Wired / Wireless
ADSL 2/2+ Router

ADE-3410v4 / ADW-4401v5

User's Manual

Copyright

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experienced radio technician for help.

FCC Caution

To assure continued compliance (example-use only shielded interface cables when connecting to computer or peripheral devices). Any changes or modifications not expressly approved by the party responsible for compliance could void the user’s authority to operate the equipment.

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

Federal Communication Commission (FCC) Radiation Exposure Statement

This equipment complies with FCC radiation exposure set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20 cm (8 inches) during normal operation.

R&TTE Compliance Statement

This equipment complies with all the requirements of DIRECTIVE 1999/5/EC OF THE EUROPEAN PARLIAMENT AND THE COUNCIL OF 9 March 1999 on radio equipment and telecommunication terminal Equipment and the mutual recognition of their conformity (R&TTE)

The R&TTE Directive repeals and replaces in the directive 98/13/EEC (Telecommunications Terminal Equipment and Satellite Earth Station Equipment) As of April 8, 2000.

WEEE Regulation

To avoid the potential effects on the environment and human health as a result of the presence of hazardous substances in electrical and electronic equipment, end users of electrical and electronic equipment should understand the meaning of the crossed-out wheeled bin symbol. Do not dispose of WEEE as unsorted municipal waste and have to collect such WEEE separately.

Safety

This equipment is designed with the utmost care for the safety of those who install and use it. However, special attention must be paid to the dangers of electric shock and static electricity when working with electrical equipment. All guidelines of this and of the computer manufacture must therefore be allowed at all times to ensure the safe use of the equipment.

Revision

User's Manual for Wired / Wireless ADSL 2/2+ Router
Model: ADE-3410v4 / ADW-4401v5
Rev: 1.0 (November. 2009)
Part No. EM-ADE3410v4_ADW4401v5_v1

Table of Contents

1. Introduction

The PLANET Wired / Wireless ADSL 2/2+ Router, the ADE-3410 / ADW-4401, provides office and residential users the ideal solution for sharing a High-Speed ADSL 2/2+ broadband Internet connection on the 10/100Mbps Fast Ethernet port, USB port (ADE-3410) and wireless interface (ADW-4401). It can support downstream transmission rates up to 24Mbps and upstream transmission rates up to 3.5Mbps. The product supports PPPoA (RFC 2364 - PPP over ATM Adaptation Layer 5), PPP over Ethernet (RFC 2516), and RFC 1483 encapsulation over ATM (MER, bridged or routed) to establish a connection with ISP. Via the user-friendly management interface, the ADE-3410 / ADW-4401 can be managed by workstations running standard web browsers. Furthermore, the device provides DHCP server, NAT, Virtual Server, DMZ, access control, IP filter, VPN Pass-Through, and UPnP capability.

The device also serves as an Internet firewall, protecting your network from being accessed by outside users. It provides the natural firewall function (Network Address Translation, NAT). All incoming and outgoing IPs are monitored and filtered by this product. In addition, it can be configured to block internal users from accessing to the Internet.

1.1 Feature

Internet Access Features

- **Shared Internet Access**
  All users on the LAN or WLAN can access the Internet through the ADE-3410 / ADW-4401 using only a single external IP Address. The local (invalid) IP Addresses are hidden from external sources. This process is called NAT (Network Address Translation).
- **Built-in ADSL 2/2+ Modem**
  The device provides ADSL 2/2+ modem, and supports all common ADSL connections.
- **PPPoE, PPPoA, Direct Connection Support**
  Various WAN connections are supported by ADE-3410 / ADW-4401.
- **Auto-detection of Internet Connection Method**
  In most situations, the device can test your ADSL and Internet connection to determine the connection method used by your ISP.
- **Fixed or Dynamic IP Address**
  On the Internet (WAN port) connection, the device supports both Dynamic IP Address (IP Address is allocated on connection) and Fixed IP Address.

Advanced Internet Functions

- **Virtual Servers**
  This feature allows Internet users to access Internet servers on your LAN. The required setup is quick and easy.
- **DMZ Support**
  The device can translate public IP addresses to private IP address to allow unrestricted 2-way communication with Servers or individual users on the Internet. This provides the most flexibility to run programs, which could be incompatible in NAT environment.
- **Firewall**
  Supports simple firewall with NAT technology and provides option for blocking access from Internet, like Web, FTP, Telnet, SNMP, and ICMP. It also supports MAC and IP filtering.
- **Universal Plug and Play (UPnP)**
  UPnP allows automatic discovery and configuration of the Broadband Router. UPnP is supported by Windows ME, XP, or later.
- **Dynamic DNS Support**
  DDNS, when used with the Virtual Servers feature, allows users to connect to Servers on your LAN using a Domain Name, even if you have a dynamic IP address which changes every time you connect.
- **VPN Pass through Support**
  PCs with VPN (Virtual Private Networking) software are transparently supported - no configuration is required.
- **RIP1/2 Routing**
  It supports RIPv1/2 routing protocol for routing capability.
- **Simple Network Management Protocol (SNMP)**
  It is an easy way to remotely manage the router via SNMP.

Wireless Features (ADW-4401 only)

- **Standards Compliant**
  The ADW-4401 complies with the IEEE802.11g (DSSS) specifications for Wireless LANs. Maximum of 54Mbps are supported.
- **Supports both 802.11b and 802.11g Wireless Stations**
  The 802.11g standard provides for backward compatibility with the 802.11b standard, so both 802.11b and 802.11g Wireless stations can be used simultaneously.

- **WEP support**
  Supports for WEP (Wired Equivalent Privacy) is included. Key sizes of 64 Bit and 128 Bit are supported.
- **WPA support**
  WPA_TKIP and WPA2_AES encryption are supported.
- **Wireless MAC Access Control**
  The Wireless Access Control feature can check the MAC address (hardware address) of Wireless stations to ensure that only trusted Wireless Stations can access your LAN.
- **WPS Push Button Control**
  The ADW-4401 supports WPS (Wi-Fi Protected Setup) to easy connect wireless network without configuring the security.

LAN Features

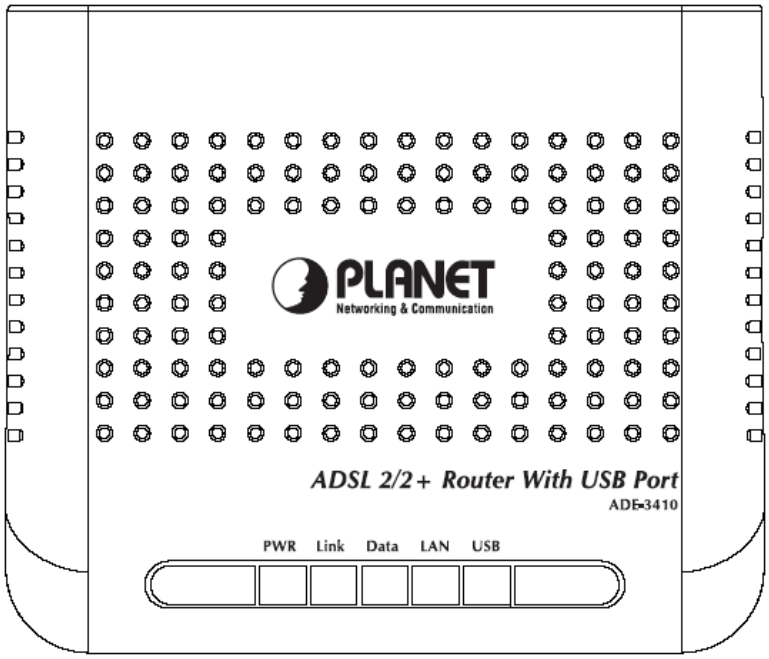
- **Dual-Port (ADE-3410 only)**
  The ADE-3410 incorporates on one Ethernet port and one USB port, making it easy to create or extend your LAN.
- **Ethernet Port**
  The ADE-3410 provides one Ethernet port, making it easy to create or extend your LAN.
- **4-Port Switch (ADW-4401 only)**
  The ADW-4401 incorporates a 4-Port 10/100Base-TX switching hub, making it easy to create or extend your LAN.
- **DHCP Server Support**
  Dynamic **H**ost **C**onfiguration **P**rotocol provides a dynamic IP address to PCs and other devices upon request. The device can act as a DHCP Server for devices on your local LAN and WLAN.

