ADSL 4-Port Ethernet USB Wireless-G Router

User Guide

Version 1.0

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Declaration Of Conformity

Marking by the above symbol indicates compliance with the Essential Requirements of the R&TTE Directive of the European Union (1999/5/EC). This equipment meets the following conformance standards:

EN300 328, EN301 489-17, EN60950

Countries of Operation and Conditions of Use in the European Community

This device is intends to be operated in all countries of the European Community. Requirement is for indoors vs. outdoors operation, license requirements and allowed channels of operation apply in some countries as described in this document.

Note…
The user must use the configuration utility provided with this product to check the current channel of operation and confirm that the devices operating in conformance with the spectrum usage rules for the European Community countries as described below.

If operation is occurring outside of the allowable channels as indicated in this guide, then the user must cease operating the product and consult with the local technical support staff responsible for the wireless network.

This device may be operated **indoors or outdoors** in all countries of the European Community using the 2.4GHz band: **Channels 1 – 13**, except where noted below:

- In **Italy** the end-user must apply for a license from the national spectrum authority to operate this device outdoors.
- In **France** outdoor operation is only permitted using the 2.4 – 2.454 GHz band: Channels 1 – 7.

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Radio Frequency Interference Warnings & Instructions

(FCC ID: I38-DSL600EWR)

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 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 methods:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and the receiver
- Connect the equipment into an electrical outlet on a circuit different from that which the radio receiver is connected
- Consult the dealer or an experienced radio/TV technician for help.

Modifications made to the product, unless expressly approved by the party responsible, could void the user's right to operate the equipment.

RF Exposure

This device has been tested and complies with FCC RF Exposure (SAR) limits in typical laptop computer configurations and this device can be used in desktop or laptop computers with side mounted PCMCIA slots, which can provide 1 cm separation distance from the antenna to the body of the user or a nearby person. Thin laptop computers may need special attention to maintain antenna spacing while operating. This device cannot be used with handheld PDAs (personal digital assistants). Use in other configurations may not ensure compliance with FCC RF exposure guidelines. This device and its antenna must not be co-located or operate in conjunction with another antenna or transmitter.

WARNING
HIGH VOLTAGE

is used in the equipment. Make sure equipment is properly grounded BEFORE opening. Failure to observe safety precautions may result in electric shock to user.

CAUTION

Check voltages before connecting equipment to power supplies. Wrong voltages applied may result in damage to equipment.

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Chapter 1 - About this Manual

1.1 Introduction

This manual provides a general product overview and description of its subsystems and components and basic operation and preventive maintenance instructions of the ADSL 2/2+ Ready Wireless LAN 802.11g 4 Port Ethernet & USB Combo Router.

1.2 Scope and Purpose

This manual provides the following:

- An overview of the Wireless-G system configuration and connectivity;
- General description and specifications of the Wireless-G system components;
- Operating instructions of the system and equipment;

1.3 Targeted Audience

This manual is designed and developed for the operators and users who are required to operate and perform first-level maintenance of the ADSL 2/2+ Ready Wireless LAN 802.11g 4 Port Ethernet & USB Combo Router. It assumes the user of this manual has basic knowledge and experience in operating similar modem configuration and computer systems equipment.

1.4 Manual Organisation

The manual is divided into the following chapters:

1. *Chapter 1 – About this Manual;* this chapter provides an introduction to the manual's scope and purpose, targeted audience and contents organisation.
2. *Chapter 2 – ADSL Router Description;* this chapter provides the system configuration diagram description on the system support features.
3. *Chapter 3 – Your Gateway At A Glance;* this chapter provides an overview of the system configuration, composition, connectivity and introduction and general description of the ADSL 2/2+ Ready Wireless LAN 802.11g 4 Port Ethernet & USB Combo Router.
4. *Chapter 4 – Installing the ADSL Router;* this chapter provides description of the ADSL Router installation.
5. *Chapter 5 – Setting Up the ADSL Router;* this chapter provides description of all function within the Web User Interface.

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Chapter 2 – ADSL Router Description

The ADSL Wireless LAN 802.11g 4 Port Ethernet & USB Combo 4 Port Router is a high-speed WAN bridge/router.

This full-featured product is specifically designed to allow maximum of 4 Ethernet-workstations to be connected to the Internet and directly connect to your local area network via high speed 10/100 Mbps Ethernet. Users using wireless workstations will be able to connect to the Internet using 802.11g wireless technology. The ADSL Router has also full NAT firewall and DMZ services to block unwanted users from accessing your network.

For game users, the ADSL Router had already pre configured for several low latency game ports. Just click on the game you are playing on line and the rest is done for you

The ADSL Router is fully compatible with all PCs; as long as the PC supports an Ethernet interface and is running a TCP/IP protocol stack, your PC can have high-speed WAN access. So, plug in the ADSL Router (refer to easy start guide), configure it (per your ISP's requirements) and enjoy the fast Internet access like never before. This router also provides future proof functionality with higher data transmission rates with ADSL2,ADSL, Extended Reach-ADSL support.

2.1 ADSL Router Overview

Fig 1-1 shows the system configuration diagram of a typical Wireless-G router connection.

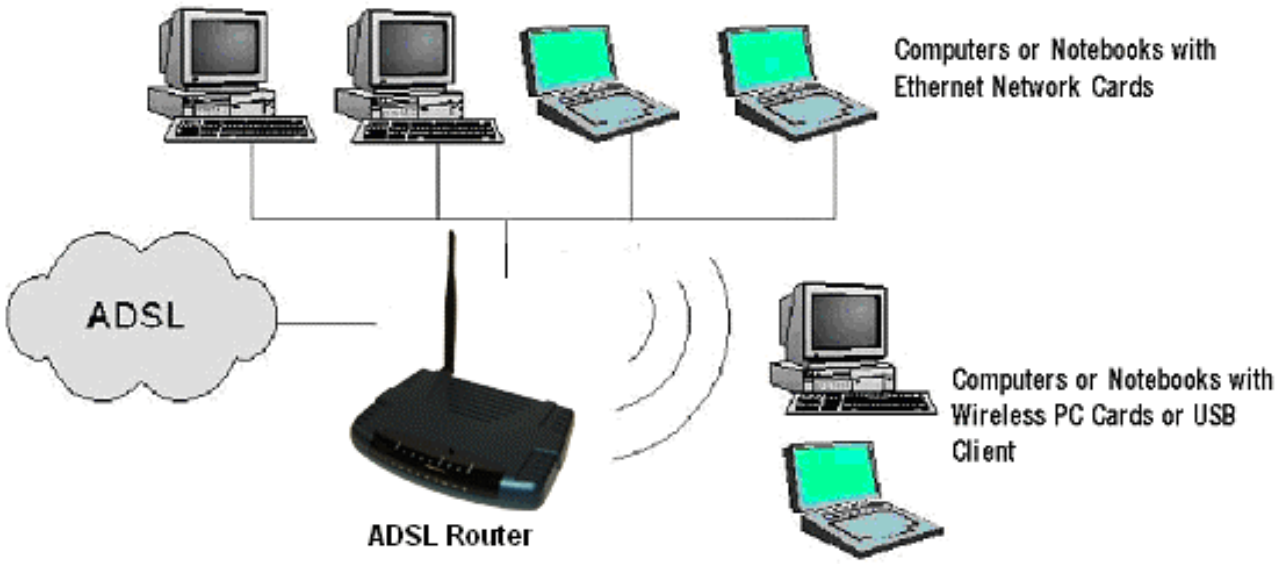

Figure 1-1 : Wireless-G System Configuration Diagram

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Chapter 3 - Your Gateway At A Glance

The ADSL Wireless LAN 802.11g 4 Port Ethernet & USB Combo 4 Port Router may have different ports and LEDs. Let's take a look at the different options. Depending on your model, it may have some or all of the features listed below.

3.1 Ports and Buttons

Reset and Restore to Factory Defaults: The restore to factory defaults feature will set the ADSL Router to its factory default configuration by resetting the ADSL Router. You may need to place the ADSL Router into its factory defaults if the configuration is changed, you lose the ability to interface to the ADSL Router via the web interface, or following a software upgrade. To reset the ADSL Router, simply press the reset button for about approximately 10 seconds. The ADSL Router will be reset to its factory defaults and after about 30 ~ 40 seconds the ADSL Router will become operational again.

LAN (local area network) E1 to E4 port(s): connects to Ethernet network devices, such as aPC, hub, switch, or routers. The ports are 10/100 Base-T Auto-MDI/MDIX (allows either cross or straight cable) Ethernet jack (RJ-45) to connect to your Ethernet Network card or Ethernet Hub / Switch.

Power: This is where you connect the power. Make sure to observe the proper power requirements. The required power is 9 volts.

USB (universal serial port): connects to a PC's USB port. The ADSL Router only supports Window's based PCs via an RNDIS driver (included in the software).

DSL port: This is the WAN interface that connects directly to your phone line.

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3.2 ADSL Router Overview

3.2.1 Front Indicators

Fig 1-2 shows the front indicators of the Wireless-G router.

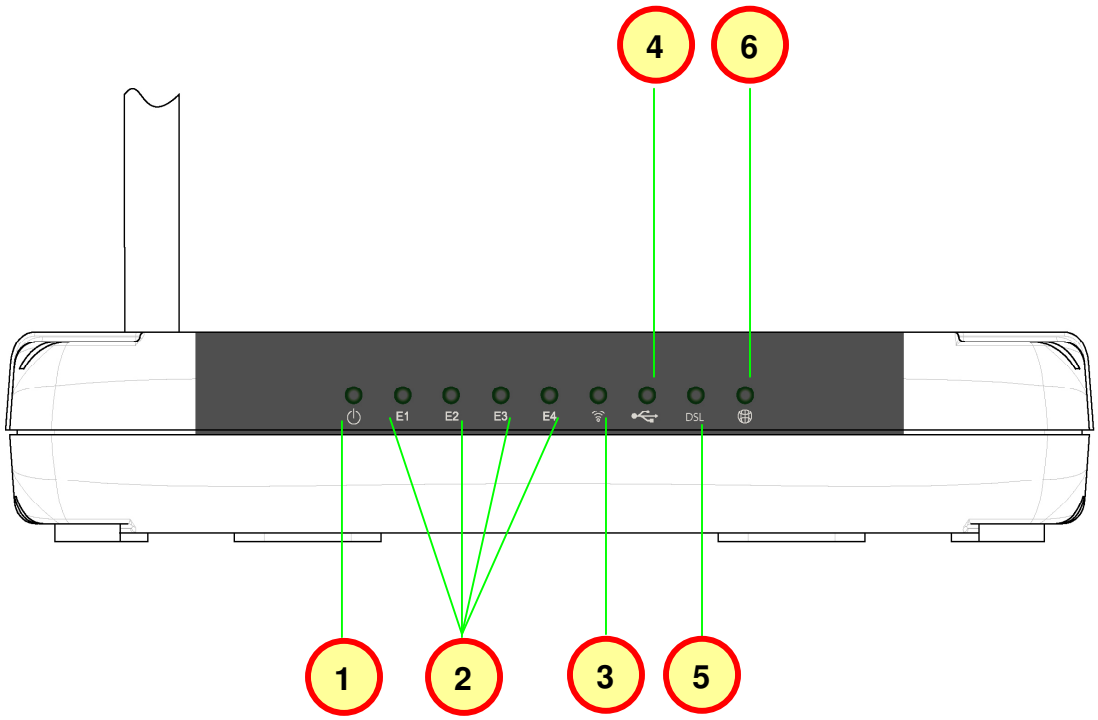

Figure 1-2 : Front Indicators

1. **POWER** - **Lights up** when power is supplied to the ADSL Router.

2. **ETHERNET (E1 ~ E4)** - **Lights up** when the Ethernet cable is properly connected from your ADSL Router to the Ethernet Card. It flickers when the ADSL is transmitting/receiving data.

3. **WIRELESS** - **Flickers** when the Wireless LAN is operational.

4. **USB** - **Lights up** when the USB cable is properly connected from your ADSL Router to the USB slot. Lights Off when the USB cable is not connected or it is properly disconnected.

5. **DSL** - LED **lights off** when no Telephone jack (RJ-11) is connected. **Flickers** when the ADSL Router is trying to establish a connection with the ADSL Service Provider (Training). Steady Green LED **lights up** when the ADSL connection is established.

6. **Internet** - Green LED **lights up** when the PPP connection is established. **Lights off** when no PPP connection.

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3.2.2 Back Panel

Fig 1-3 shows the back panel indicators of the Wireless-G router.

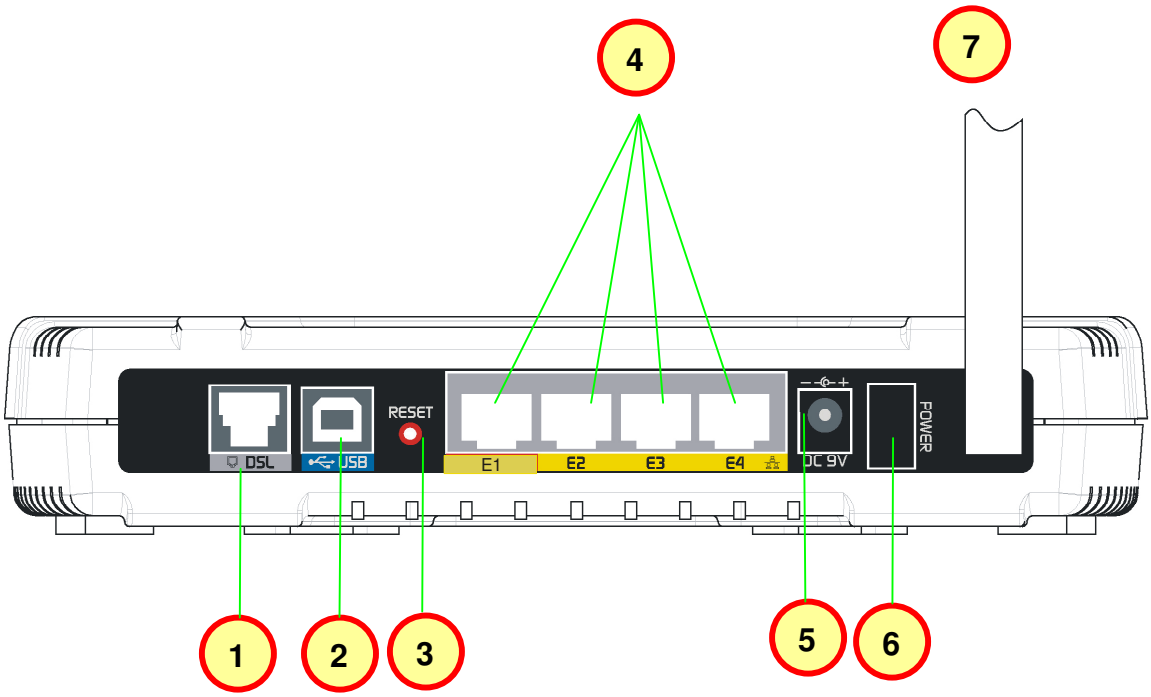

Figure 1-3 : Back Panel Indicators

1. **DSL -** Connect the telephone jack (RJ-11) to your Telephone Wall Socket (DSL line).

2. **USB -** Connect the USB jack to your PC's USB slot.

3. **RESET -** To reset your ADSL Router to factory default settings (all customised settings that you have saved will be lost!). To reset the ADSL Router, simply press the reset button for about 10 seconds.

4. **ETHERNET (E1-E4) -** 10/100 Base-T Auto-MDI/MDIX Ethernet jack (RJ-45) to connect to your PC's Ethernet Network card or Ethernet Hub / Switch.

5. **DC 9V -** To connect to the Power Adapter that comes with your package.

6. **POWER SWITCH** - To power on or off the modem. Push downwards to switch ON and lift upwards to OFF.

7. **RF Antenna -** 180° 2.4Ghz Wireless Antenna.

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Chapter 4 - Installing The ADSL Router

1. Locate a suitable location for the ADSL Router. For connections to the Ethernet and DSL interfaces, please refer to the E**asy Start Manual**.

2. Connect the AC Power Adapter. Depending upon the type of network, you may want to put the power supply on an uninterruptible supply (UPS).

> ⚠ **Note…**
> **Only use the power adapter supplied with the ADSL Router. A different adapter may damage the product.**

Fig 1-4 shows the Wireless 4-port Router connection diagram.

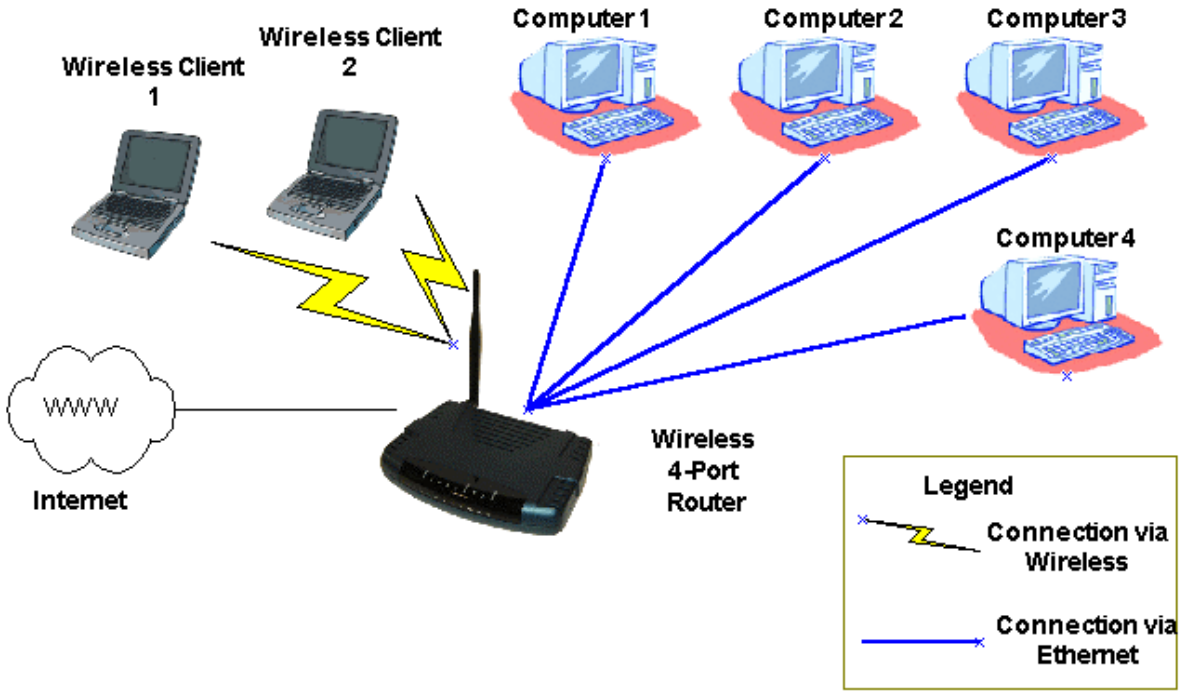

Figure 1-4 : Wireless Router Connection Diagram

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Chapter 5 - Setting Up the ADSL Router

The basic tabs consist of features which are catered for basic users.

This section will guide you through your ADSL Router's configuration. The ADSL Router is shipped with a standard PPP configuration..

5.1 Logging into your ADSL Router

To configure your ADSL Router, open your web browser. You may get an error message at this point; this is normal.

