request and provided shipping charges are prepaid by the customer.

D-Link may reject or return any product that is not packaged and shipped in strict compliance with the foregoing requirements, or for which an RMA number is not visible from the outside of the package. The product owner agrees to pay D-Link's reasonable handling and return shipping charges for any product that is not packaged and shipped in accordance with the foregoing requirements, or that is determined by D-Link not to be defective or non-conforming.

What Is Not Covered: The Limited Warranty provided herein by D-Link does not cover: Products that, in D-Link's judgment, have been subjected to abuse, accident, alteration, modification, tampering, negligence, misuse, faulty installation, lack of reasonable care, repair or service in any way that is not contemplated in the documentation for the product, or if the model or serial number has been altered, tampered with, defaced or removed; Initial installation, installation and removal of the product for repair, and shipping costs; Operational adjustments covered in the operating manual for the product, and normal maintenance; Damage that occurs in shipment, due to act of God, failures due to power surge, and cosmetic damage; Any hardware, software, firmware or other products or services provided by anyone other than D-Link; and Products that have been purchased from inventory clearance or liquidation sales or other sales in which D-Link, the sellers, or the liquidators expressly disclaim their warranty obligation pertaining to the product. While necessary maintenance or repairs on your Product can be performed by any company, we recommend that you use only an Authorized D-Link Service Office. Improper or incorrectly performed maintenance or repair voids this Limited Warranty.

Disclaimer of Other Warranties: EXCEPT FOR THE LIMITED WARRANTY SPECIFIED HEREIN, THE PRODUCT IS PROVIDED "AS-IS" WITHOUT ANY WARRANTY OF ANY KIND WHATSOEVER INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT. IF ANY IMPLIED WARRANTY CANNOT BE DISCLAIMED IN ANY TERRITORY WHERE A PRODUCT IS SOLD, THE DURATION OF SUCH IMPLIED WARRANTY SHALL BE LIMITED TO THE DURATION OF THE APPLICABLE WARRANTY PERIOD SET FORTH ABOVE. EXCEPT AS EXPRESSLY COVERED UNDER THE LIMITED WARRANTY PROVIDED HEREIN, THE ENTIRE RISK AS TO THE QUALITY, SELECTION AND PERFORMANCE OF THE PRODUCT IS WITH THE PURCHASER OF THE PRODUCT.

Limitation of Liability: TO THE MAXIMUM EXTENT PERMITTED BY LAW, D-LINK IS NOT LIABLE UNDER ANY CONTRACT, NEGLIGENCE, STRICT LIABILITY OR OTHER LEGAL OR EQUITABLE THEORY FOR ANY LOSS OF USE OF THE PRODUCT, INCONVENIENCE OR DAMAGES OF ANY CHARACTER, WHETHER DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL (INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF GOODWILL, LOSS OF REVENUE OR PROFIT, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, FAILURE OF OTHER EQUIPMENT OR COMPUTER PROGRAMS TO WHICH D-LINK'S PRODUCT IS CONNECTED WITH, LOSS OF INFORMATION OR DATA CONTAINED IN, STORED ON, OR INTEGRATED WITH ANY PRODUCT RETURNED TO D-LINK FOR WARRANTY SERVICE) RESULTING FROM THE USE OF THE PRODUCT, RELATING TO WARRANTY SERVICE, OR ARISING OUT OF ANY BREACH OF THIS LIMITED WARRANTY, EVEN IF D-LINK HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE SOLE REMEDY FOR A BREACH OF THE FOREGOING LIMITED WARRANTY IS REPAIR, REPLACEMENT OR REFUND OF THE DEFECTIVE OR NON-CONFORMING PRODUCT. THE MAXIMUM LIABILITY OF D-LINK UNDER THIS WARRANTY IS LIMITED TO THE PURCHASE PRICE OF THE PRODUCT COVERED BY THE WARRANTY. THE FOREGOING EXPRESS WRITTEN WARRANTIES AND REMEDIES ARE EXCLUSIVE AND ARE IN LIEU OF ANY OTHER WARRANTIES OR REMEDIES, EXPRESS, IMPLIED OR STATUTORY.

Governing Law: This Limited Warranty shall be governed by the laws of the State of California. Some states do not allow exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the foregoing limitations and exclusions may not apply. This Limited Warranty provides specific legal rights and you may also have other rights which vary from state to state.

Trademarks: D-Link is a registered trademark of D-Link Systems, Inc. Other trademarks or registered trademarks are the property of their respective owners.

CE Mark Warning: This is a Class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

FCC Statement: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the 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 communication. 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 receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

For detailed warranty information applicable to products purchased outside the United States, please contact the corresponding local D-Link office.

Registration

Product registration is entirely voluntary and failure to complete or return this form will not diminish your warranty rights.

Version 1.0
September 26, 2006