1.2 Package Contents

- ADE-3410 / ADW-4401 Unit x 1
- Power Adapter x 1
- Quick Installation Guide x 1
- User's Manual CD x 1
- RJ-11 cable x 2
- RJ-45 cable x 1
- Splitter x 1
- USB cable x 1 (ADE-3410 only)

1.3 Physical Details

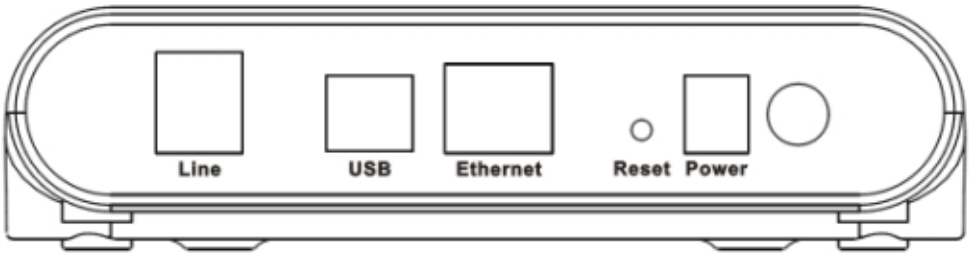
Front Panel of ADE-3410



Front Panel LED definition

LED	State	Description
PWR	ON	When the router is powered on and in ready state.
	Red	The devise is being turned on and booting.
	OFF	When the router is powered off.
Link	ON	Successful connection between ADSL modem and telecom's network.
	Flashing	Modem is trying to establish a connection to telecom's network.
Data	Flashing	Data is transferred between Router and Internet.
LAN	ON	Link
	Flashing	TX or RX activity.
USB	On	When the USB port is connected to the PC and working properly.

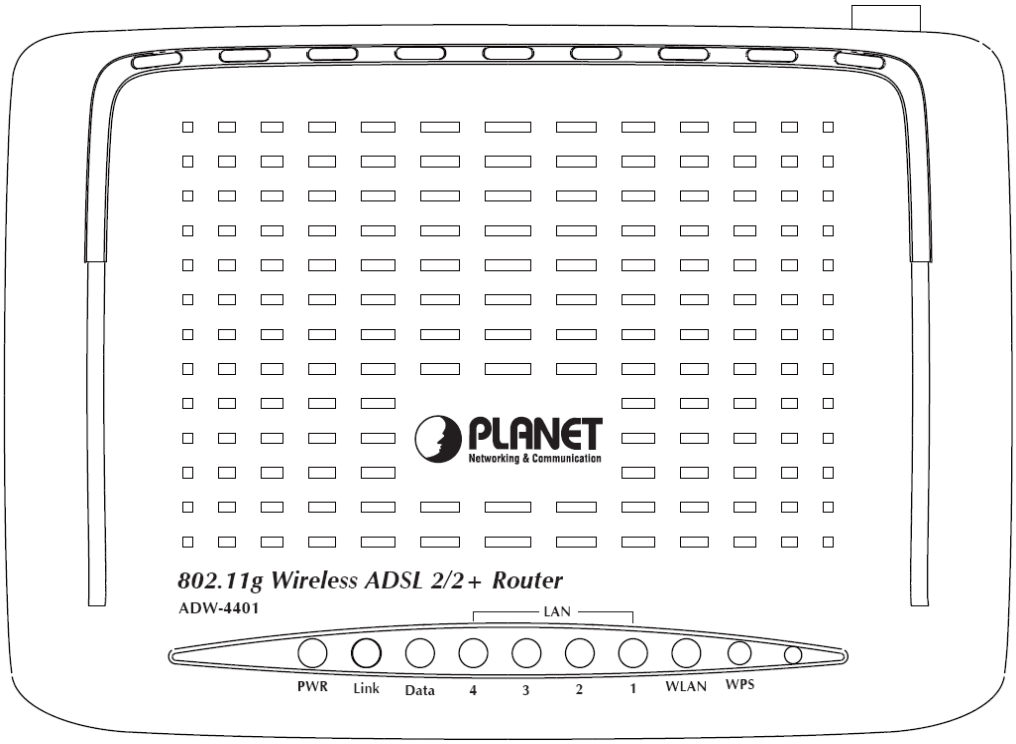
Rear Panel of ADE-3410



Rear Panel Port and Button Definition

Connector	Description
POWER Button	The power button is for turn on or turns off the router.
Power	Power connector with 12V DC, 0.5A
Reset	The reset button can restore the default settings of device. To restore factory defaults, keep the device powered on and push a paper clip into the hole. Press down the button over 5 seconds and then release.
Ethernet	Router is successfully connected to a device through the Ethernet port. If the LED is flashing, the Router is actively sending or receiving data over that port.
USB	Connect the supplied USB cable to this port when connecting to the PC.
Line	The RJ-11 connector allows data communication between the modem and the ADSL network through a twisted-pair phone wire.

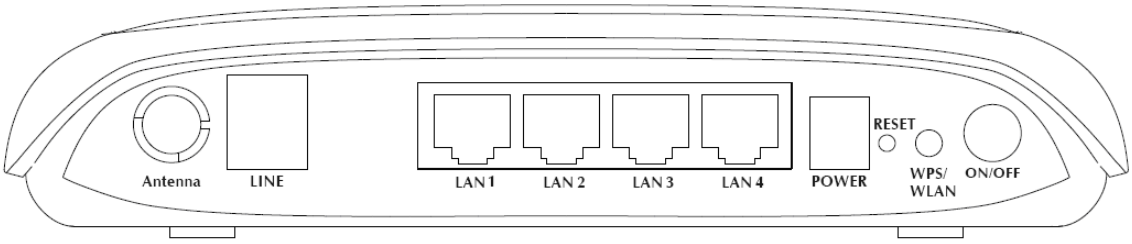
Front Panel of ADW-4401



Front Panel LED definition

LED	State	Description
PWR	Green	When the router is powered on and in ready state
	Red	The devise is being turned on and booting
	OFF	When the router is powered off
Link	ON	Successful connection between ADSL modem and telecom's network
	Flashing	Modem is trying to establish a connection to telecom’s network
Data	Off	No Internet connection.
	Green	The users can access the Internet.
	Red	Device attempts to become IP connected but fails.
LAN 1-4	ON	Link
	Flashing	TX or RX activity
WLAN	ON	The Wireless Interface is ready
	Flashing	The Wireless data is transmitting
	OFF	The Wireless Interface is disable
WPS	Off	WPS service is not during using, or WPS is setup successfully.
	Flashing	WPS service tries to establish.

Rear Panel of ADW-4401



Rear Panel Port and Button Definition

Connector	Description
POWER Button	The power button is for turn on or turns off the router.
WPS / WLAN	Press 1~2 seconds can enable and disable the wireless function. Press 5 seconds can enable WPS function of the wireless clients, the router and clients will automatically configure the security key and connect directly.
Reset	The reset button can restore the default settings of device. To restore factory defaults, keep the device powered on and push a paper clip into the hole. Press down the button over 5 seconds and then release.
Power	Power connector with 12V DC, 1.0A
LAN 1-4	Router is successfully connected to a device through the corresponding port (1, 2, 3, or 4). If the LED is flashing, the Router is actively sending or receiving data over that port.
Line	The RJ-11 connector allows data communication between the modem and the ADSL network through a twisted-pair phone wire.

2. Installation

This chapter offers information about installing your router. If you are not familiar with the hardware or software parameters presented here, please consult your service provider for the values needed.