1. Type the default IP address (**192.168.1.1**) or **login.router on** on the web address bar.
2. Press the **Enter** key and the following screen will appear.

> ⚠ **Note…**
> **Before setting up your ADSL Router, make sure you have followed the easy start guide. You should have your computers configured for DHCP mode and have proxies disabled on your browser. Upon accessing the ADSL Router, if the browser still displays a login redirection screen, you should check your browser's setting and ensure that the JavaScript support is enabled. If the screen shown in Figure 1-3 is not attainable, you must delete your temporary Internet files to clear the web cache.**

Upon entering the default IP address or the short-cut name (login.router), if the user is first time login, the user will be brought to the "Setup Wizard" page. See **Fig 1.5**

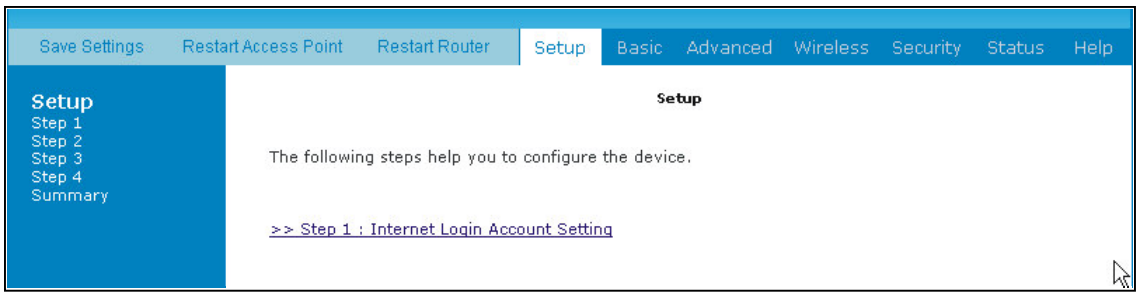

Figure 1-5 : Setup Page

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If you are not logging in for the first time, the router will direct you to the "Home Page". See **Fig 1-6**.

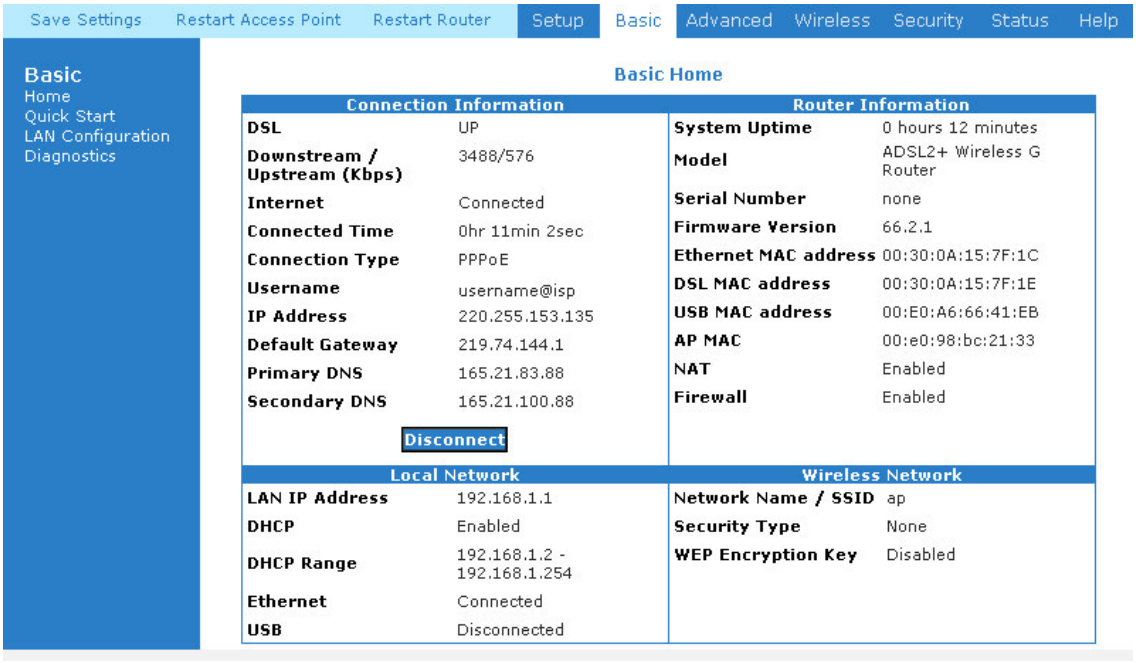

Figure 1-6 : Basic Home Screen

5.2 Quick Start

By default the ADSL Router has being configured to PPP connection and user is only required to enter the username and password (as specified by the local ISP) to connect to the Internet.

The Quick Start page is meant for basic users whom only require easy connectivity to the Internet without worrying about any other advance configuration setting. If you are in doubt for what content to enter for the Protocol, VPI and VCI, please contact your Service Provider for assistance.

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⚠ Note. . .
After clicking on Connect, please be sure to click on "Save Settings" to register the username / password or any other changes.

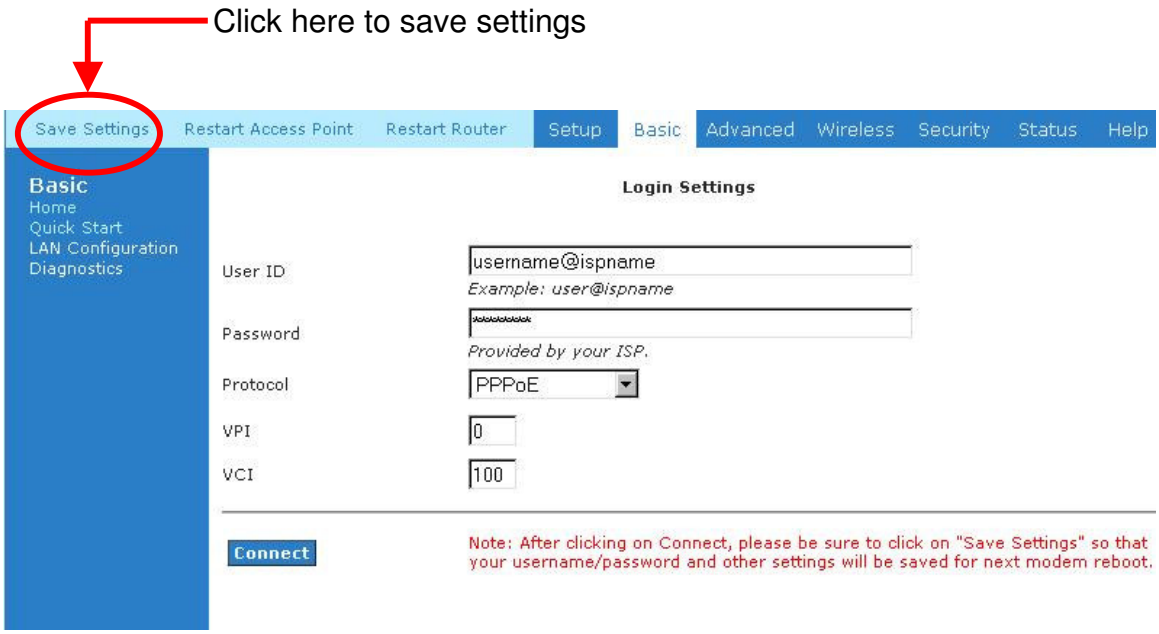

Figure 1-7 : Quick Start Page

5.3 LAN / DHCP Configuration

On one side of your ADSL Router, you have your own Local Area network (LAN) connections. This is where you plug in your local computers to the ADSL Router. The ADSL Router is normally configured to automatically provide all the PC's on your network with Internet addresses.

To enable or disable DHCP, Click setup. Under LAN Setup, select DHCP Configuration. The Start IP Address is where the DHCP server starts issuing IP addresses. This value must be greater than the ADSL Router IP address value. For example if the ADSL Router IP address is 192.168.1.1 (default) than the starting IP address must be 192.168.1. 2 (or higher).

The End IP Address is where the DHCP server stops issuing IP addresses. The ending address cannot exceed a subnet limit of 254. Hence the max value for our default gateway is 192.168.1.254. If the DHCP server runs out of DHCP addresses, users will not get access to network resources. If this happens you can increase the Ending IP address (to the limit of 255) or reduce the lease time. The Lease Time is the amount of time a network user will be allowed connection to the ADSL Router with their current dynamic IP address. The amount of time is in units of minutes; the default value is 3600 minutes (60 hours).

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Note: If you change the start or end values, make sure the values are still within the same subnet as the gateways IP address. In other words, if the gateways IP address is 192.168.1.1 (default) and you change the DHCP start/end IP addresses to be 192.128.1.2/192.128.1.100, you will not be able to communicate to the ADSL Router if your PC has DHCP enabled. In addition to the DHCP server feature, the ADSL Router supports the DHCP relay function. When the ADSL Router is configured as DHCP server, it assigns the IP addresses to the LAN clients. When the ADSL Router is configured as DHCP relay, it is responsible for forwarding the requests and responses negotiating between the DHCP clients and the server.

By turning off the DHCP server and relay the network administrator must carefully configure the IP address, Subnet Mask and DNS settings of every computer on your network. Do not assign the same IP address to more than one computer and your ADSL Router must be on the same subnet as all the other computers.

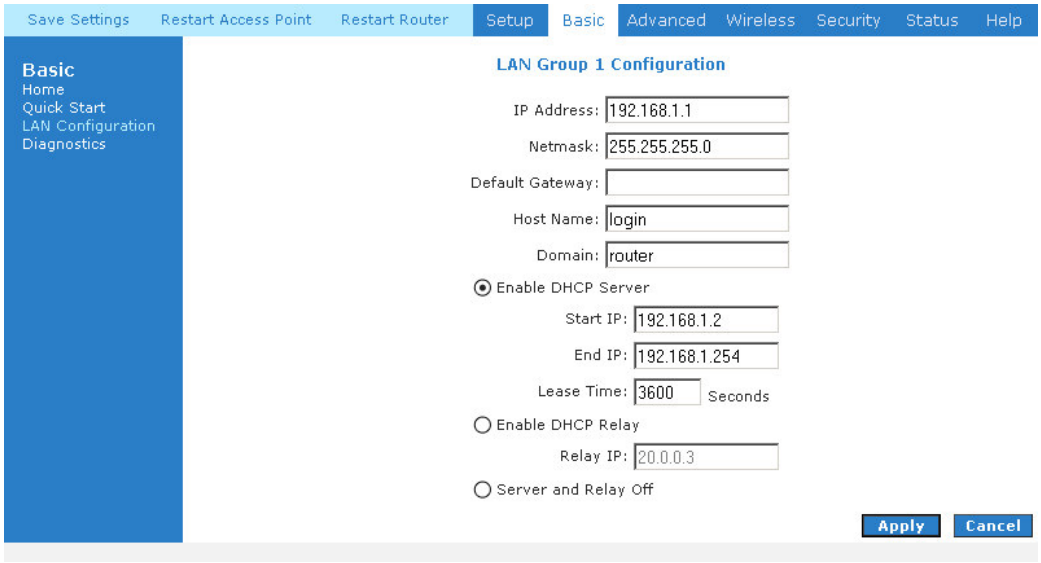

Figure 1-8 : Diagnostics Test Screen

5.4 Diagnostic Test

Diagnostic Test is used for investigating whether the ADSL Router is properly connected to the WAN Network. See **Fig 1-9.** This test may take a few seconds to complete. To perform the test, select your connection from the list and press the Test button. Before running this test, make sure you have a valid DSL link.

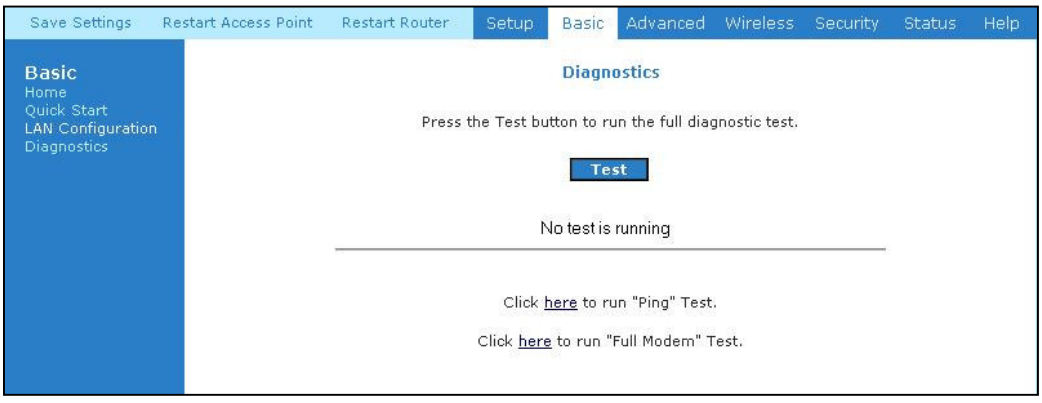

Figure 1-9 : Diagnostics Test Screen

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After running the Diagnostic Test, the screen will indicate the portion which pass or fail the test. Please click on the **Help** links, which will provide remedy to the problem as shown in **Fig 1-10**. The purpose of the "Fix It " button is to restore the router's VPI and VCI to its originated setting.

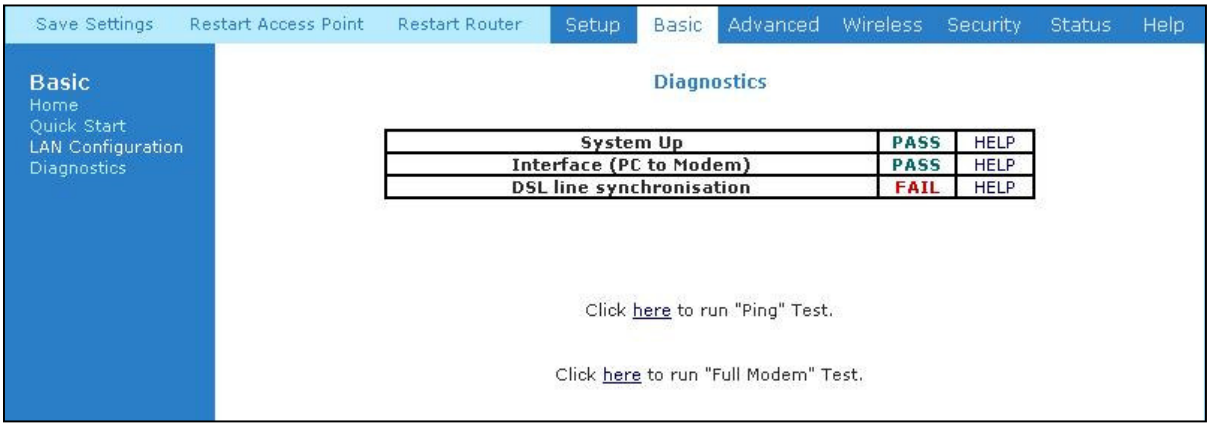

Figure 1-10: Diagnostic Test Result screen

5.4.1 Ping Test

Once you have your ADSL Router configured, ensure you can ping the network. You can access the Ping Test page by clicking on the "**here**" hyperlink in Diagnostic Page. Type the target address that you want to ping. If your PC is connected to the ADSL Router via the default DHCP configuration, you should be able to Ping the network address 192.168.1.1. See **Fig 1-11.** If your ISP has provided their server address, try to ping the address. If the pings for both the WAN and the LAN sides are complete and you have the proper protocols configured, you should be able to surf the Internet. By default when you select ping test, the ADSL Router will ping itself 3 times. The ADSL Router passed the Ping test; this basically means that the TCP/IP protocol is up and running. If this first Ping test does not pass, the TCP/IP protocol is not loaded for some reason; you should restart the ADSL Router.

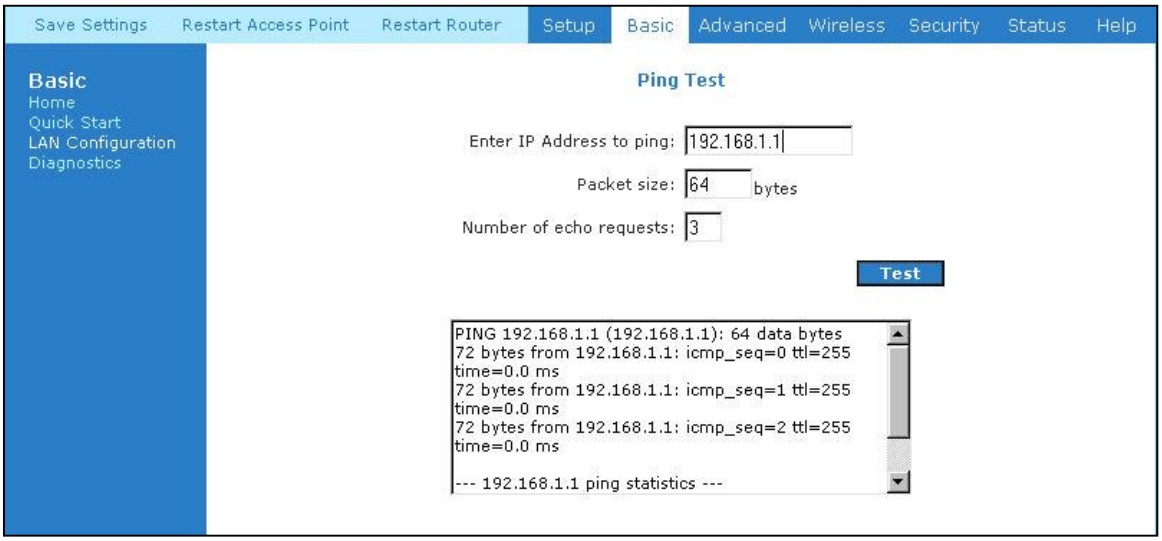

Figure 1-11 : Ping Test Screen

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5.5 Wireless

5.5.1 Wireless Setup

The SSID default which is set as “yournetworkname” by default. It can be changed. SSID is wireless network name for the wireless router. Your wireless client will need this name for wireless connection. The wireless setup allows the user to enable or disable the AP (access point for the wireless feature). Disabling of A.P will prevent the wireless router from emitting any wireless signal. User can make change to the Country selection, which is set to default as Singapore. See **Fig 1-12**.

Figure 1-12: Wireless Setup Page

5.5.2 Wireless Configuration

For users who want to explore the advanced features, you can click on the Advanced button. The options listed can be changed to cater for advance users. See **Fig 1-13**.