2.1 System Requirement

1. Personal computer (PC)
2. Pentium III 266 MHz processor or higher
3. 128 MB RAM minimum
4. 20 MB of free disk space minimum
5. RJ45 Ethernet Port

2.2 Hardware Installation

Please connect the device to you computer as follow:

- If connecting to the splitter, connect the “Line” splitter to wall jack using one telephone cable
- Use another telephone cable to connect “MODEM” port of the splitter and “LINE” port of the modem. The “Phone” port of the splitter can be use to connect the telephone by a telephone cable.
- Use Ethernet cable to connect “LAN” port of the modem and “LAN” port of your computer.

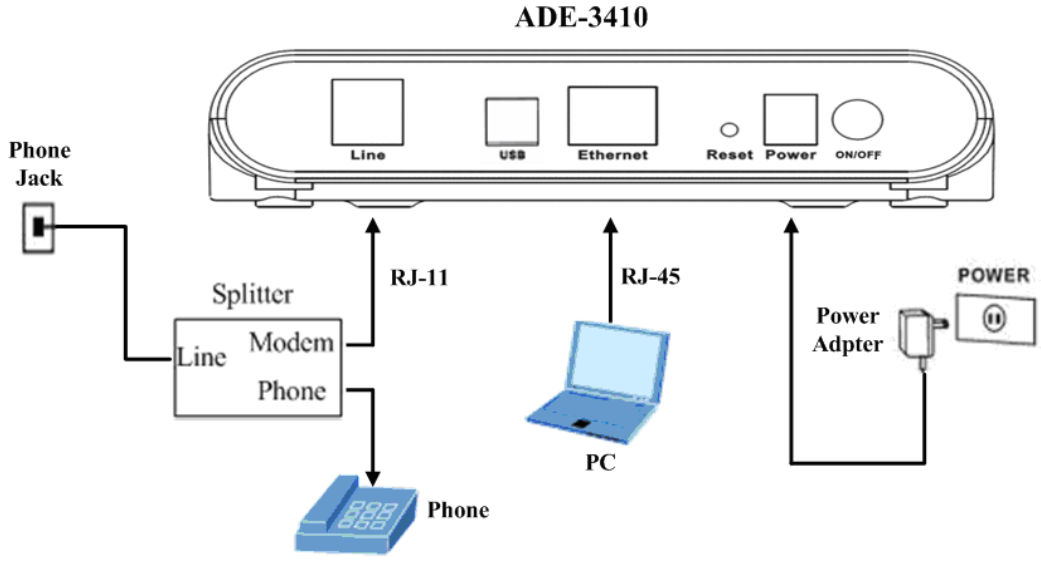


Figure1 ADE-3410 connection diagram

Connect ADE-3410 to the PC's USB port as follow:

- Connect the USB cable to USB port of ADE-3410. The cable has two different connectors.
- Connect the other end of the USB cable to PC's USB port.

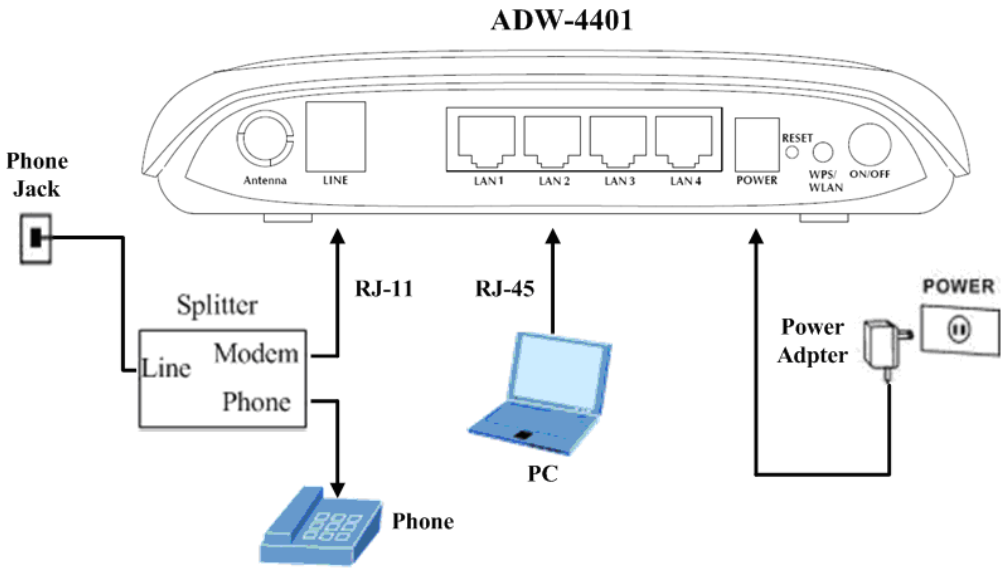


Figure2 ADW-4401 connection diagram

If do not need to connect to the splitter,

- Connect the modem to wall jack with a telephone cable.
- Use Ethernet cable to connect "LAN" port of the modem and network adaptor of your computer.

Note:

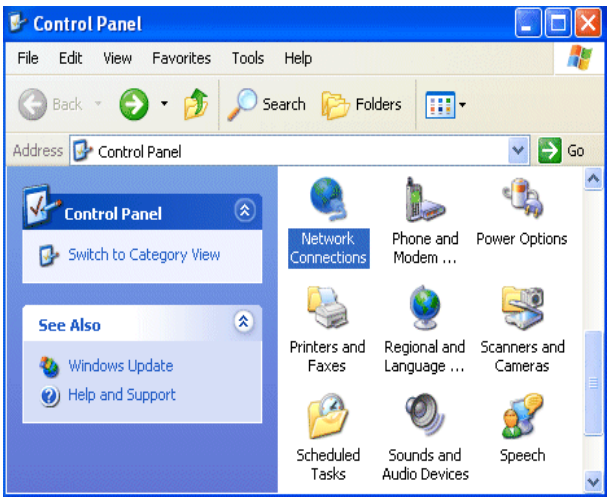
1. The ADE-3410 may connect via only USB or Ethernet. The preferred connectivity method is to use the Ethernet. If your PC doesn't support Ethernet port, you need to use USB port and install additional software.
2. The default SSID of the ADW-4401 is **"ADW-4401"**.

2.3 Configuring the Network Properties

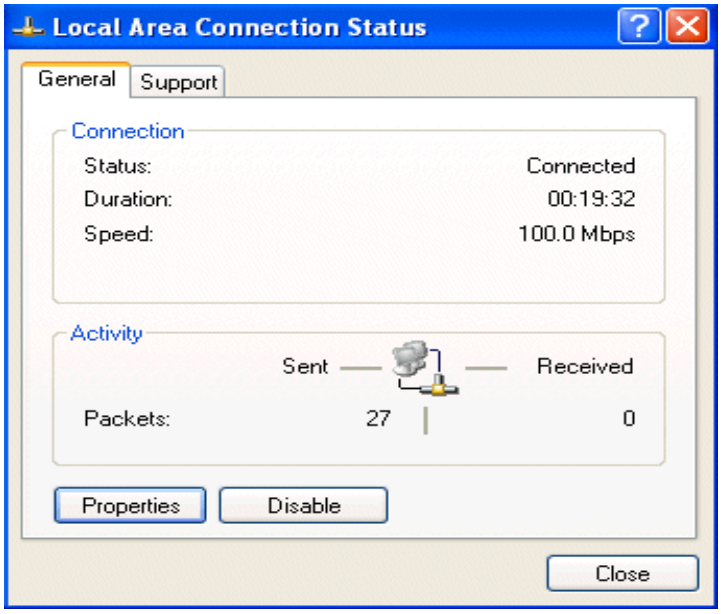
Configuring PC in Windows XP

1. Go to **Start / Control Panel (in Classic View)**. In the Control Panel, double-click on **Network Connections**

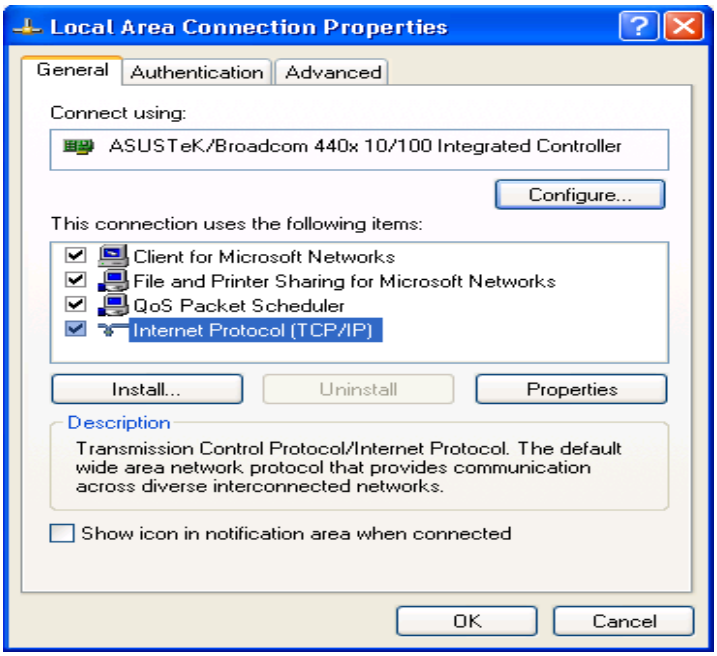
2. Double-click **Local Area Connection**.



3. In the **Local Area Connection Status** window, click **Properties**.

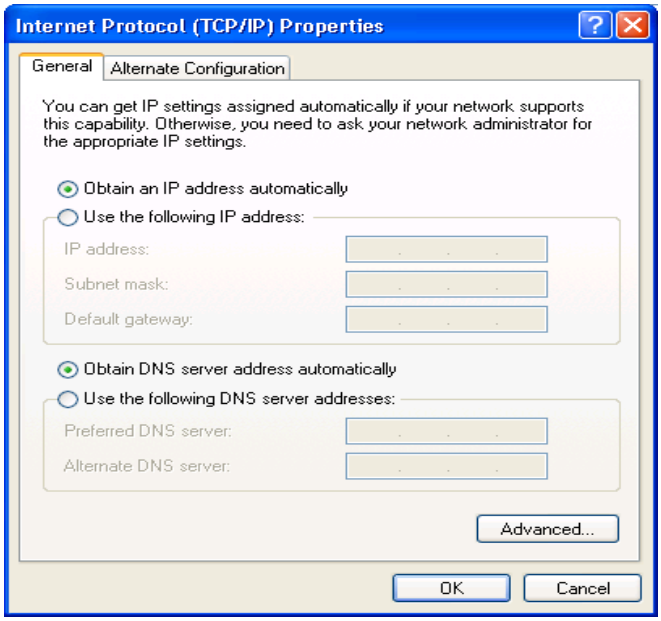


4. Select **Internet Protocol (TCP/IP)** and click **Properties**.



5. Select the **Obtain an IP address automatically** and the **Obtain DNS server address automatically** radio buttons.

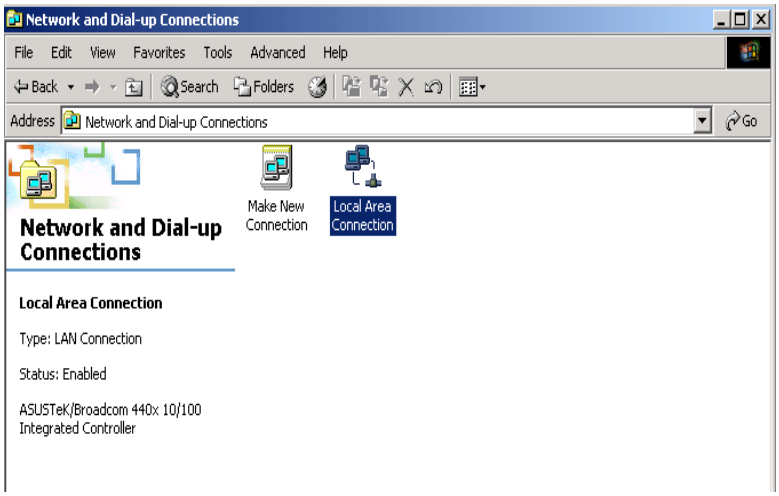
6. Click **OK** to finish the configuration.



Configuring PC in Windows 2000

1. Go to **Start / Settings / Control Panel**. In the Control Panel, double-click on **Network and Dial-up Connections**.

2. Double-click **Local Area Connection**.

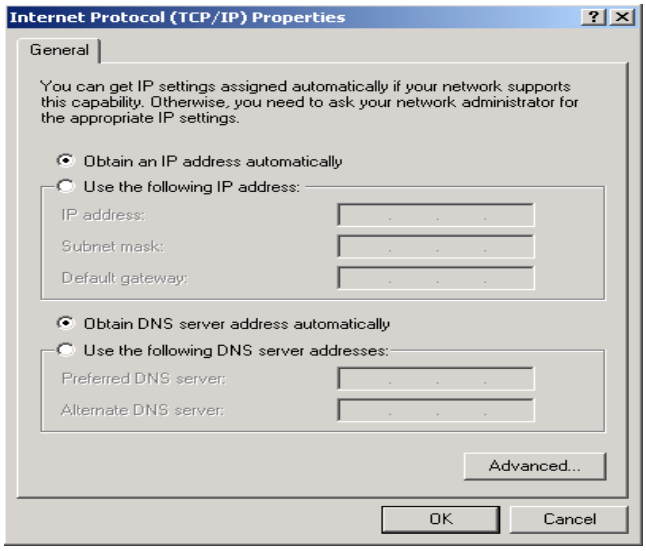


3. In the **Local Area Connection Status** window click **Properties**.

4. Select **Internet Protocol (TCP/IP)** and click **Properties**.

5. Select the **Obtain an IP address automatically** and the **Obtain DNS server address automatically** radio buttons.

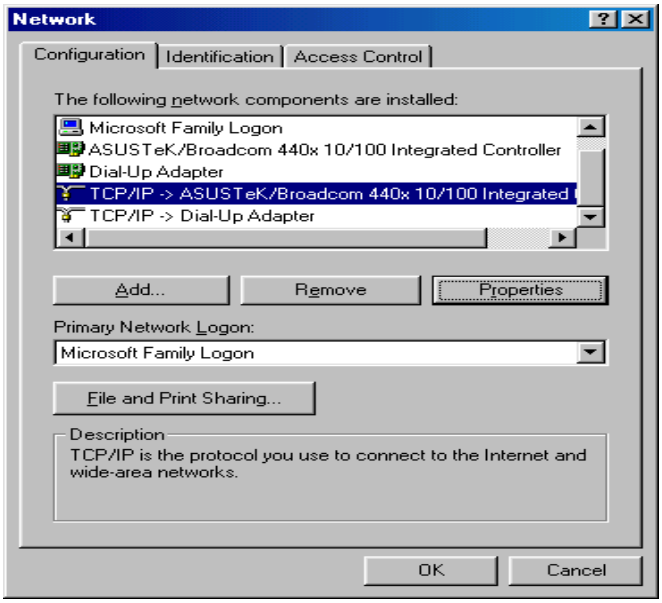
6. Click **OK** to finish the configuration.



Configuring PC in Windows 98/Me

1. Go to **Start / Settings / Control Panel**. In the Control Panel, double-click on **Network** and choose the **Configuration** tab.