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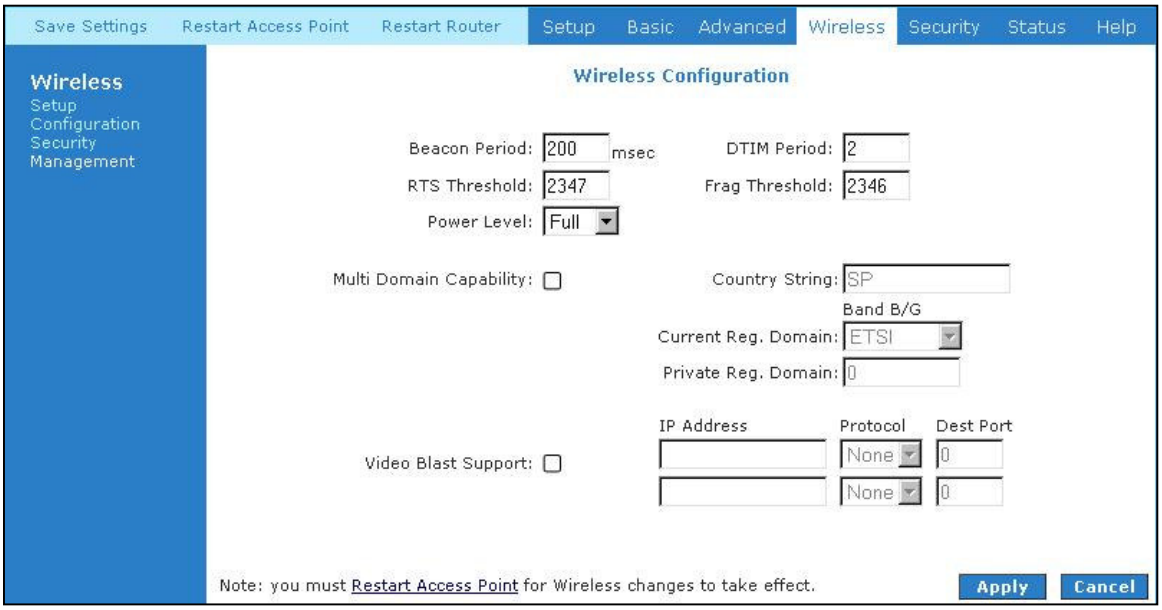

Figure 1-13 : Wireless Configuration Page

5.5.3 Wireless Security

It is important for user to enforce security in wireless LAN environment, this is to prevent unauthorized wireless users from accessing your router. By default, the 'None' radio button is selected. See **Fig 1-14**.

Figure 1-14 : Wireless Security

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In order to implement security, proceed with the following steps. See **Fig 1-15**

1. Select the WEP option.
2. Check on “Enable WEP Wireless Security” option.
3. Select the “Cipher”option, the available options are 64 bits, 128 bits and 256 bits.
4. You can configure up to 4 sets of keys for your wireless client.

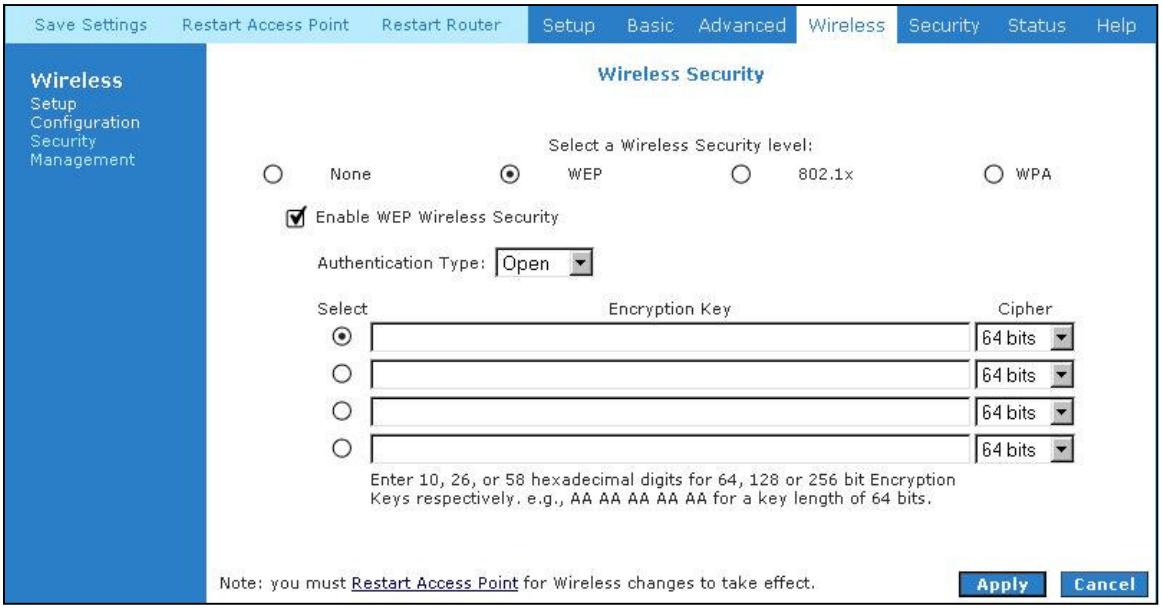

Figure 1-15: Wireless Security settings

Enter the IP Address of the RADIUS Server (for 802.1x authentication purposes). This is used only when you have a RADIUS Server and want to use it for authentication. Almost all homes and offices do not have a RADIUS Server.

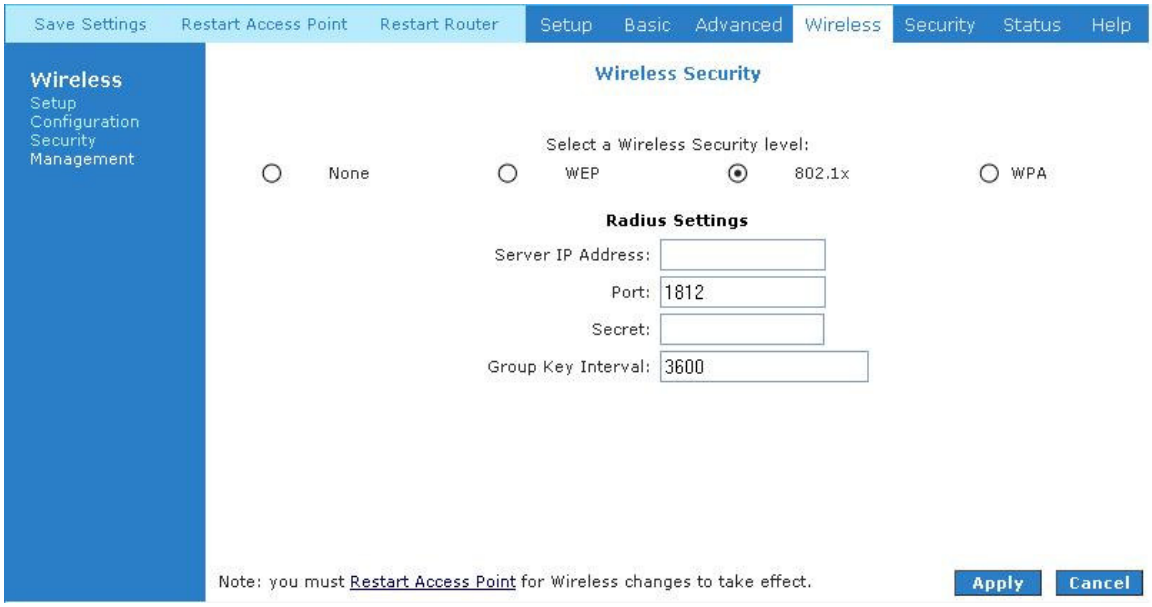

Figure 1-16 : Wireless Security

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WPA is the short term for WiFi Protected Access. WPA is an industry-supported, pre-standard version of 802.11i that utilizes the Temporal Key Integrity Protocol (TKIP), which fixes the problems of WEP, which includes using dynamic keys.

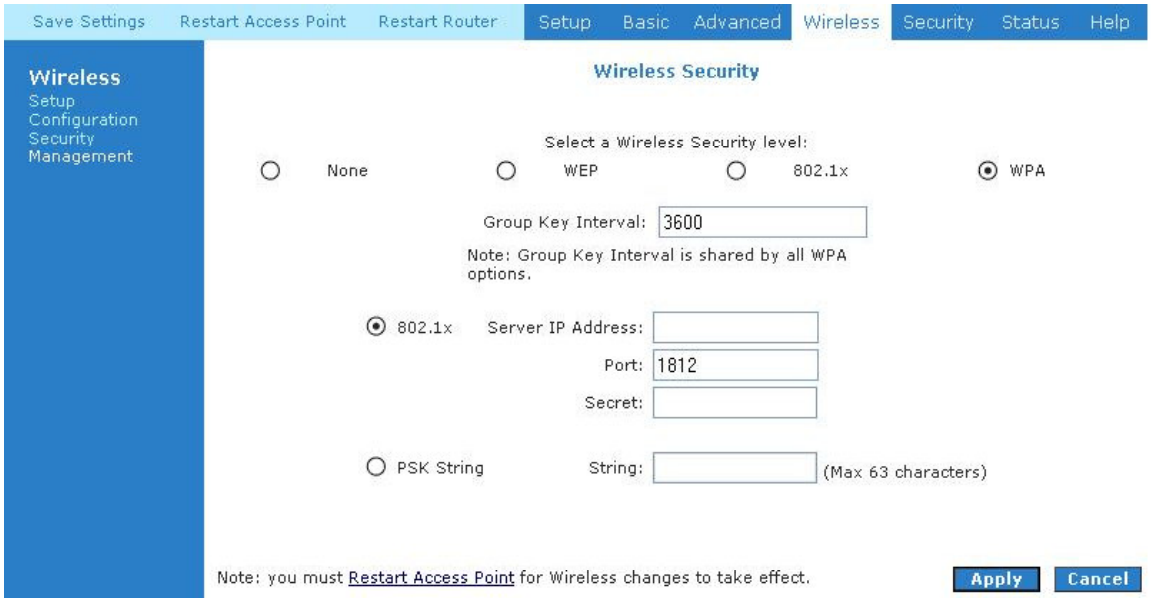

Figure 1-17 : Wireless Security

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5.5.4 Wireless Management

Wireless Management consists of Aceess List, Associated Stations and Multiple SSID.

5.5.4.1 Access List

This feature permits you to “Allow” or “Ban” any wireless client from accessing the wireless router. You must add the MAC address of the client’s wireless LAN card.

5.5.4.2 Associated Stations

Wireless client which are connected to the wireless router will be displayed in this screen. You are able to ban this station by clicking on the “Ban Station” option. Then click on “Apply” button.

5.5.4.3 Multiple SSID

This router supports multiple SSID, which means that you can set more than one SSID for this router.

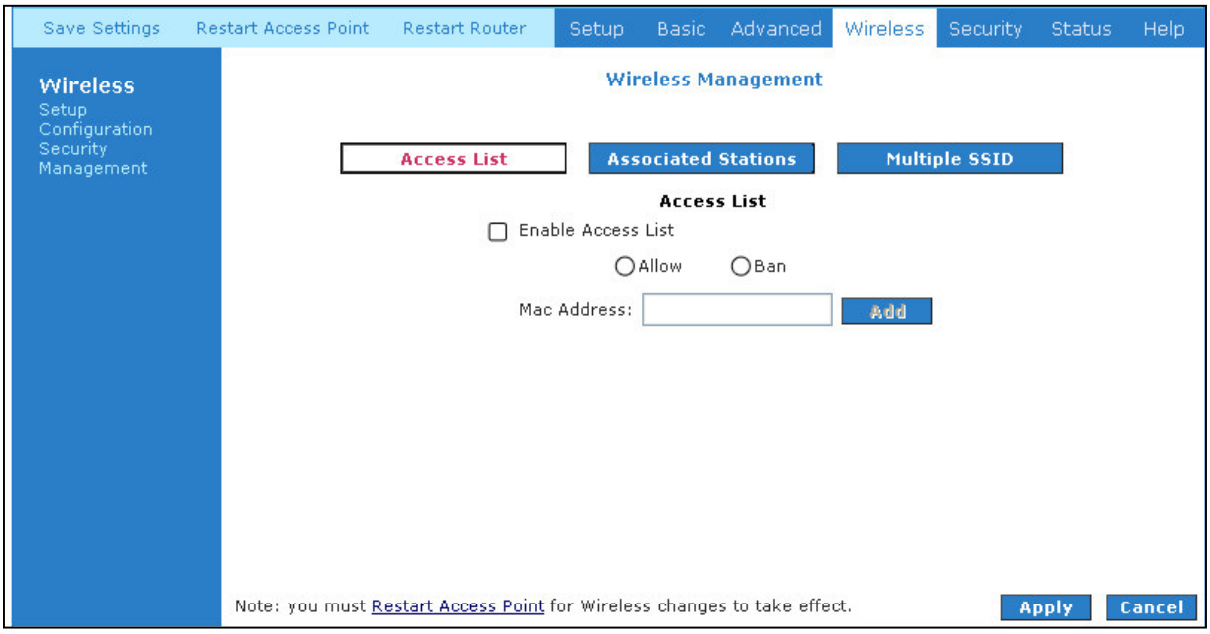

Figure 1-18: Wireless Management

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5.6 Advanced

This mode is catered for advance users, a brief explanation of the links are listed as shown below.

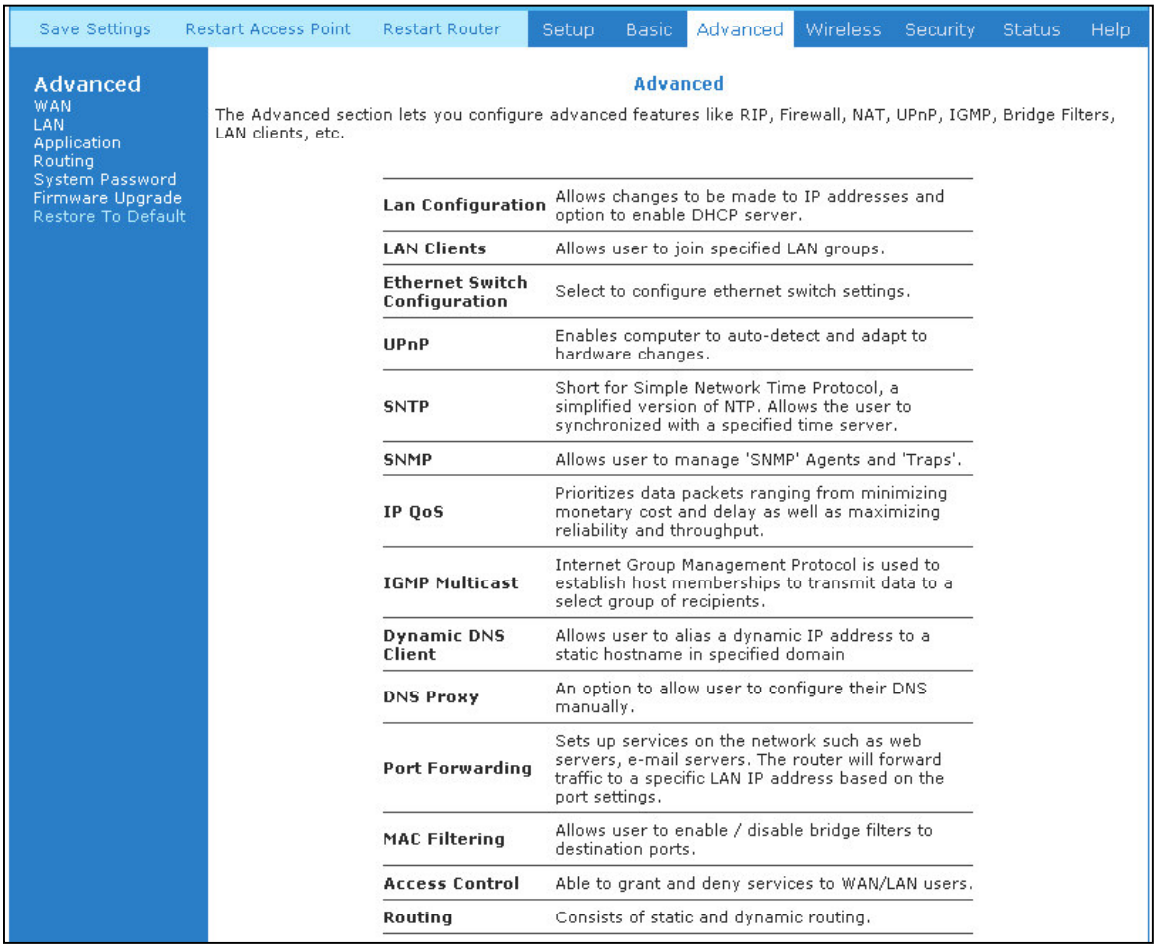

Figure 1-19 : Advanced Screen

5.6.1 WAN Connection

On the other side of the ADSL Router is where your Wide Area Network (WAN) connection; also referred to as a broadband connection. This WAN connection is different for every WAN supplier. Most of the configuration you will perform will be in this area. Local Area Network Connection(s)

5.6.2 New Connection

A new connection is a virtual connection. Your ADSL Router can support up to 8 different (unique) virtual connections. If you have multiple different virtual connections, you may need to utilize the static and dynamic routing capabilities of the modem to pass data correctly.

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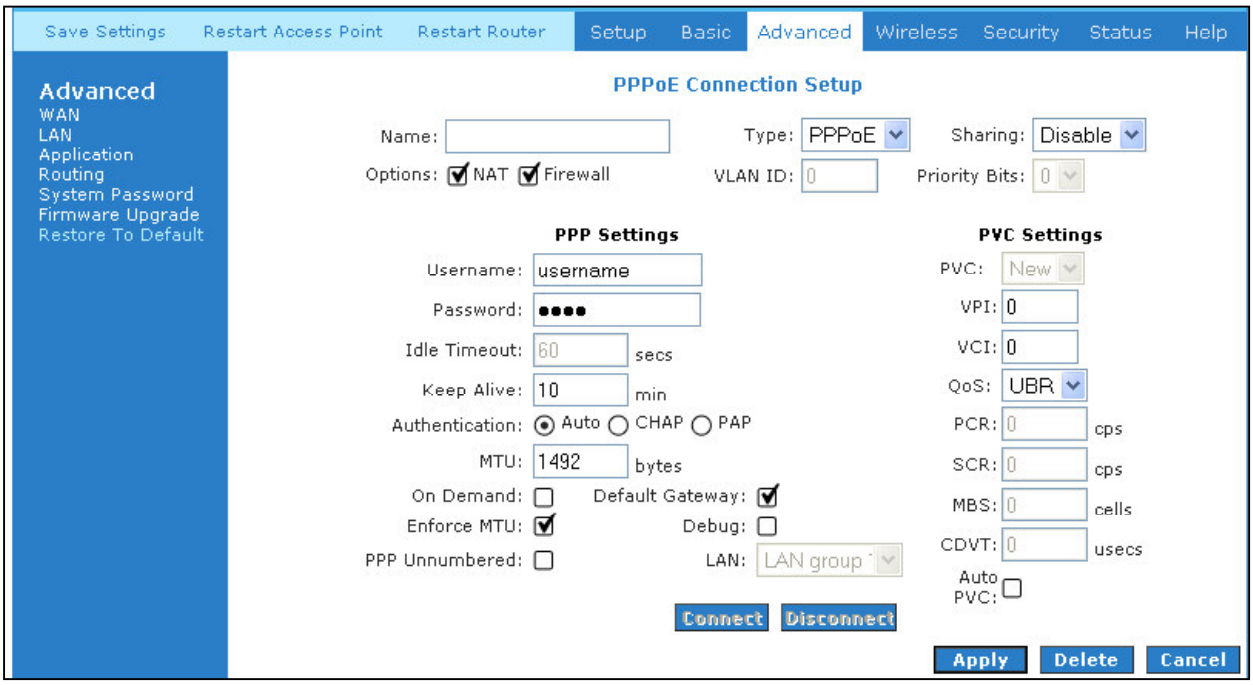

Figure 1-20 : New Connection (PPPOE Connection Setup)

5.6.3 ADSL Modulation

To configure the DSL modulation type, Click setup. Under WAN Setup, select Modem Setup. This will bring up the modem setup screen. Leave the default value if you are unsure or the DSL/ISP did not provide this information. In most cases, this screen should not be modified.