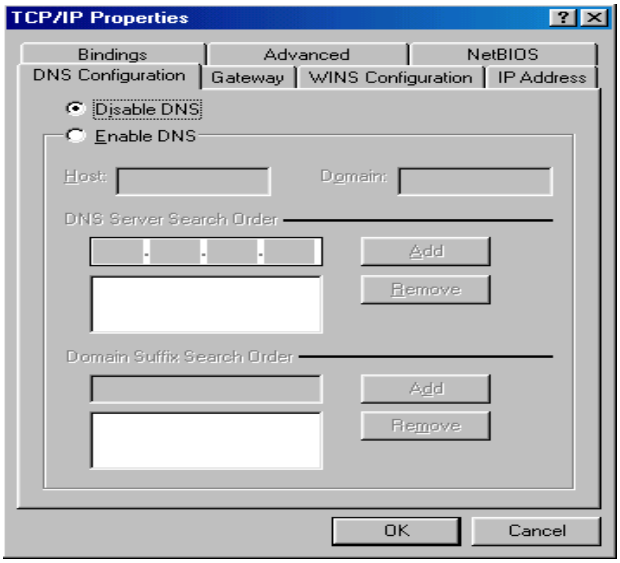
2. Select **TCP/IP → NE2000 Compatible**, or the name of your Network Interface Card (NIC) in your PC.



3. Select the **Obtain an IP address automatically** radio button.

4. Then select the **DNS Configuration** tab.

5. Select the **Disable DNS** radio button and click **OK** to finish the configuration.



2.4 USB Installation (ADE-3410 only)

To connect the DSL router to the PC's USB port, perform the following:

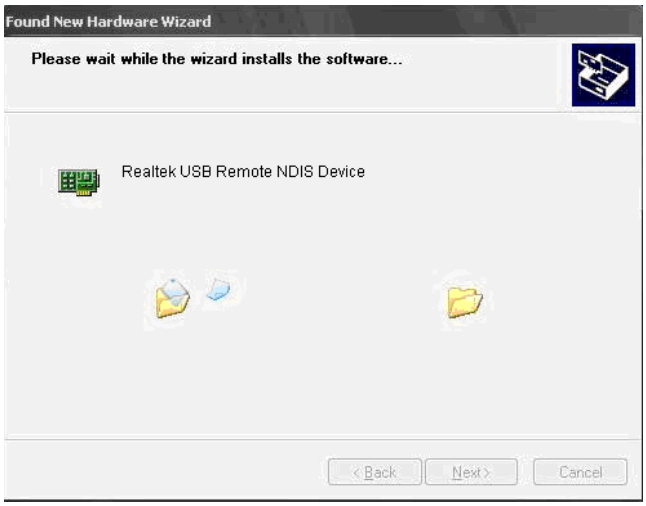
Connect the USB cable to the USB port on the DSL router. The cable has two different connectors; you may have to try both connectors and the connector is keyed so try different orientations.

Connect the other end of the USB cable into the PC's USB port. For the USB installation on Windows XP, once the PC powers up, a message tips shows Found new hardware on the system tray.

Then a dialog window "Found New Hardware" Wizard pop-up, Select Install the software automatically (Recommended) and insert the Manual and Driver CD-Rom. Click <Next>, the windows will search CD-Rom for the best USB driver.

The dialog prompted you to choose your search and installation options. You can choose the path of USB drive installation. Click <Next >

The dialog prompted Please wait while the wizard searches, when the USB driver has be searched by the Windows, Click <Next >



Click the button<Finish> to complete the USB driver installation.

3. Web Configuration Management

This chapter describes how to configure the router by using the Web-based configuration utility.

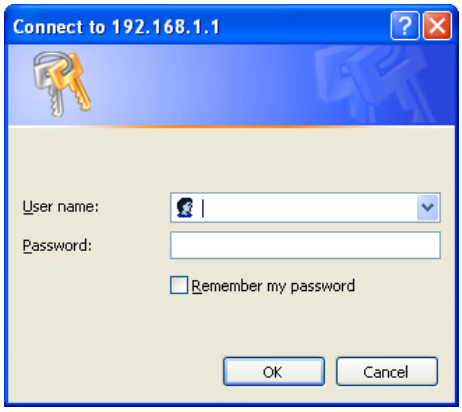
3.1 Access the Router

The following is the detailed description of accessing the router for the first time.

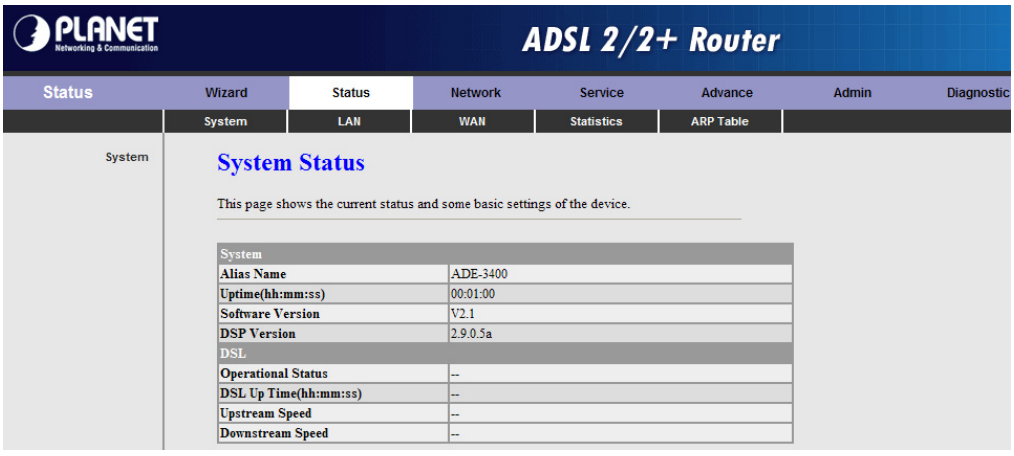
Step 1: Open the Internet Explorer (IE) browser and enter **http://192.168.1.1**.

Step 2: In the **Login** page that is displayed, enter the username and password.

- The username and password of the super user are **admin** and **admin**.
- The username and password of the common user are **user** and **user**.



If you log in as a super user, the page shown in the following figure appears. You can check, configure and modify all the settings.



If you log in as a common user, you can check the status of the router, but can not configure the most of the settings.

Note:

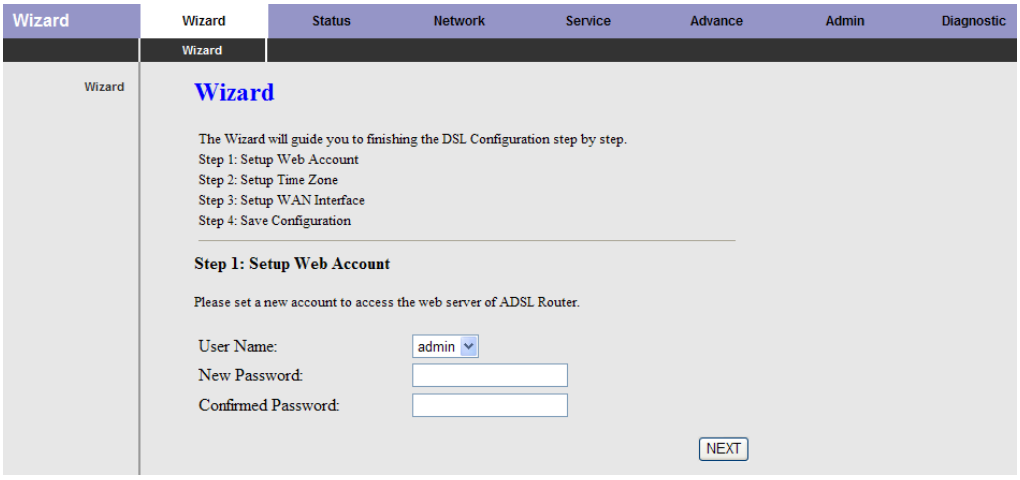
In the Web configuration page, you can click **Apply Changes** to save the settings temporarily. If you want to save the settings of this page permanently, click **save** of **Attention** that appears at the button of the Web page after the configuration.

3.2 Wizard

The **Wizard** page guides fast and accurate configuration of the Internet connection and other important parameters. The following sections describe these various configuration parameters. Whether you configure these parameters or use the default ones, click **NEXT** to enable your Internet connection.

When subscribing to a broadband service, you should be aware of the method by which you are connected to the Internet. Your physical WAN device can be either PPP, ADSL, or both. The technical information about the properties of your Internet connection is provided by your Internet Service Provider (ISP). For example, your ISP should inform you whether you are connected to the Internet using a static or dynamic IP address, and the protocol that you use to communicate on the Internet.