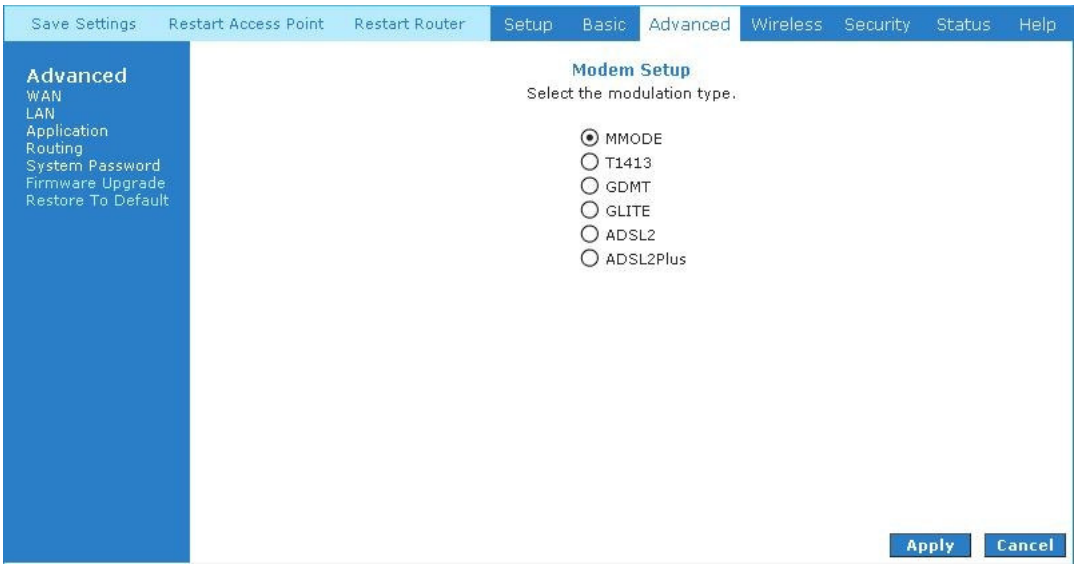

Figure 1-21 : ADSL Modulation (Modem Setup)

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5.6.4 Quickstart

PPPoE is also known as RFC 2516. It is a method of encapsulating PPP packets over Ethernet. PPP or Point-to-Point protocol is a method of establishing a network connection/session between network hosts. It usually provides a mechanism of authenticating users.

To configure the gateway for PPPoE, click on Setup and then click on New Connection. The default PPPoE connection setup is displayed. At the Type field select PPPoE and the PPPoE connection setup page is displayed. Give your PPPoE connection a unique name; the name must not have spaces and cannot begin with numbers. In this case the unique name is called PPPoE1. Select the encapsulation type (LLC or VC); if you are not sure just use the default mode. Select the VPI and VCI settings; your DSL service provider or your ISP will supply these; in this case the DSL service provider is using 0,100. Also select the quality of service (QOS); leave the default value if you are unsure or the ISP did not provide this information. See **Fig 1-22**

Following is a description of the different options:

1. Username: The username for the PPPoE access; this is provided by your DSL service provider or your ISP.
2. Password: The password for the PPPoE access; this is provided by your DSL service provider or your ISP.
3. On-Demand: Enables on-demand mode. The connection will disconnect if no activity is detected after the specified idle timeout value.
4. Idle Timeout: Specifies that PPPoE connection should disconnect if the link has no activity detected for n seconds. This field is used in conjunction with the On-Demand feature. To ensure that the link is always active, enter a 0 in this field.
5. Keep Alive: When on-demand option is not enable, this value specifies the time to wait without being connected to your provider before terminating the connection. To ensure that the link is always active, enter a 0 in this field.
6. Set Route: Specify this connection as the default-route.
7. Enforce MTU: Check this box if you experience problems accessing the Internet over a PPPoE connection. This feature will force all TCP traffic to conform with PPP MTU by changing TCP Maximum Segment Size to PPP MTU.

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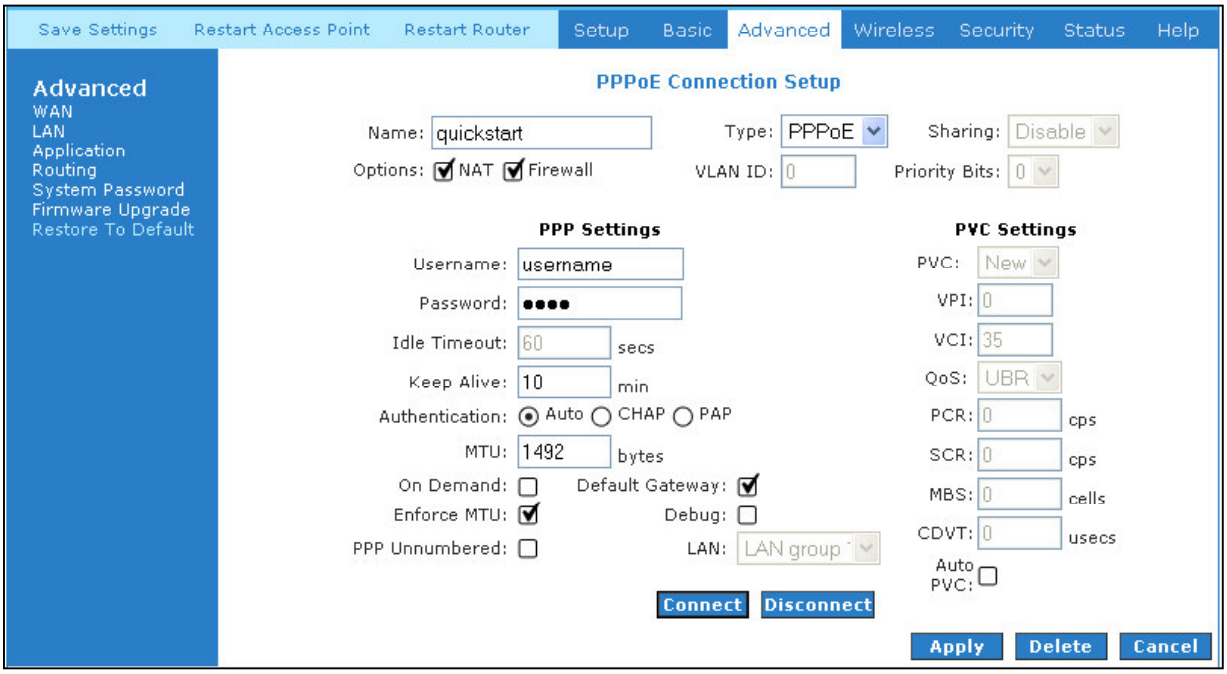

Figure 1-22 :Quickstart (PPPOE Connection Setup)

5.6.5 LAN Configuration

You can change the ADSL Router's IP address by, clicking Setup and under LAN Setup, select LAN Configuration, then click Configure.

Your ADSL Router's default IP address and subnet mask are 192.168.1.1/255.255.255.0; this subnet mask will allow the ADSL Router to support 254 users. If you want to support a larger number of users you can change the subnet mask; but remember. The DHCP server is defaulted to only give out 255 IP addresses. Further remember that if you change your gateways' IP address and you have DHCP enabled, the DHCP configuration must reside within the same subnet The default gateway is the routing device used to forward all traffic that is not addressed to a station within the local subnet. Your ISP will provide you with the default gateway Address.

The hostname can be any alphanumeric word that does not contain spaces. The domain name is used to in conjunction with the host name to uniquely identify the gateway. To access the ADSL Router's web pages the user can type 192.168.1.1 (the default IP address) or type mygateway.ar7. The apply button will temporarily save this connection. To make the change permanent you need to click on Save Settings (at the side of the page). At the system commands page, click on Save Settings.

Refer to **Figure 1-23**

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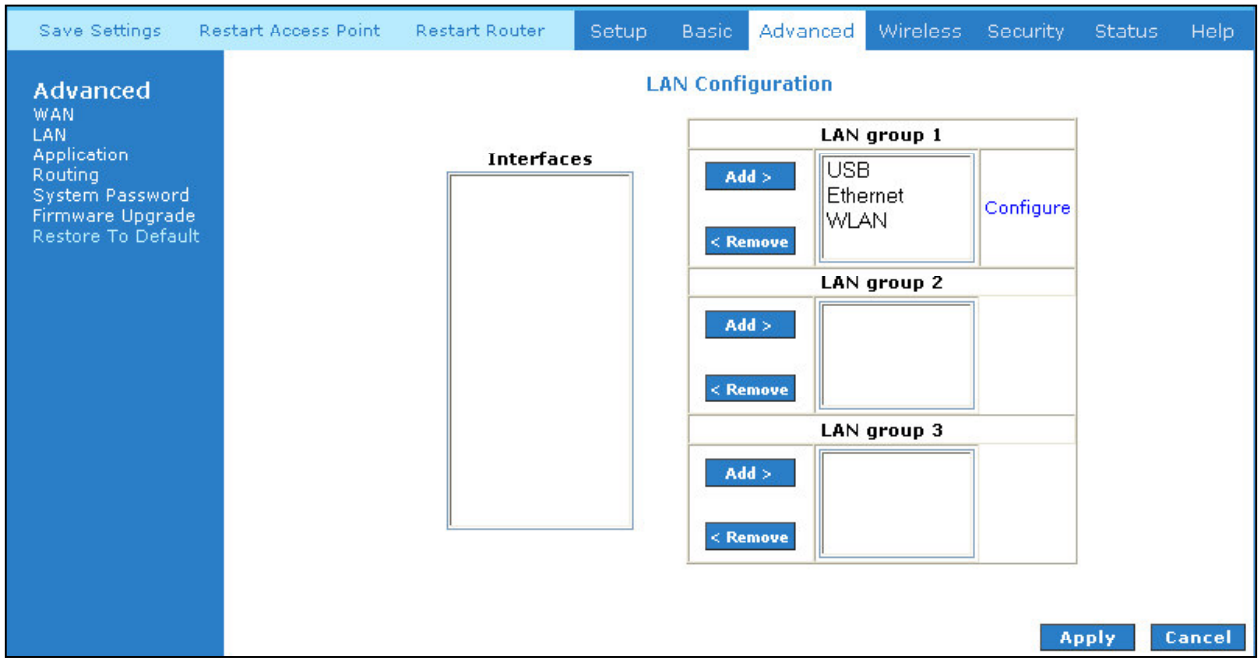

Figure 1-23 : LAN Configuration

5.6.6 LAN Clients

To add a LAN client select LAN clients, under LAN. If DHCP is used, all DHCP clients are automatically assigned. If a fixed IP address server is on the LAN and you want this server to be visible via the WAN, you must add its IP address. Once the IP address has been added to you can apply Port Forwarding and Access Control rules to this IP address.

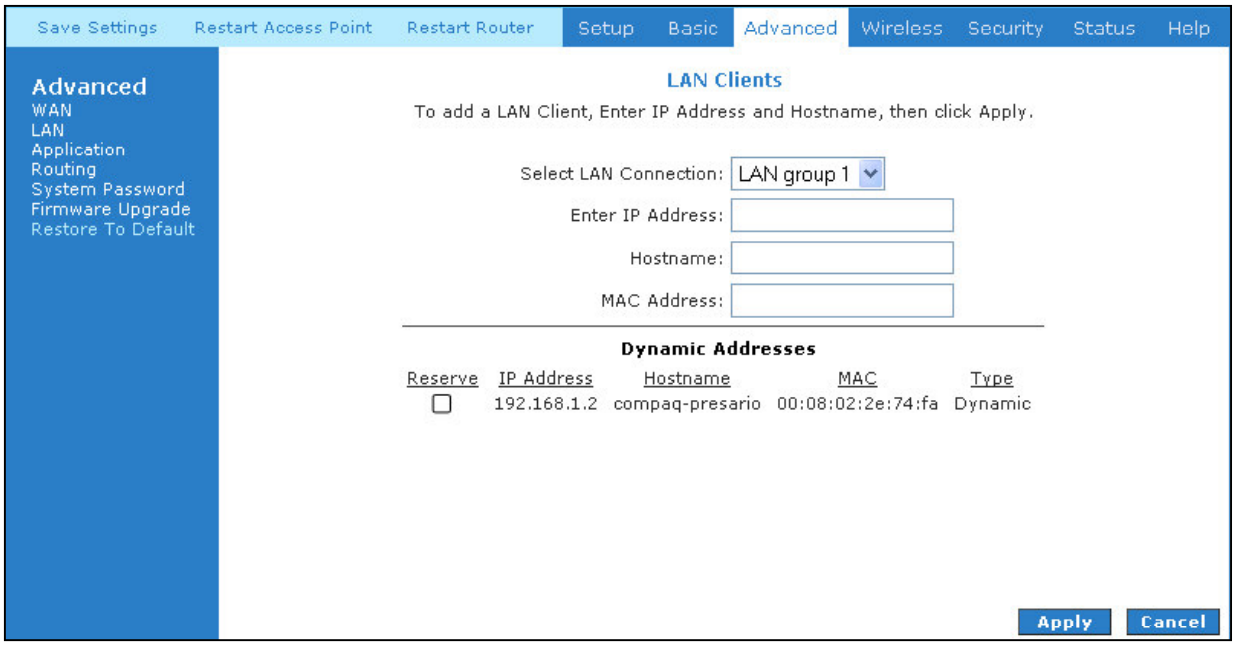

Figure 1-24 : LAN Clients

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5.6.7 Ethernet Switch Configuration

The IGMP Snooping prevents the switch from flooding the LAN ports with multicast frames, and will instead direct them to the CPU port for processing. Users are able to specify connection speed and set their values accordingly from the following available options. See **Fig 1-25**.

- Auto
- 10/Half Duplex
- 10/Full Duplex
- 100/Half Duplex
- 100/Full Duplex

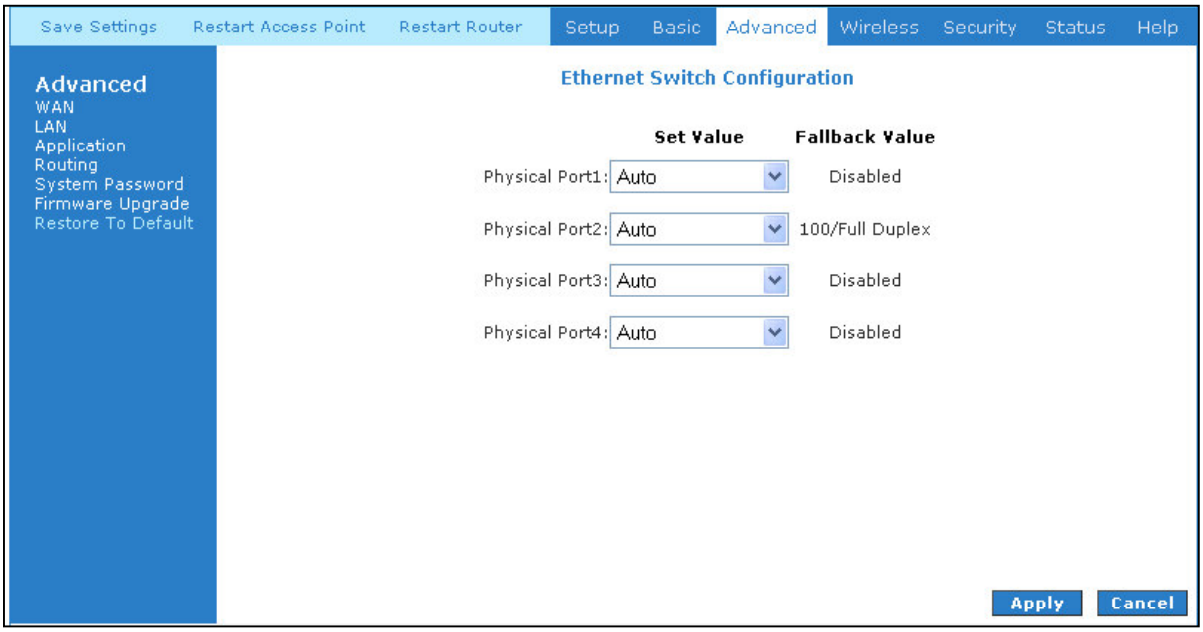

Figure 1-25 : Ethernet Switch Configuration

5.6.8 Application (UPnP)

UPnP NAT and Firewall Traversal allow traffic to pass-thru the ADSL Router for applications using the UPnP protocol. This feature requires one active DSL connection. In presence of multiple DSL connections, select the one over, which the incoming traffic will be present, for example the default Internet connection.

To enable UPnP, you must first have a WAN connection configured. Once a WAN connection is configured, click Advanced and under Advanced, select UPnP. You must enable UPnP and then select which connection will utilize UPnP. In this case the PPPoA connection is enabled. See **Fig 1-26**.

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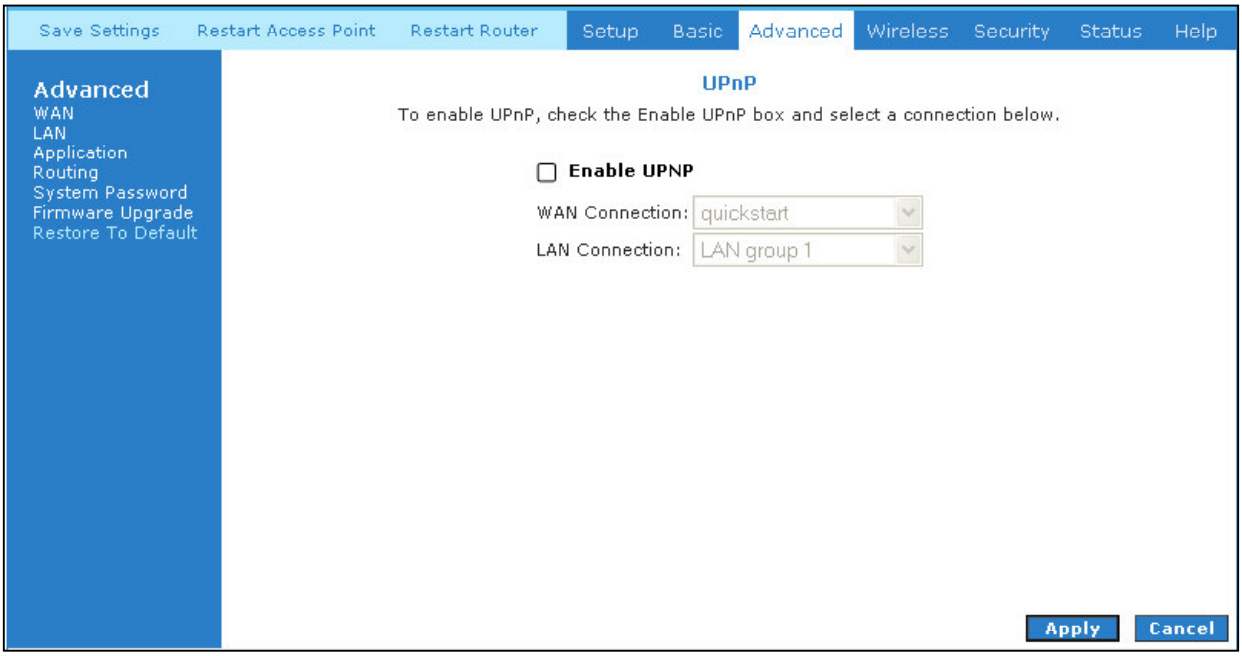

Figure 1-26 : UPnP

5.6.9 SNTP

SNTP (Simple Network Timing Protocol) is a protocol used to synchronize the system time to the public SNTP servers. When the SNTP feature is enabled, your DSL600EW will start querying for the time clock information from the primary SNTP server. If it fails to get a valid response within the "timeout" period, it will try for "retry" number of times, before moving to the Secondary SNTP server. If it fails to get a valid response from Secondary STNP server within valid retry times, it starts querying Tertiary SNTP server. If it fails to get a valid response from all the servers, then the program stops. When a valid response is received from one of the server, the program sleeps for "Polling_interval" amount of minutes, before starting the whole process again. Use the following procedures to enable SNTP.