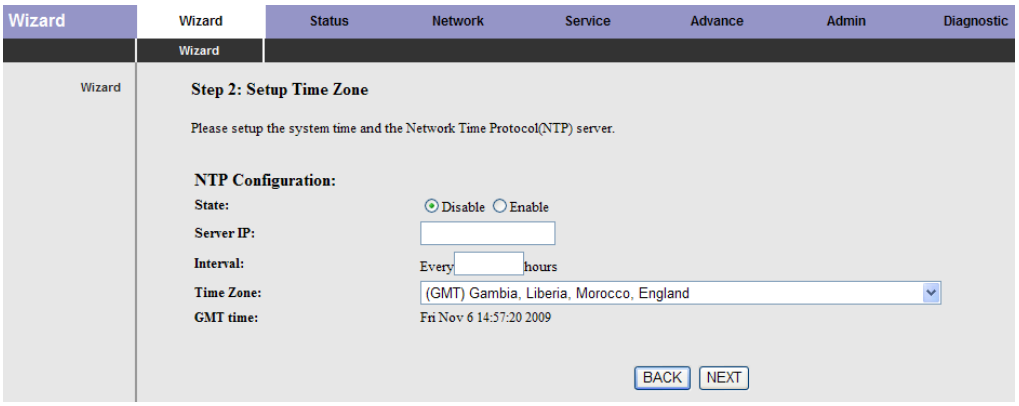
In the navigation bar, click **Wizard**. The page shown in the following figure appears.



The following table describes the parameters of this page:

Field	Description
User Name	Choose the user name for accessing the router. You can choose **admin** or **user**.
New Password	Enter the password to which you want to change the old password. The password can not contain space key, %, “, ? or &.
Confirmed Password	Enter the new password again.

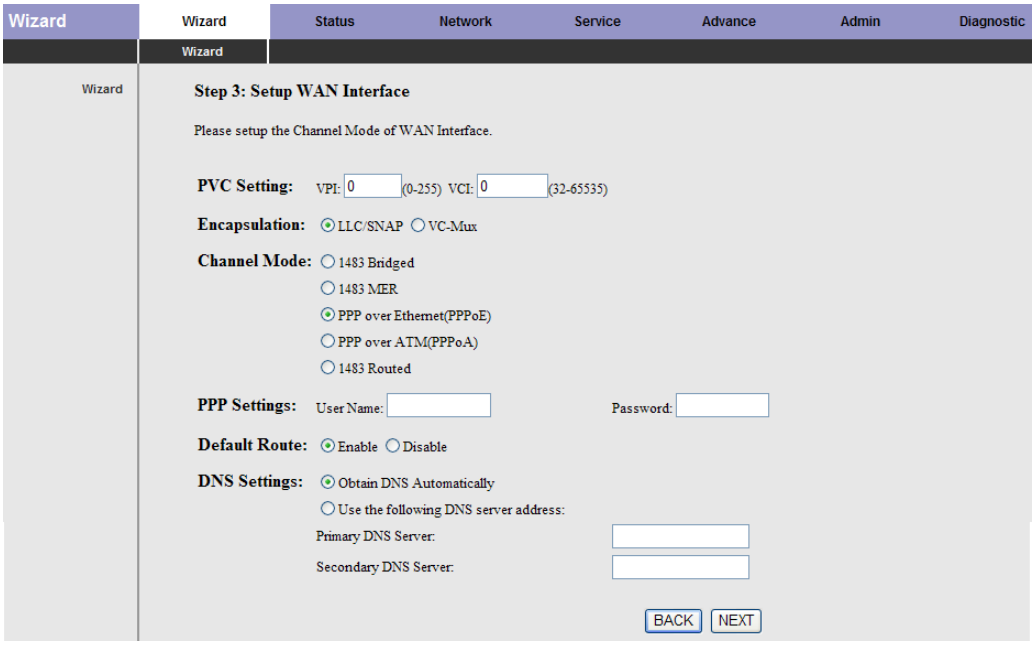
After finishing the configuration, click **NEXT**. The page shown in the following figure appears. In this page, you can configure the system time and Network Time Protocol (NTP) server.



The following table describes the parameters of this page:

Field	Description
State	You can disable or enable NTP function. You have to enable it if you want to configure the parameters of this page.
Server IP	Enter the IP address of the specified time server manually.
Interval	Set the interval that the router obtains the time from the time server. That is, the interval that the router verifies the time with the server.
Time Zone	Choose the time zone in which area you are from the drop down list.
GMT time	It displays the Greenwich Mean Time (GMT).

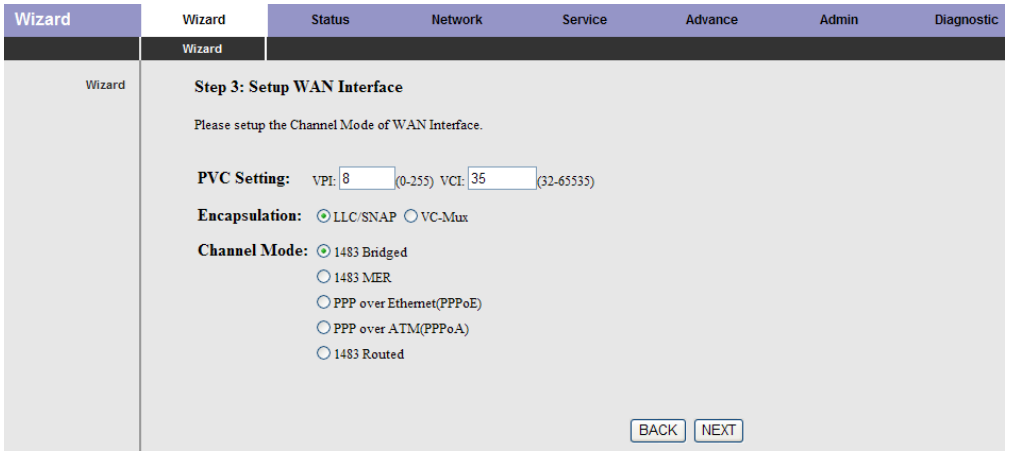
After finishing the configuration, click **NEXT**. The page shown in the following figure appears.



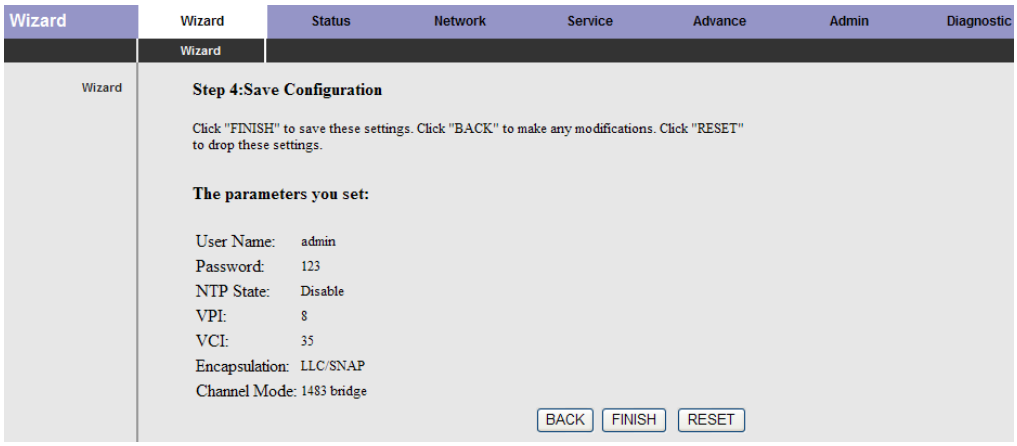
There are five channel modes, the following describes them respectively.

1483 Bridged

In the **Setup WAN Interface** page, enter the correct PVC, set the channel mode to **1483 Bridged**.