1. Check Enable SNTP.
2. Primary SNTP Server - The IP address or the host name of the primary SNTP server.
3. Secondary SNTP Server - The IP address or the host name of the secondary SNTP server.
4. Tertiary SNTP Server - The IP address or the host name of the tertiary SNTP server.
5. Timeout - If the DSL600EW failed to connect to a SNTP server within the 'Timeout' period, it will retry the connection.
6. Polling Interval - Time between a successful connection with a SNTP server and a new attempt to connect to an SNTP server.
7. Retry Count - The number of times the DSL600EW will try to connect to an SNTP server before it try to connect to the next server in line.
8. Time Zone - The time zone of the DSL600EW.

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9. Day Light - Check/uncheck this option to enable/disable day light saving. See **Fig 1-27**

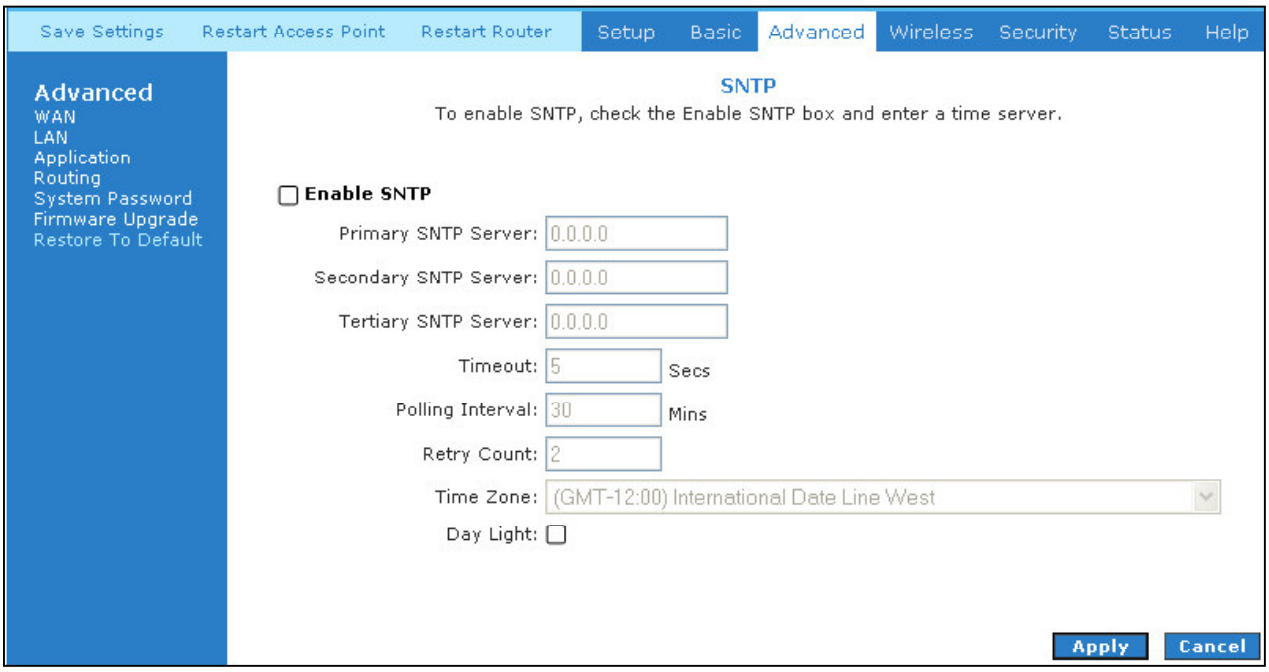

Figure 1-27 : SNTP

5.6.10 SNMP

SNMP (Simple Network Management Protocol) is a troubleshooting and management protocol, which uses the UDP protocol on port 161 to communicate between clients and servers. SNMP uses a manager MIB (management information base) agent solution to fulfill the network management needs. The agent is a separate station that can request data from an SNMP agent in each of the different managed system in the network. The agent uses the MIBs as dictionaries of manageable objects. Each SNMP-managed device has at least one agent that can respond to the queries from the NMS. The SNMP agent supports GETS, SETS, and TRAPS for 4 groups with MIB-II: System, Interface, IP, and ICMP. The SNMP agent supports three-community names authentication.

See **Fig 1-28**

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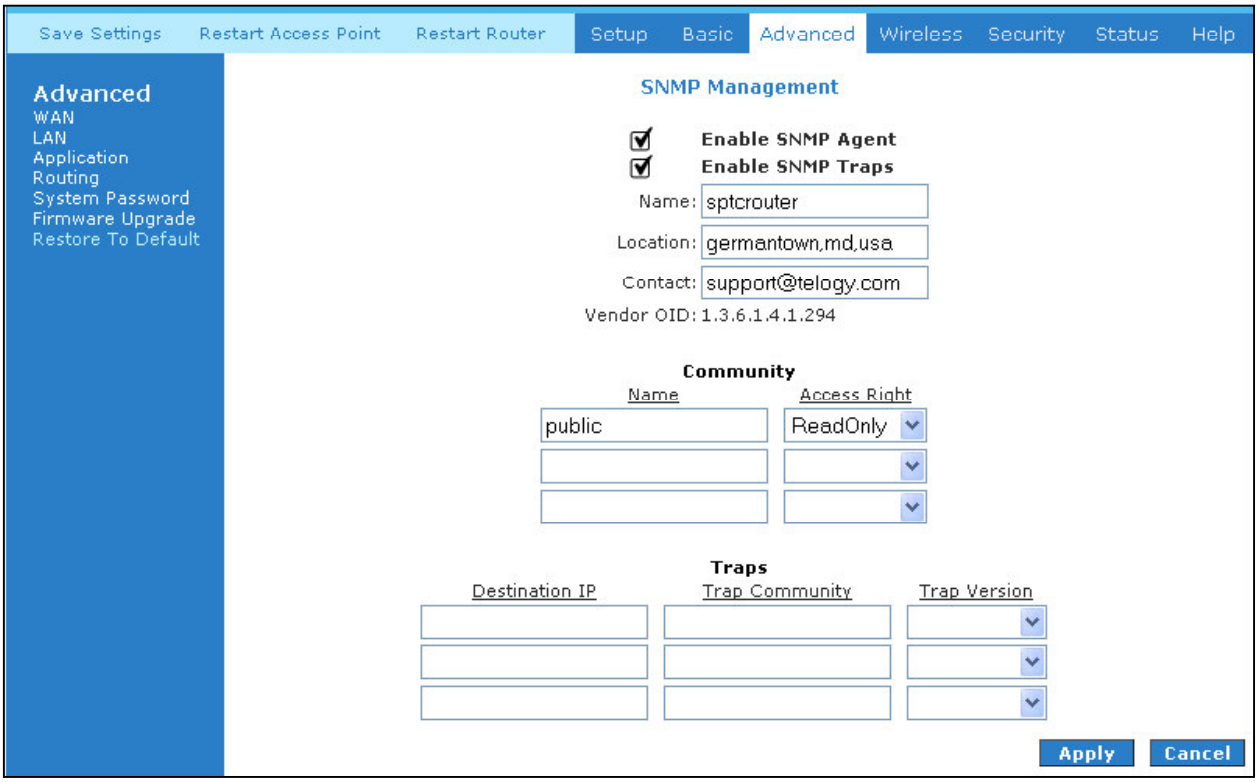

Figure 1-28 : SNMP Management

5.6.11 IP QoS

When QoS is enabled in the AR7, the designated machine, application or person would have precedence over peers when competing for bandwidth. The IP QoS Setup page allows you to configure QoS for a connection, view previously configured QoS rules, add a new rule, or delete an existing rule. Each output device has three priority queues associated with transmit data. The **high priority** queues have strict priority over the **medium priority** and **low priority** queues, and therefore can exhaust all available bandwidth. The web UI will allow the user to select the weights of the medium and low priority queues in increments of 10 percent so that that the sum of the weights of the 2 queues is equal to 100 percent. These queues will be serviced on a Round Robin priority basis according to the weights assigned, after the high priority queues have been completely serviced.

See **Fig 1-28**.

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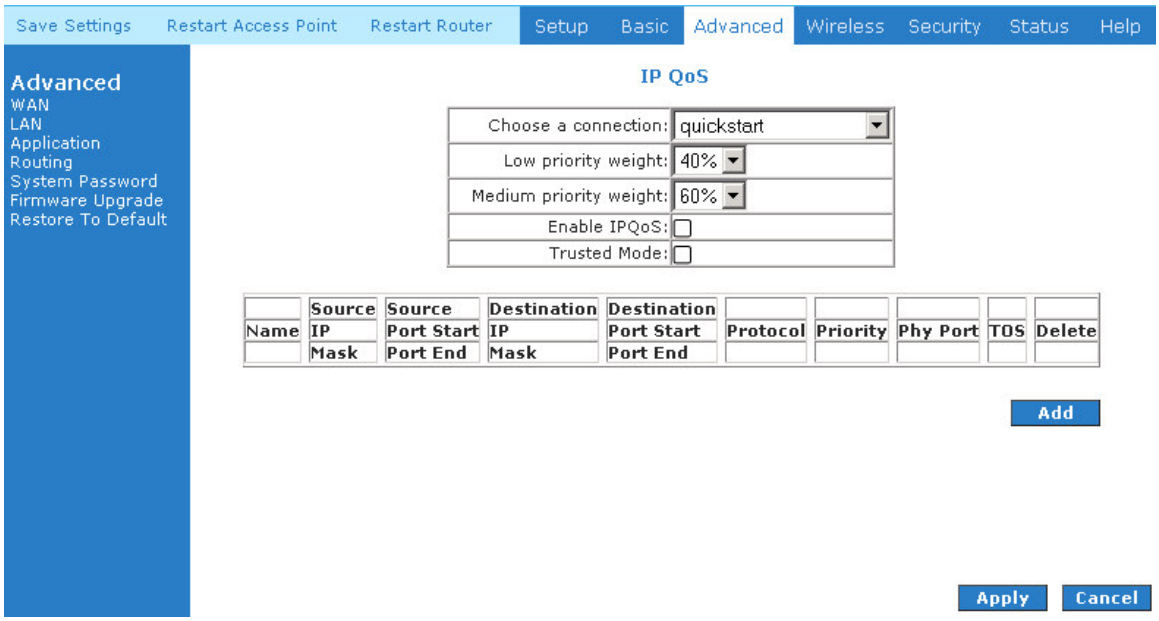

Figure 1-29 : IP QoS

5.6.12 IGMP Multicast

If the ADSL Router is connected to more than one network, you may need to set up a static route between them. A static route is a pre-defined pathway that network information must travel to reach a specific host or network. You can use static routing to allow different IP domain users to access the Internet through the ADSL Router.

The New Destination IP is the address of the remote LAN network or host to which you want to assign a static route. Enter the IP address of the host for which you wish to create a static route here. For a standard Class C IP domain, the network address is the first three fields of the New Destination IP, while the last field should be 0. The Subnet Mask identifies which portion of an IP address is the network portion, and which portion is the host portion. For a full Class C Subnet, the Subnet Mask is 255.255.255.0. The Gateway IP address should be the IP address of the gateway device that allows for contact between the Gateway and the remote network or host. The Hop Count determines the maximum number of steps between network nodes that data packets will travel. A node is any device on the network (such as a router or switch).

See **Fig 1-30**.

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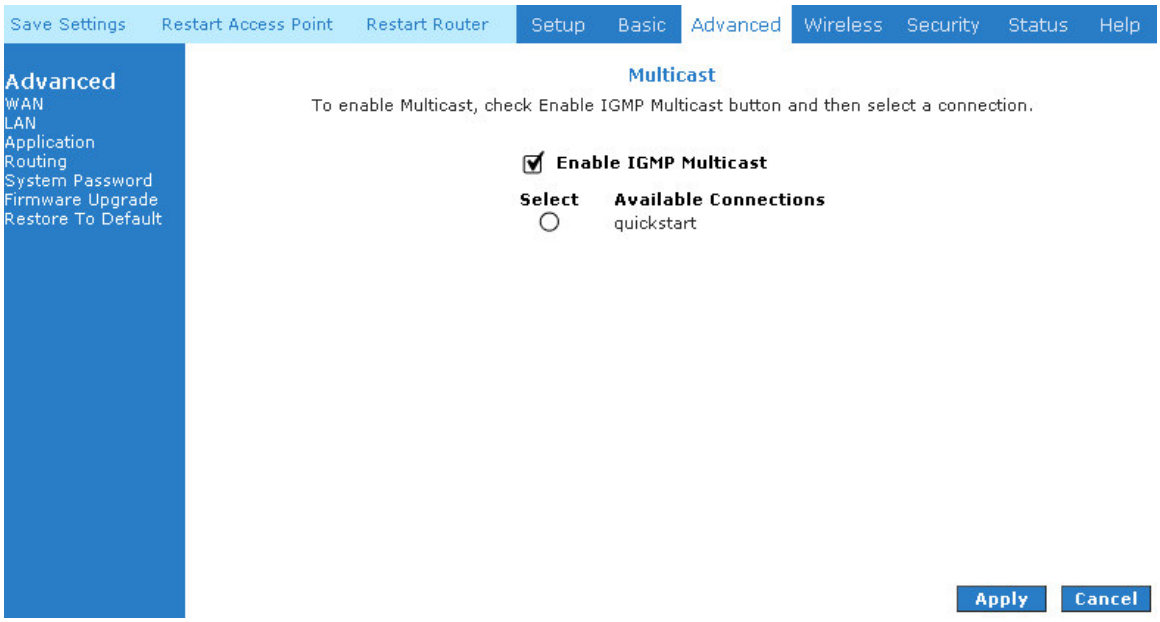

Figure 1-30 : IGMP Multicast

5.6.13 Dynamic DNS Client

Dynamic DNS allows the user to register with a Dynamic DNS Provider as listed. The dynamic DNS will be linked with the WAN IP of the router even after the ISP update the WAN IP to another IP address. It can be useful in web hosting and FTP services. See **Fig 1-31**.

*Note: The Username/Password entered should be similar to the Username/Password you have specified during the registration of the DNS hostname.

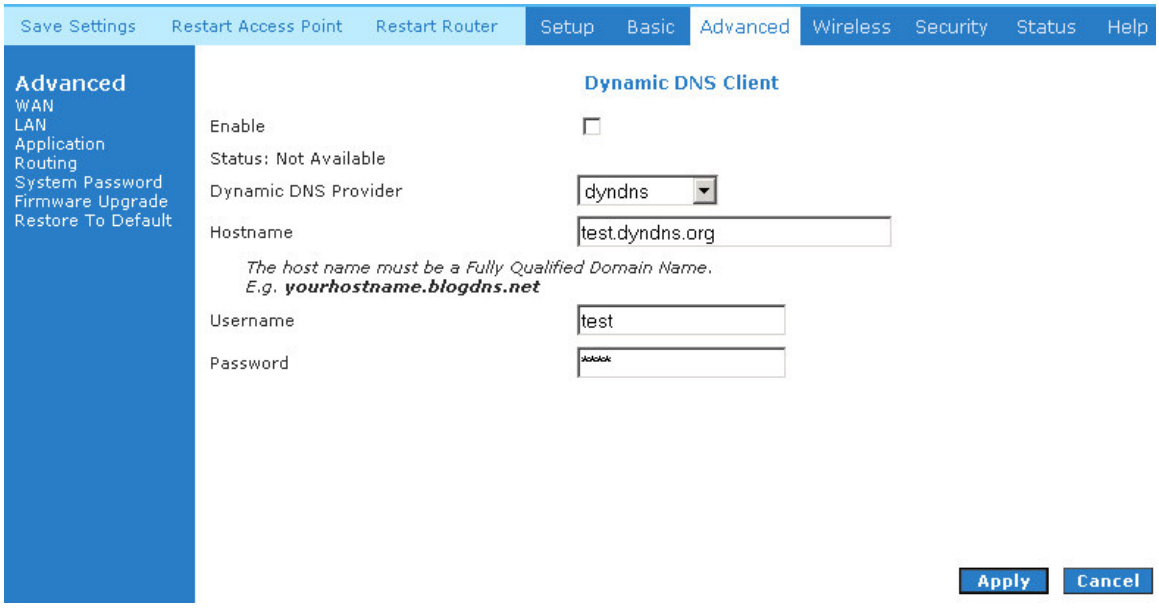

Figure 1-31 : Dynamic DNS Client

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5.6.14 DNS Proxy

This feature allows the user to select the (Domain Name Server) DNS Server Priority as well as enter IP addresses for Primary DNS and secondary DNS.

See **Fig 1-32**.

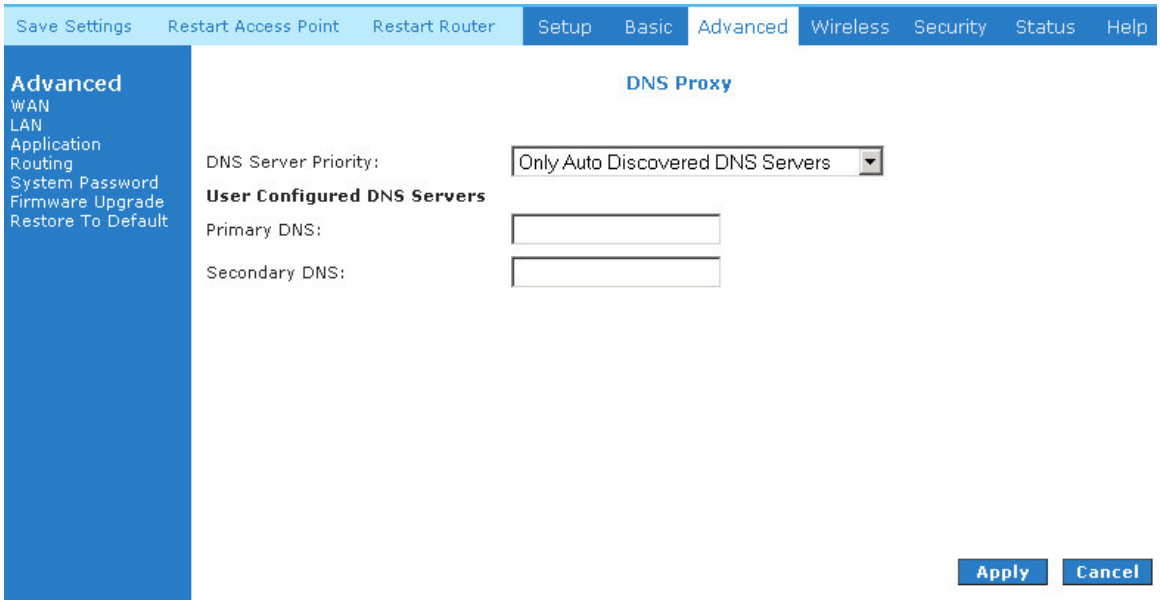

Figure 1-32 : DNS Proxy

5.6.15 Easy Connect Configuration

Easy Connect feature allow user to surf web with ease without the need to changes default configuration setting, ie TCP/IP, Proxy, DNS of user's PC. See **Fig 1-33**.

There are 4 features on Easy Connect:

1. **Auto IP:** All valid TCP/IP setting on user's PC can surf web via ADSL modem routers without the need to change the IP address to the same subnet as the router or set to "Obtain an IP address automatically".
2. **Auto DNS:** Any DNS IP address set at user's PC irregardless whether the address is valid or invalid DNS, Auto DNS still allow user's PC to surf the web.
3. **Auto Proxy:** Any valid **Private IP** proxy setting with any port number, ie 1234 on the web browser such as Internet Explorer, Auto Proxy still allow PC to surf the web. Any **Public IP** proxy setting will assume the proxy is valid and hence Auto Proxy function will not take place.

⚠ Note…
The port number to be used must be specify in both the web browser and the Auto Proxy Ports.

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Private IP Ranges

Class A: 10.0.0.0 ~ 10.255.255.255

Class B: 172.16.0.0 ~ 172.31.255.255

Class C: 192.168.0.0 ~ 192.168.255.255

4. **Auto NetBIOS:** It allow proxy server to use any NetBIOS name which the Auto NetBIOS still allow PC to surf the web with a condition that the router gateway **MUST** be inPrivate IP Ranges.

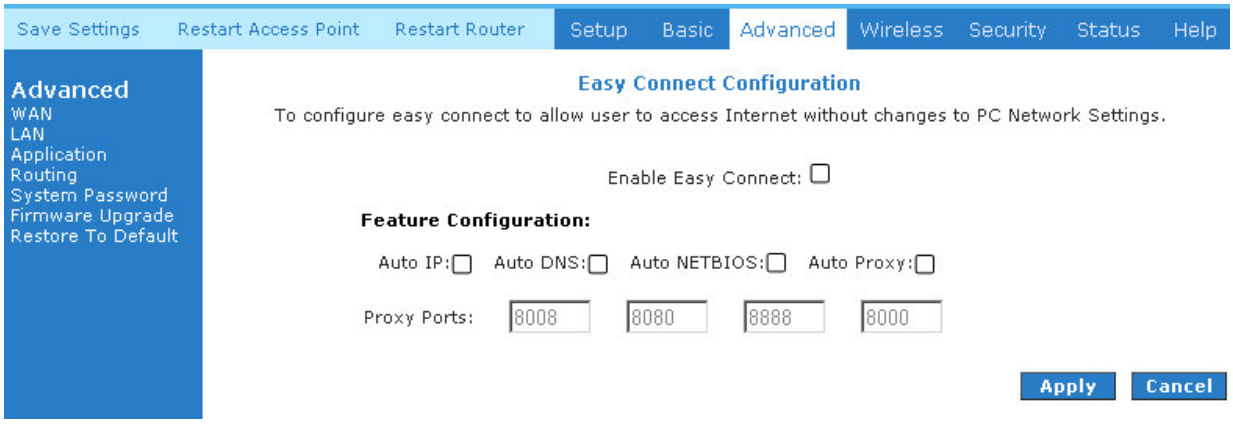

Figure 1-33 : Easy Connect Configuration

5.6.16 Port Forwarding

Using the Port Forwarding page, you can provide local services (for example web hosting) for people on the Internet or play Internet games. When users send this type of request to your network via the Internet, the ADSL Router will forward those requests to the appropriate PC. Port forwarding can be used with DHCP assigned addresses but remember that a DHCP address is dynamic (not static). For example, if you were configuring a Netmeeting server, you would want to assign this server a static IP address so that the IP address is not reassigned. Also remember that if an Internet user is trying to access an Internet application, they must use the WAN IP address. The port forwarding will translate the WAN IP address into a LAN IP address.

To configure a service, game, or other application select the external connection (for example the Internet connection), from the Home screen, click Advanced and under Advanced, select Port Forwarding. Next select the computer hosting the service and add the corresponding firewall rule. If you want to add a custom application, select the User category, click New and fill in the port, protocols and description for your application. For example, if you want to host a Netmeeting session, from the Home screen, click Advanced and under Advanced, select Port Forwarding. First select the IP address for your Netmeeting server. Next select the Audio/Video category and add Netmeeting to the applied rules box. To view the management rules, highlight Netmeeting and select view; this will display the pre configured protocols and ports that Netmeeting will use. Now assuming that your WAN connection is correct, you can run Netmeeting from your server and call users that are on the Internet. If you know your WAN IP address, users can call you. See **Fig 1-34**.

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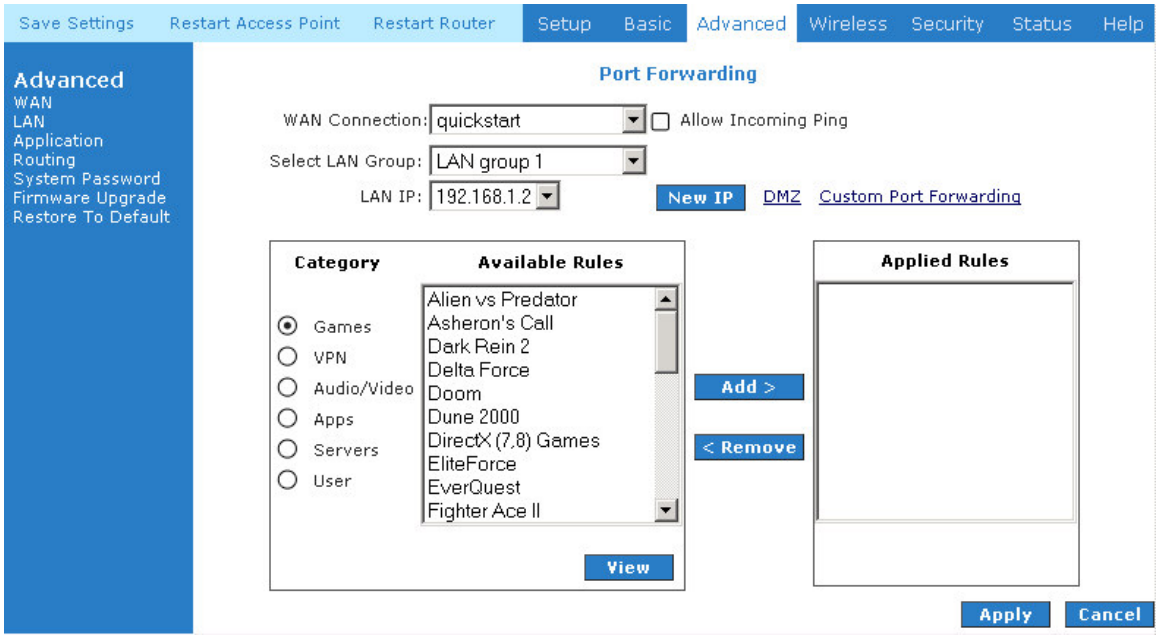

Figure 1-34 : Port Forwarding

5.6.17 MAC Filtering (Bridge Filters)

The bridge filtering mechanism provides a way for the users to define rules to allow/deny frames through the bridge based on source MAC address, destination MAC address and/or frame type. When bridge filtering is enabled, each frame is examined against the each defined filter rules sequentially. When a matched is determined, the appropriate filtering action (determined by the access type selected ... i.e. allow or deny) is performed. Please note that the bridge filter will only examine frames from interfaces, which are part of the bridge itself. Twenty filter rules are supported with bridge filtering. See **Fig 1-35**.

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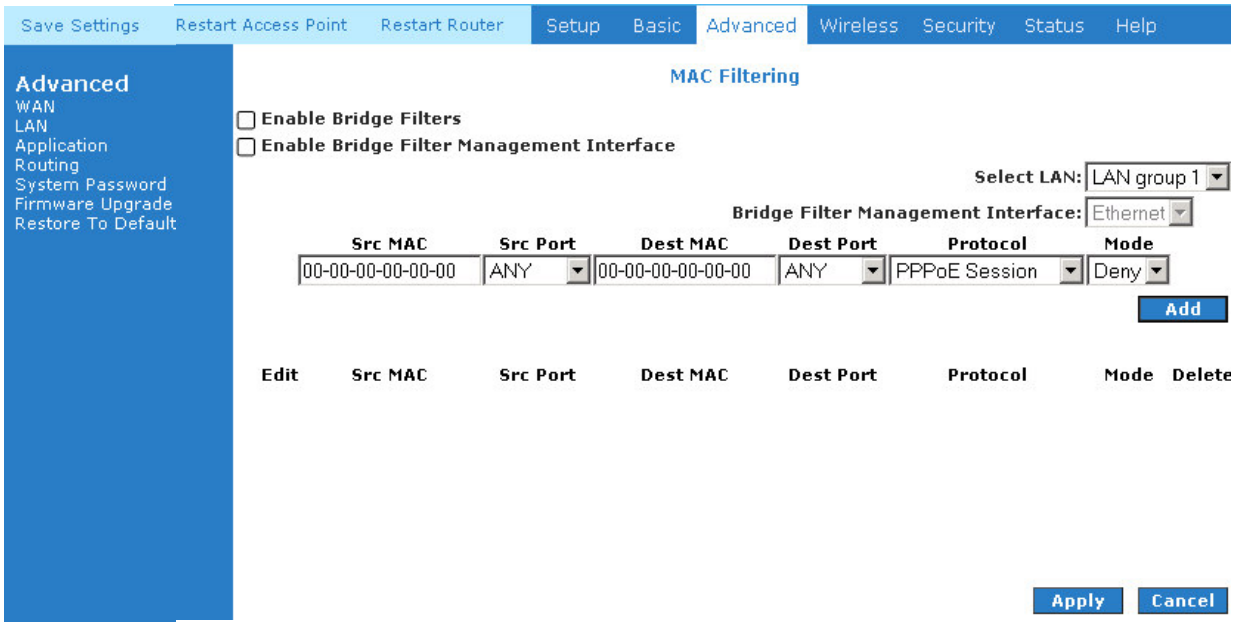

Figure 1-35 : MAC Filtering (Bridge Filters)

5.6.18 Access Control

Access control allows you to open the access from the Internet LAN to the following management ports of the DSL600ER:

- Telnet
- Web
- FTP
- TFTP
- Secure Shell (SSH)
- SNMP

Fig 1-36 shows the default Access Control screen. The Access Control is disabled by default, remote management from the WAN side IP addresses is denied, most services from the LAN side IP addresses is enabled. Remember to :

1. Check **Enable Access Control** to enable this feature. (This will enable the IP Access List field)
2. You can select an IP from the IP Access List, or enter a new IP and check **ADD**
3. Change the LAN and / or WAN configurations of the IP address
4. Click **Apply**

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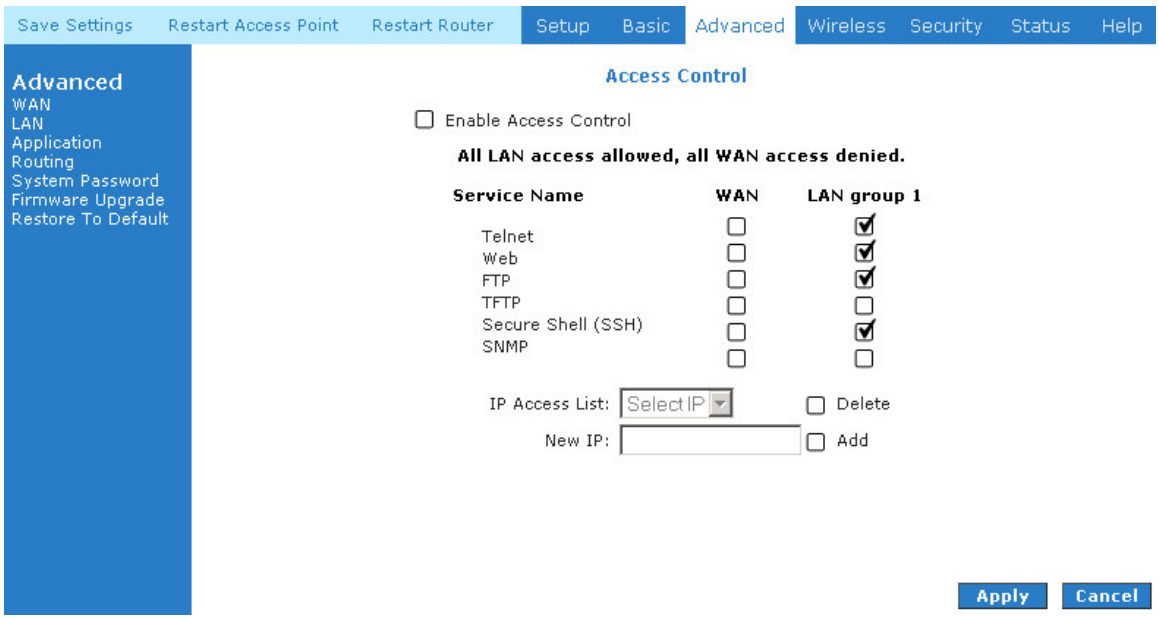

Figure 1-36 : Access Control

5.6.19 Static Routing

If the ADSL Router is connected to more than one network, you may need to set up a static route between them. A static route is a pre-defined pathway that network information must travel to reach a specific host or network. You can use static routing to allow different IP domain users to access the Internet through the ADSL Router.

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See **Fig 1-37**

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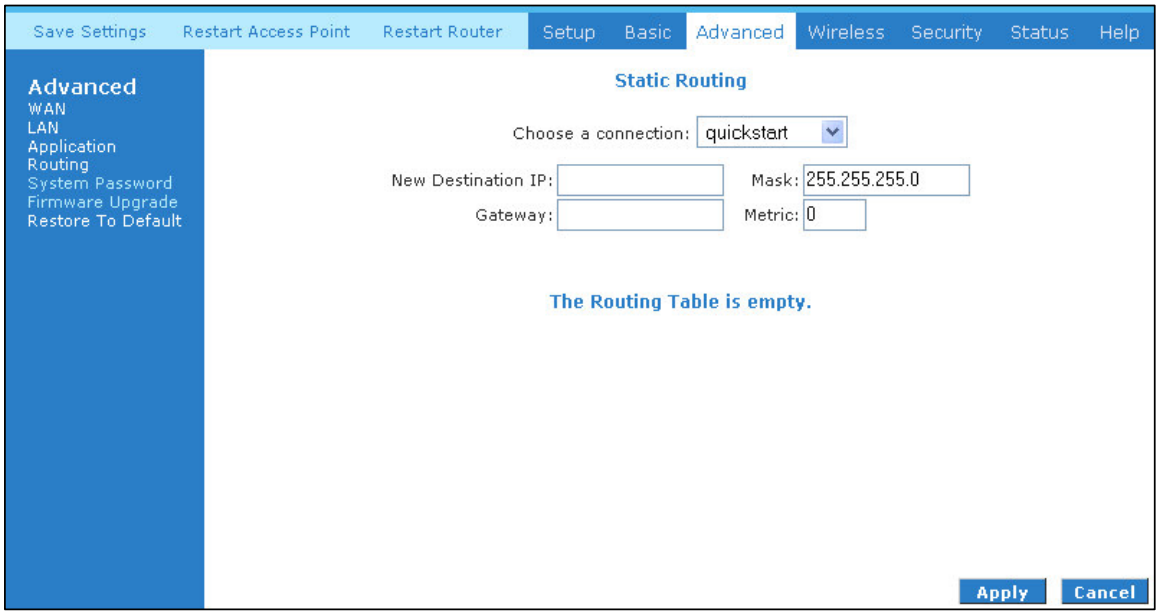

Figure 1-37 : Static Routing

5.6.20 Dynamic Routing

Dynamic Routing allows the ADSL Router to automatically adjust to physical changes in the network. The ADSL Router, using the RIP protocol, determines the network packets' route based on the fewest number of hops between the source and the destination. The RIP protocol regularly broadcasts routing information to other ADSL Routers on the network. The Direction determines the direction that RIP routes will be updated. Selecting In means that the ADSL Router will only incorporate received RIP information. Selecting Out means that the ADSL Router will only send out RIP information. Selecting both means that the ADSL Router will incorporate received RIP information and send out updated RIP information.

The protocol is dependent upon the entire network. Most networks support Rip v1. If RIP v1 is selected, routing data will be sent in RIP v1 format. If Rip V2 is selected, routing data will be sent in RIP v2 format using subnet broadcasting. If Rip V1 Compatible is selected, routing data will be sent in RIP v2 format using multicasting.

See **Fig 1-38**.

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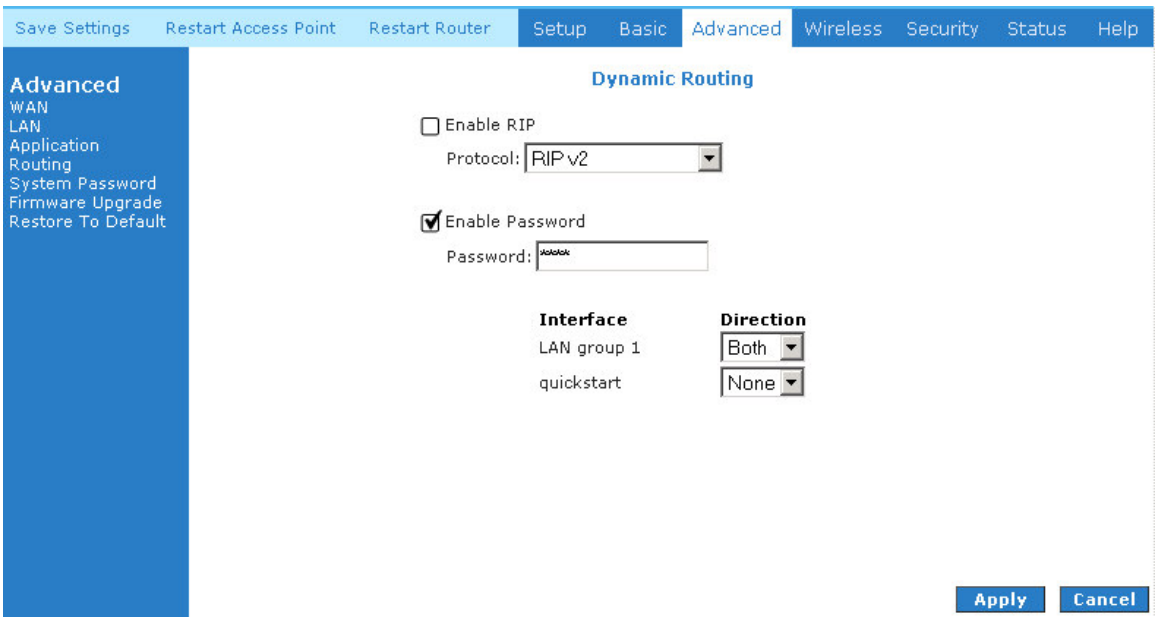

Figure 1-38 : Dynamic Routing

5.6.21 Routing Table

Routing Table shows the information used by routers when making packet forwarding decisions. Packets are routed according to the packet's destination IP address. See **Fig 1-39**.