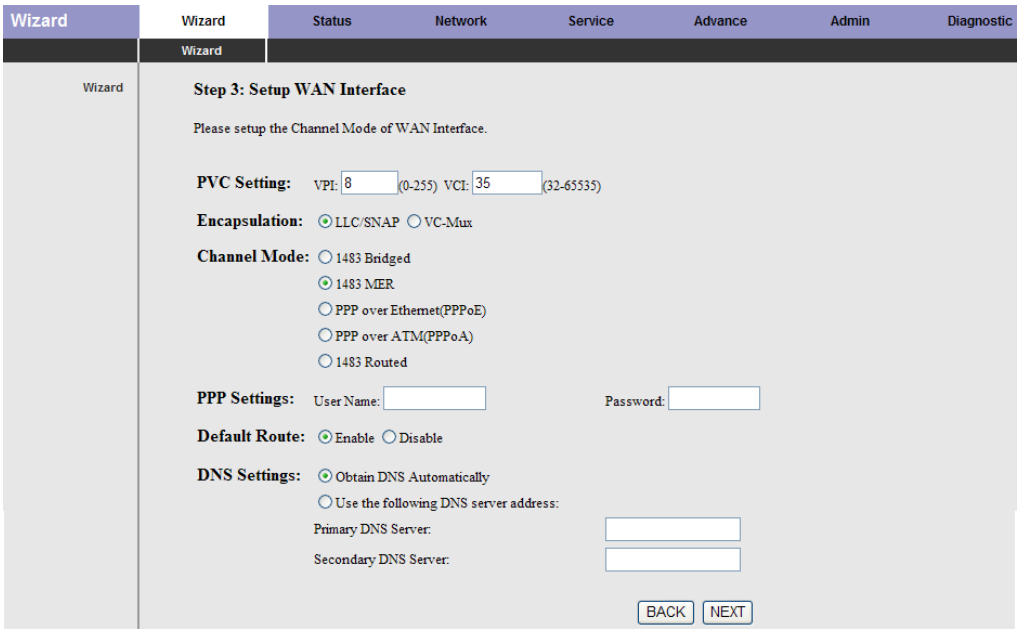
Click **NEXT**, and the page shown in the following figure appears.



If you want to modify the configuration, click **BACK** to return to the previous page. If you ensure the configuration is correct, click **FINISH** to take the configuration effect.

1483 MER

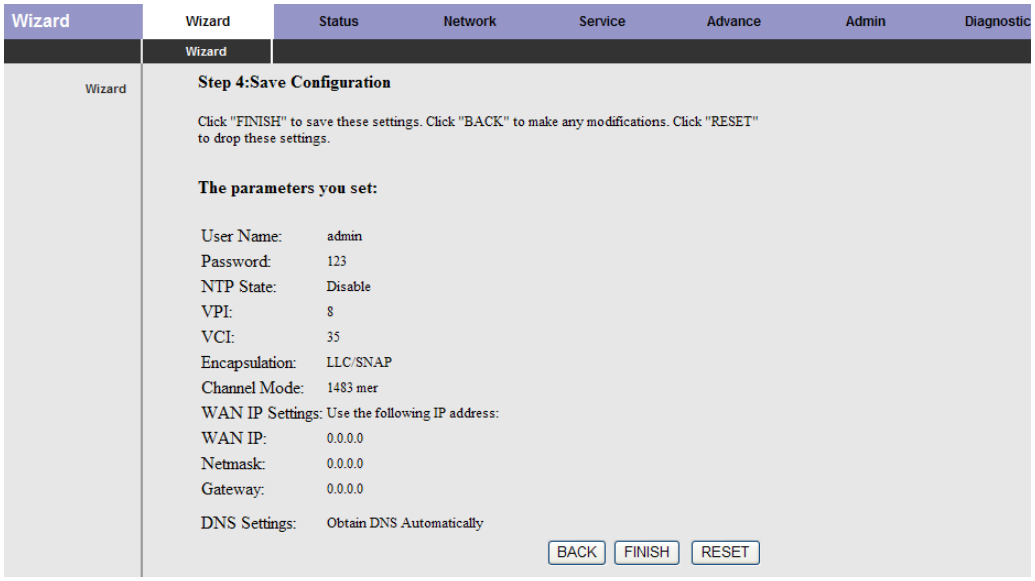
In the **Setup WAN Interface** page, enter the correct PVC, set the channel mode to **1483 MER**.



The following table describes the parameters of this page:

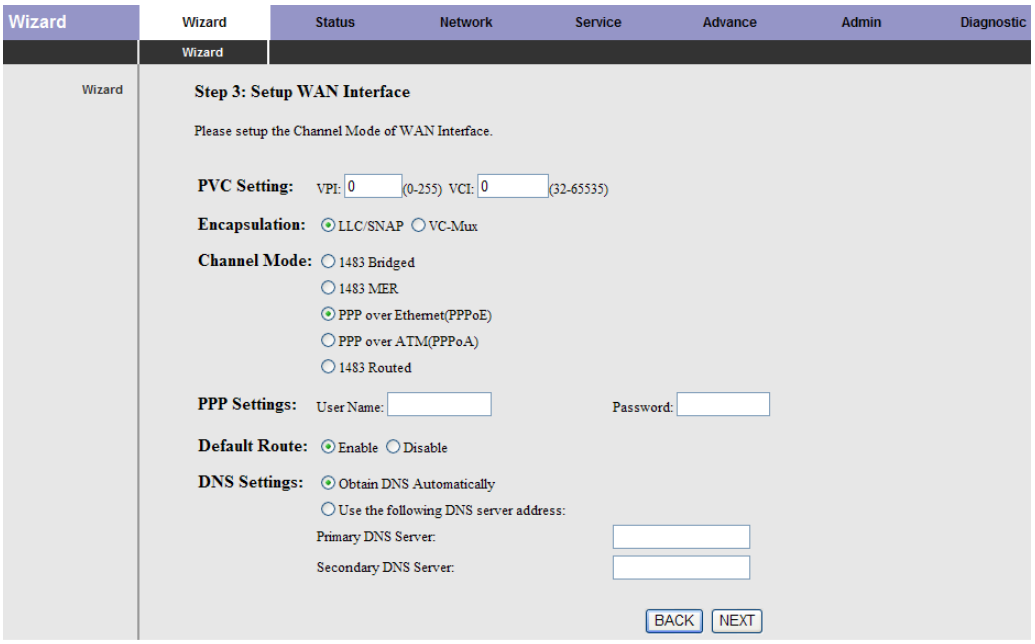
Field	Description
PVC Settings	● **VPI**: Virtual Path Identifier (VPI) is the virtual path between two points in an ATM network, ranging from 0 to 255. ● **VCI**: Virtual Channel Identifier (VCI) is the virtual channel between two points in an ATM network, ranging from 32 to 65535 (0 to 31 is reserved for local management of ATM traffic).
Encapsulation	Select the method of encapsulation provided by your ISP. You can select **LLC/SNAP** or **VC-Mux**.
Channel Mode	Select the WAN connection type. You can select **1483 Bridged**, **1483 MER**, **PPP over Ethernet (PPPoE)**, **PPP over ATM (PPPoA)**, or **1483 Routed**. In this example, **1483 MER** is selected.
Default Route	You can select **Enable** or **Disable**.
DNS Settings	● **Obtain DNS Automatically**: IP address is assigned by the office end automatically. You need not to enter the IP address. ● **Use the following DNS server address**: If you want to enter the DNS server address manually, select it and enter the IP addresses of primary DNS and secondary DNS.

After finishing the configuration, click **NEXT**. The page shown in the following figure appears.