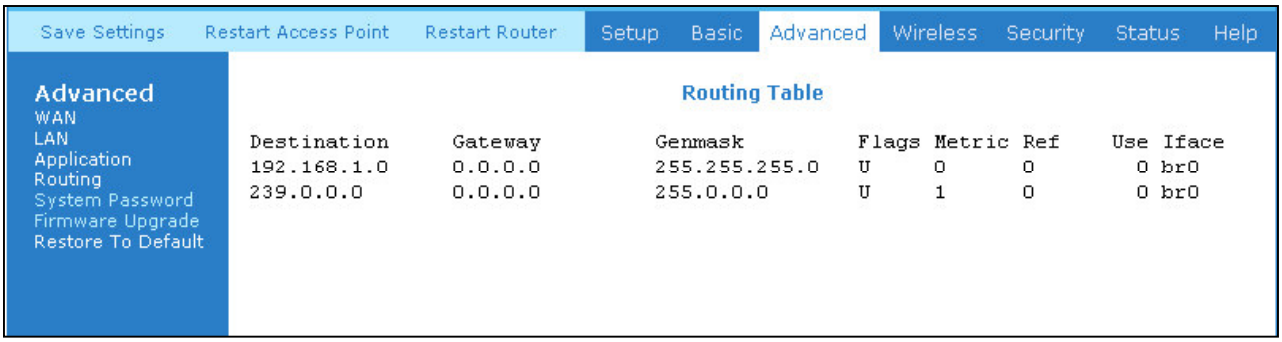

Figure 1-39 : Routing Table

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5.6.22 System Password

You can change your ADSL Router's username and password by clicking on User Management. From here you can change the login name and password. You can also change the idle timeout; you will need to log back onto the ADSL Router once the timeout expires. If you forget your password, you can press and hold the reset to factory defaults button for 10 seconds (or more). The ADSL Router will reset to its factory default configuration and all custom configurations will be lost. See **Fig 1-40**.

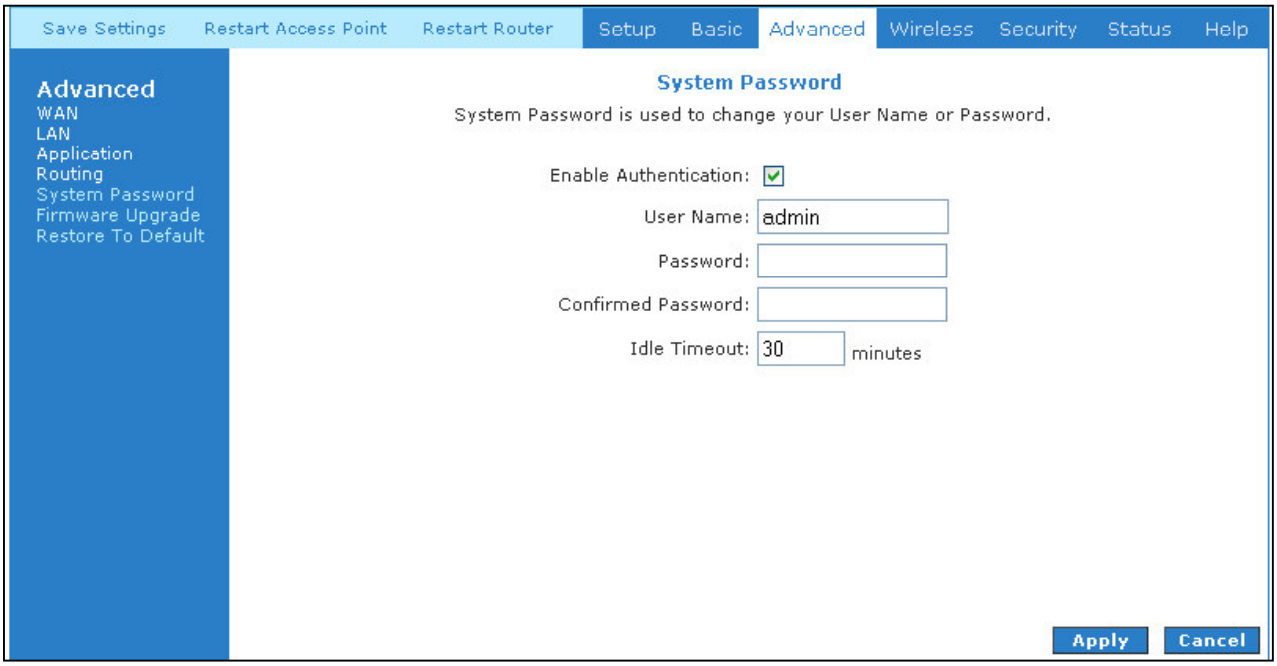

Figure 1-40 : System Password

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5.6.23 Firmware Upgrade

You can upgrade the ADSL Router's firmware, clicking on Update Gateway under the Tools page. To upgrade the firmware, click browse, find the firmware file to download. Make sure this is the correct file. Click on upgrade firmware. Once the upgrade is complete the ADSL Router will reboot. You will need to log back onto the ADSL Router after the firmware upgrade is completed. The firmware upgrade should take about 5 minutes to complete. Note: Do not remove power from the ADSL Router during the firmware upgrade procedure. See **Fig 1-41**.

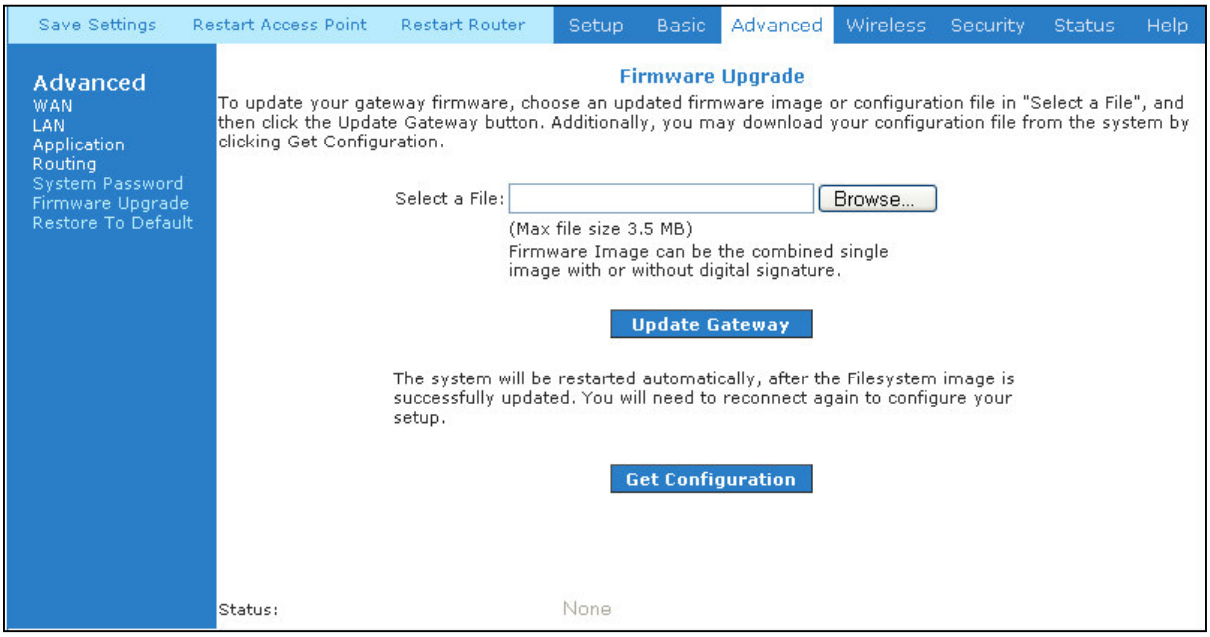

Figure 1-41 : Firmware Upgrade

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5.6.24 Restore to Default

The restore to factory defaults feature will set the ADSL Router to its factory default configuration by resetting the ADSL Router. You may need to place the ADSL Router into its factory defaults if the configuration is changed, you lose the ability to interface to the ADSL Router via the web interface, or following a software upgrade,. To reset the ADSL Router, simply press the reset button for about ~ 10 seconds. The ADSL Router will be reset to its factory defaults and after about 30 ~ 40 seconds the ADSL Router will become operational again.

A prompt as the one shown in **Fig 1-42** will pop-up.

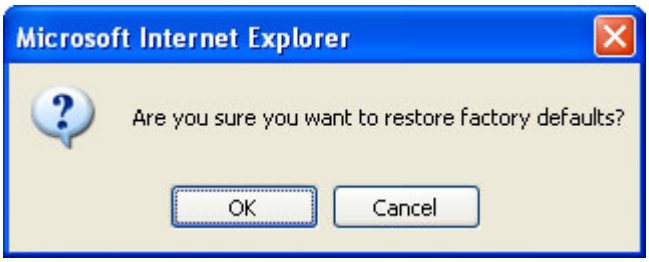

Figure 1-42 : Restore to Default prompt

5.7 Security

The security feature section allows users to configure the following:

- IP Filters
- LAN Isolation
- URL Filters

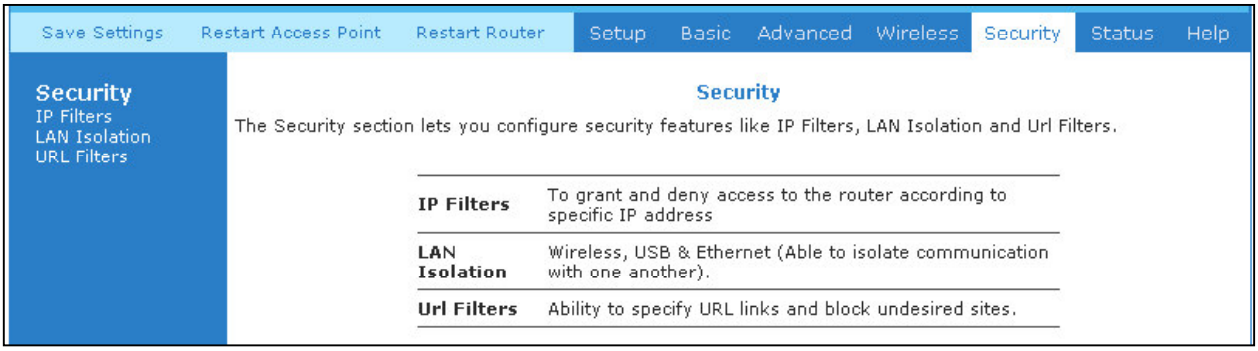

Figure 1-43 : Security

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5.7.1 IP Filters

IP filter is identical to what Port blocking to Access Control. **Fig 1-44** demonstrates that the router will block workstations with the IP in the defined range of 192.168.1.5 to 192.168.1.20 and port range from 2000 to 3000.

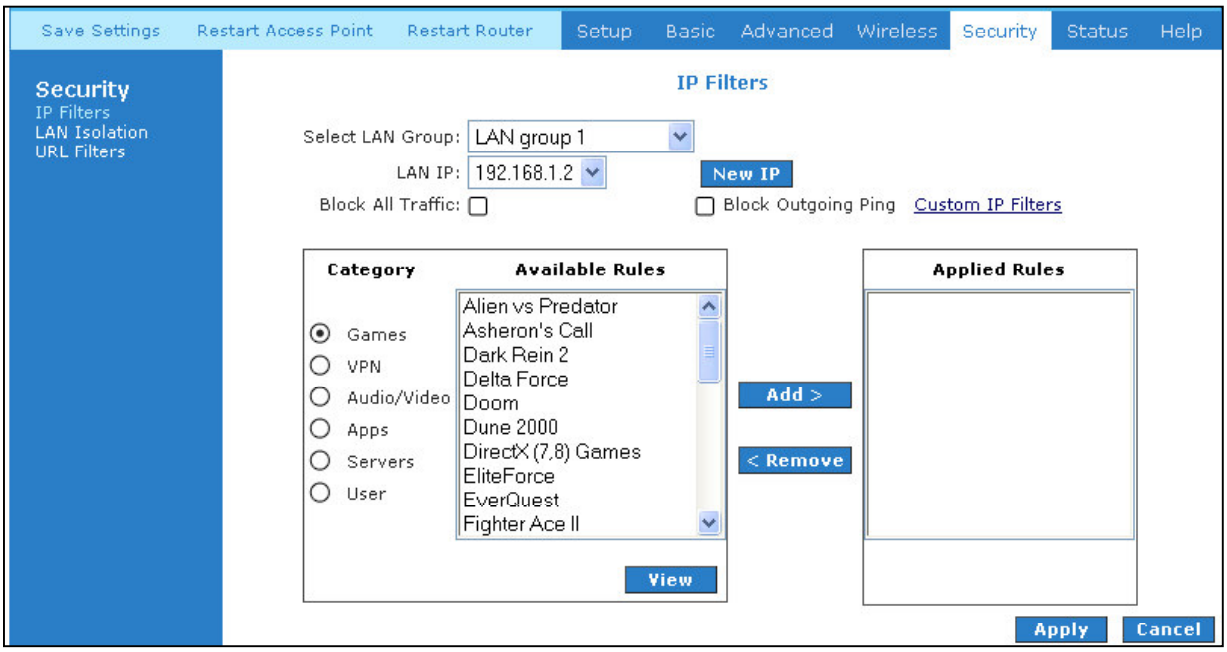

Figure 1-44 : IP Filters

5.7.2 LAN Isolation

LAN isolation allows you to disable the flow of packets between up to three-user-defined LAN groups (WLAN, USB, and Ethernet). This allows you to secure information in private portions of the LAN from other, publicly accessible LAN segments.

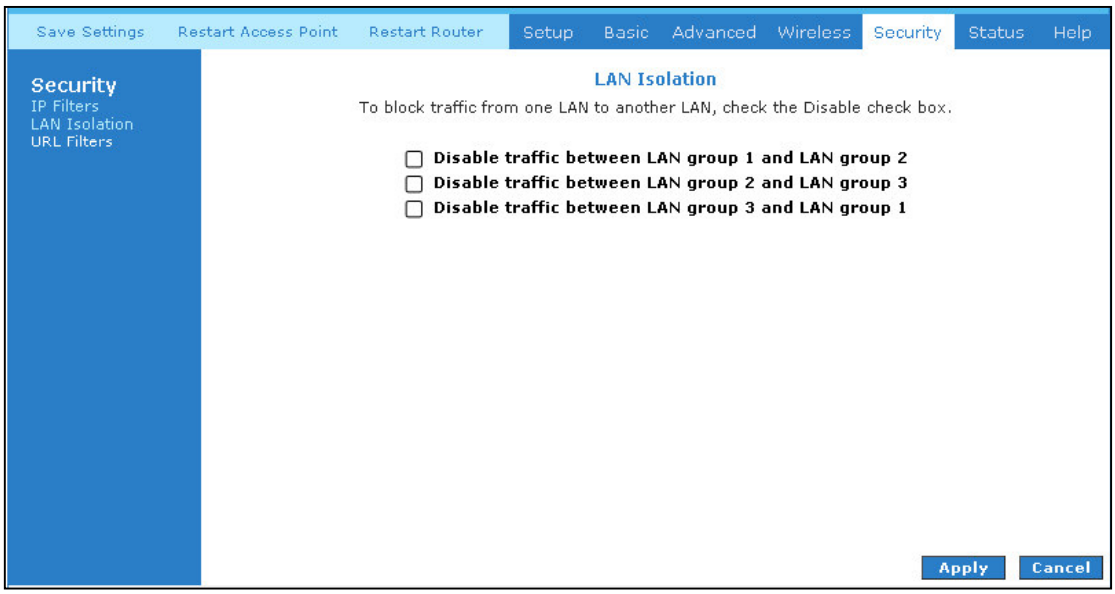

Figure 1-45 : LAN Isolation

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5.7.3 URL Filter

This feature allows the router to block access to certain websites by examining its URL, a text string describing a unique location on the Internet. If the URL contains a blocked keyword, then access to that website will be denied.

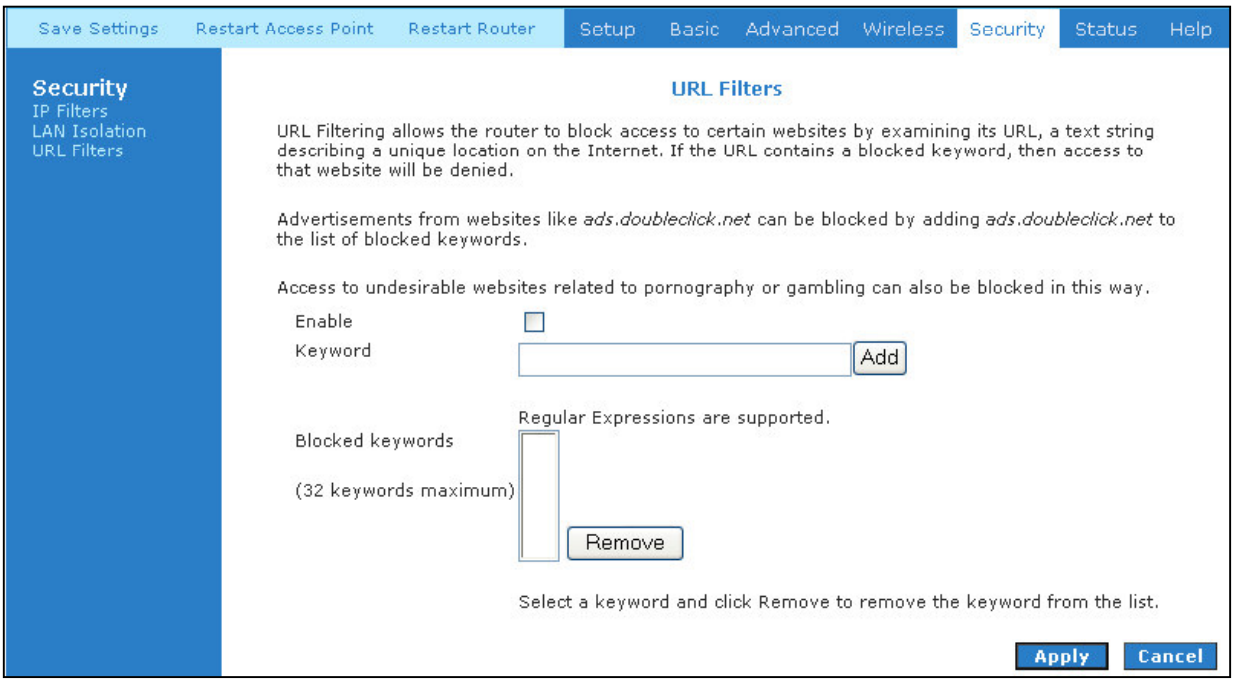

Figure 1-46 : URL Filters

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5.8 Status

This status section allows users to view the following connections and interfaces:

- Connection Status
- System Log
- Remote Log
- Network Statistics
- DHCP Clients
- Modem Status
- Product Information

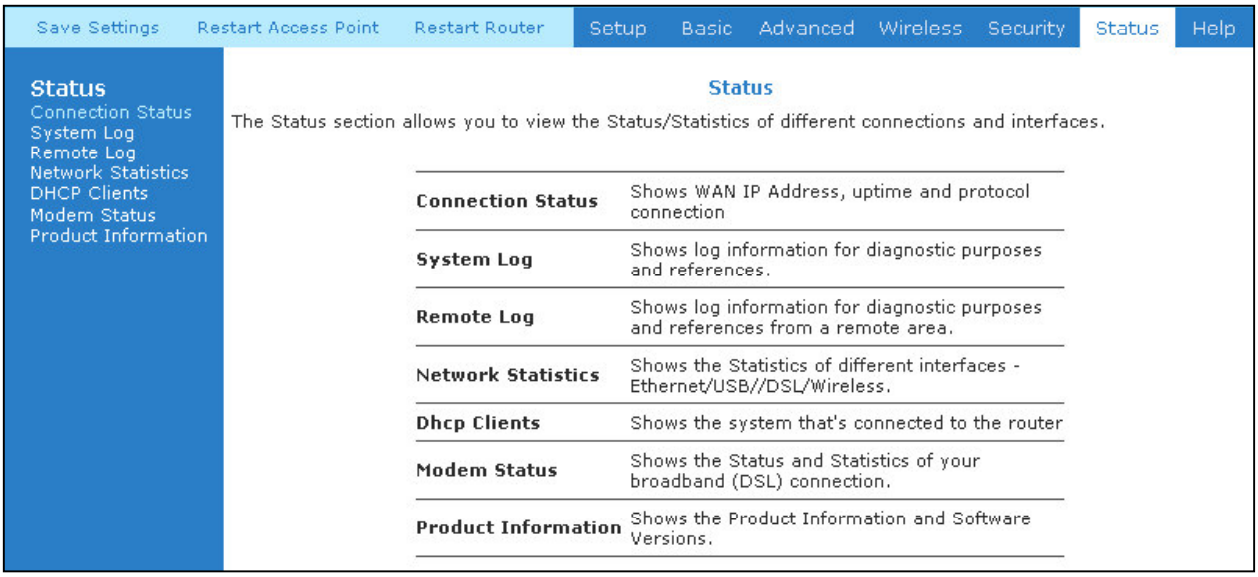

Figure 1-47 : Status

5.8.1 Connection Status

Connection Status will display all the relevant information regarding your Internet Connection, it will display the type of protocol used, the WAN IP address, the connection state and the duration will be displayed..

See **Fig 1-48**.

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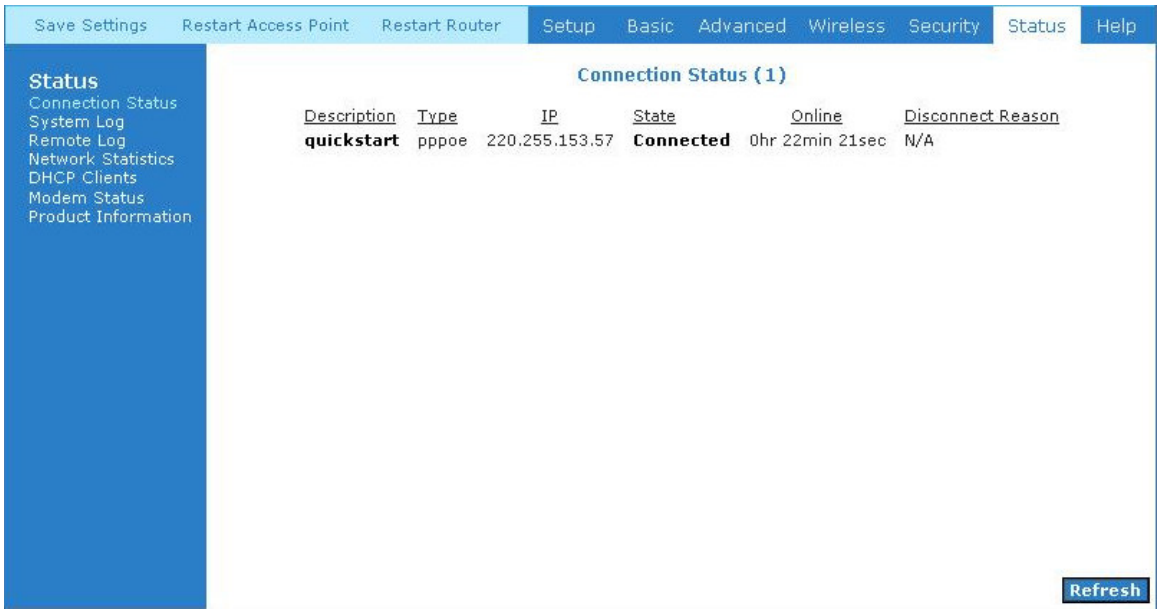

Figure 1-48 : Connection Status

5.8.2 System Log

You can display the ADSL Router's log by going under the Status title, click System log. From here you can view all logged information. Depending upon the severity level, this logged info will generate log reports to a remote host (if remote logging is enabled).

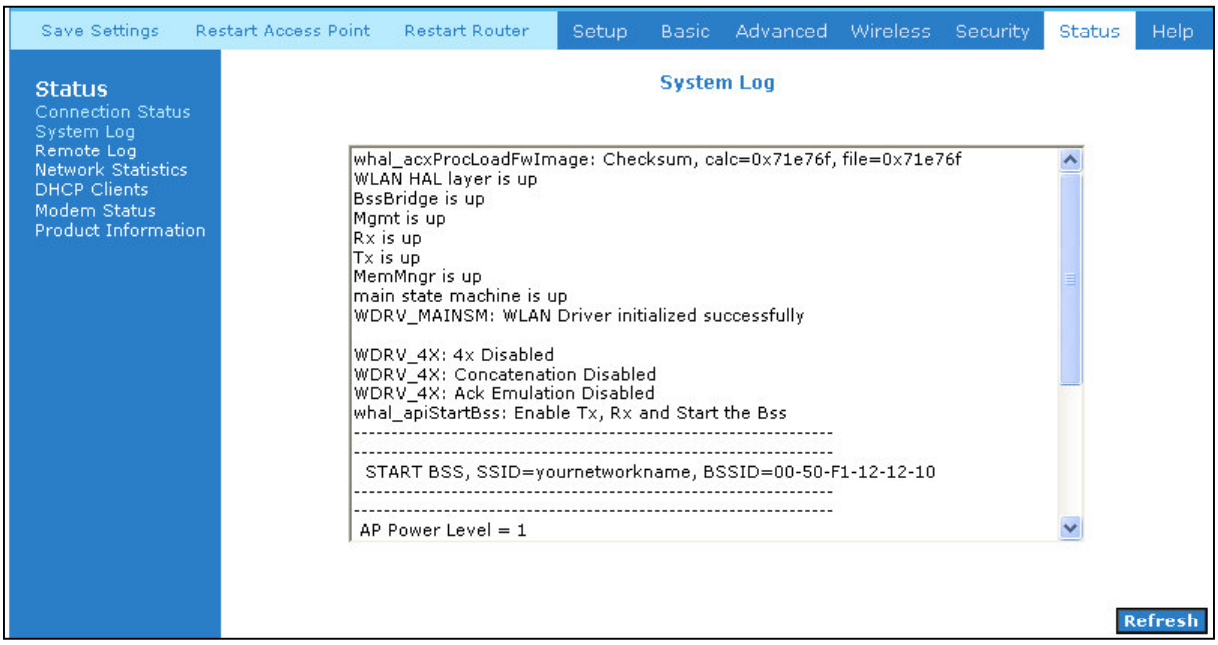

Figure 1-49 : System Log

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5.8.3 Remote Log Settings

This feature is for users to enable remote logging. Settings mentioned below are essential for this feature to work:

- Log Level
- Adding / Deleting IP address
- Logging destination

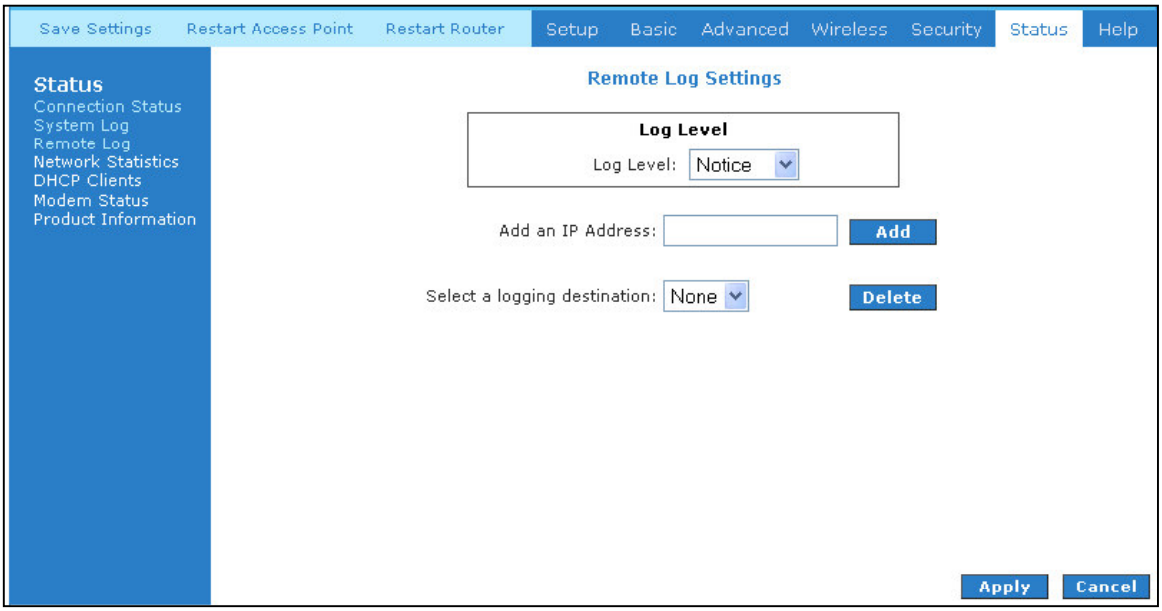

Figure 1-50 : Remote Log Settings

5.8.4 Network Statistics

Information regarding the Status and Statistics of your Ethernet, USB and DSL line will be displayed.

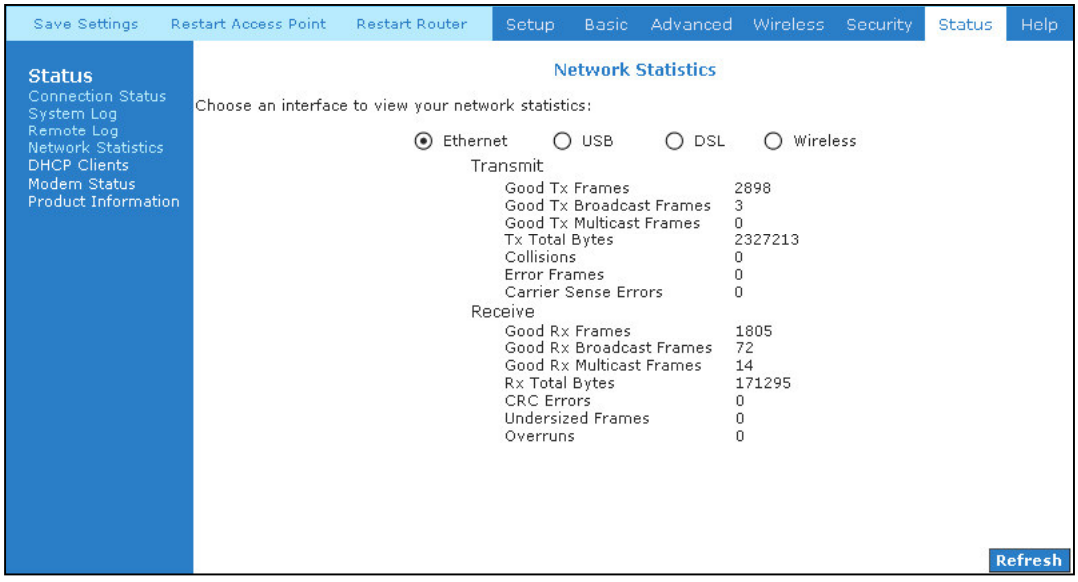

Figure 1-51 : Network Statistics

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5.8.5 DHCP Clients

Shows the users connected. It also shows the MAC address, IP address, host name and lease time.

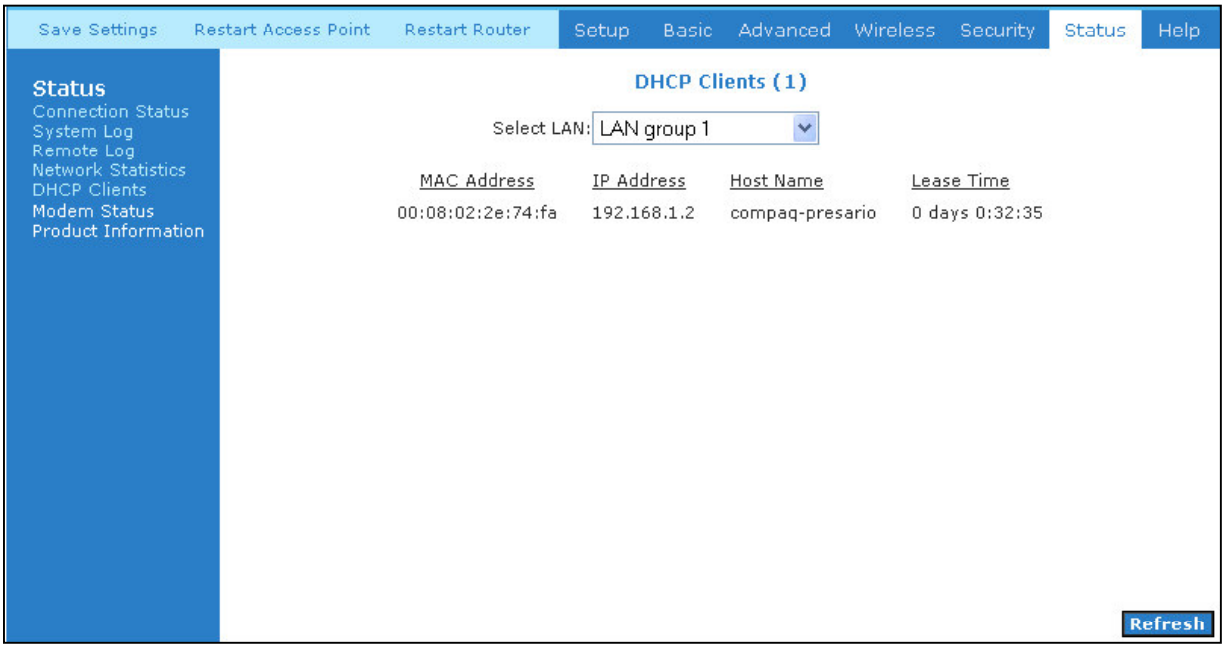

Figure 1-52 : DHCP Clients

5.8.6 Modem Status

This screen will display the Modem status and DSL statistics.

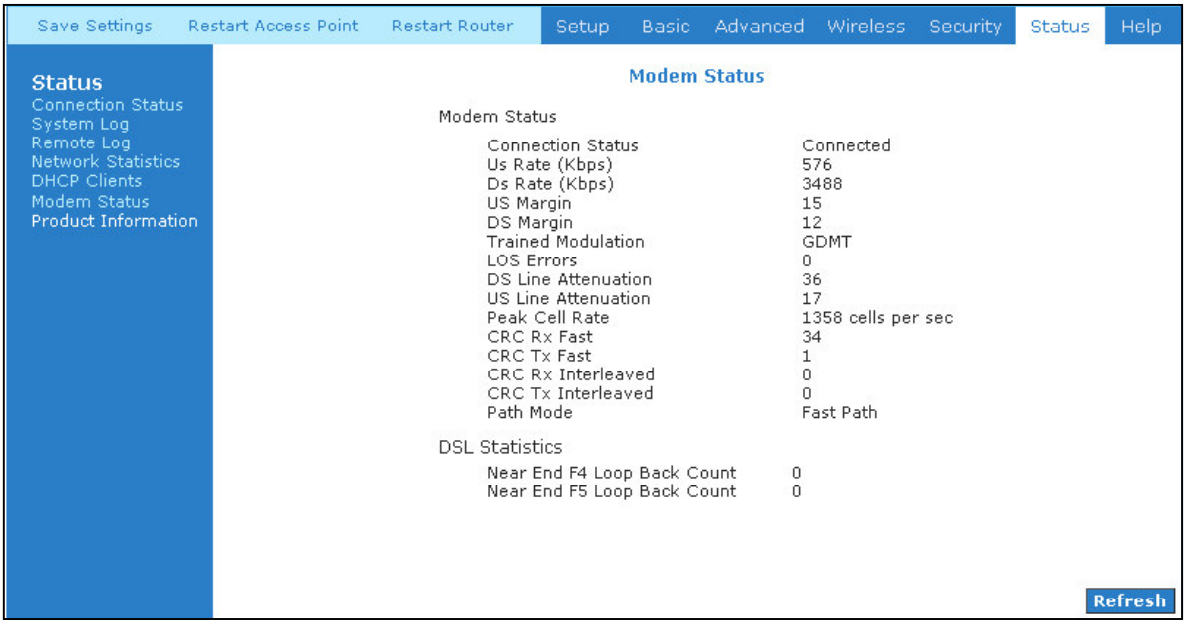

Figure 1-53 : Modem Status

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5.8.7 Product Information

This screen will show a summary of all the product information and software version that comes bundled with the ADSL Router.

Figure 1-54 : Product Information

5.9 Help

The Help screen takes you to the different Help Sections for Firewall, Bridge Filters, LAN Clients, LAN Group Configurations, PPP Connection, UPnP, IP QoS and RIP Help.

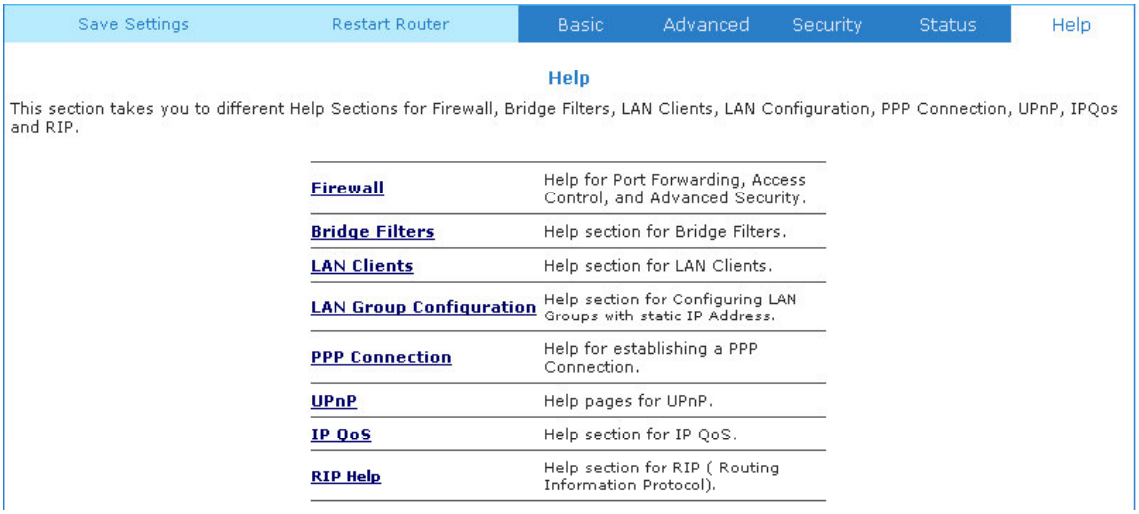

Figure 1-55 : Help Screen

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