PPPoE/PPPoA

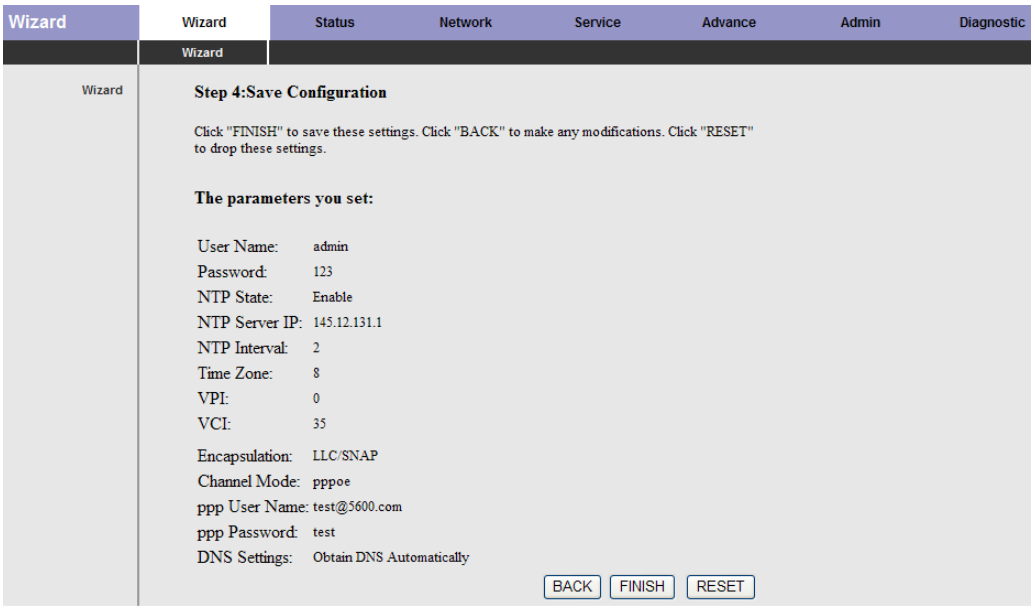
In the **Setup WAN Interface** page, enter the correct PVC, set the channel mode to **PPPoE** or **PPPoA**.



The following table describes the parameters of this page:

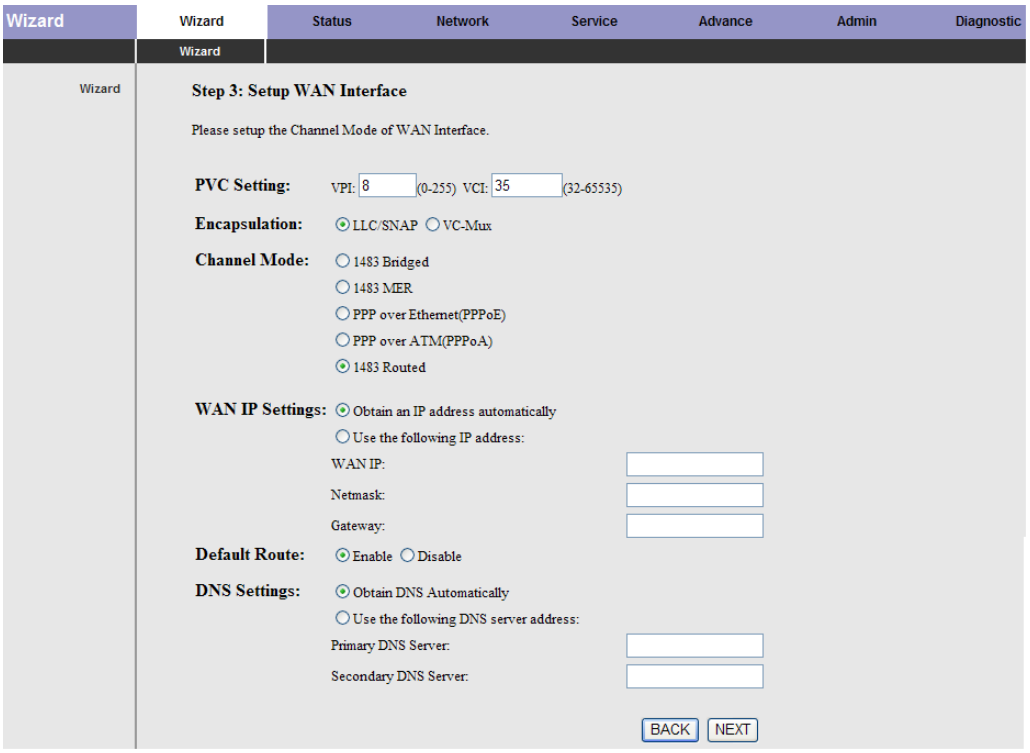
Field	Description
PVC Settings	● **VPI**: Virtual Path Identifier (VPI) is the virtual path between two points in an ATM network, ranging from 0 to 255. ● **VCI**: Virtual Channel Identifier (VCI) is the virtual channel between two points in an ATM network, ranging from 32 to 65535 (0 to 31 is reserved for local management of ATM traffic).
Encapsulation	Select the method of encapsulation provided by your ISP. You can select **LLC/SNAP** or **VC-Mux**.
Channel Mode	Select the WAN connection type. You can select **1483 Bridged**, **1483 MER**, **PPP over Ethernet (PPPoE)**, **PPP over ATM (PPPoA)**, or **1483 Routed**. In this example, **PPPoE** is selected.
PPP Settings	Enter the username and password for PPP dial-up, which are provided by your ISP.
Default Route	You can select **Enable** or **Disable**.
DNS Settings	● **Obtain DNS Automatically**: IP address is assigned by the office end automatically. You need not to enter the IP address. ● **Use the following DNS server address**: If you want to enter the DNS server address manually, select it and enter the IP addresses of primary DNS and secondary DNS.

After finishing the configuration, click **NEXT**. The page shown in the following figure appears.



1483 Routed

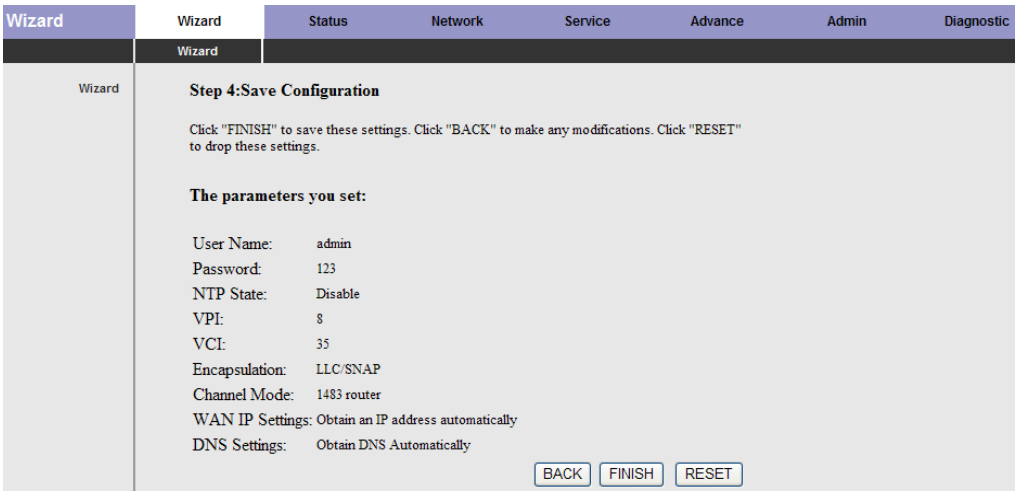
In the **Setup WAN Interface** page, enter the correct PVC, set the channel mode to **1483 Routed**.



The following table describes the parameters of this page:

Field	Description
PVC Settings	● **VPI**: Virtual Path Identifier (VPI) is the virtual path between two points in an ATM network, and its valid value is from 0 to 255. ● **VCI**: Virtual Channel Identifier (VCI) is the virtual channel between two points in an ATM network, ranging from 32 to 65535 (0 to 31 is reserved for local management of ATM traffic).
Encapsulation	Select the method of encapsulation provided by your ISP. You can select **LLC/SNAP** or **VC-Mux**.
Channel Mode	Select the WAN connection type. You can select **1483 Bridged**, **1483 MER**, **PPP over Ethernet (PPPoE)**, **PPP over ATM (PPPoA)**, or **1483 Routed**. In this example, **1483 Routed** is selected.
WAN IP Settings	● **Obtain an IP address automatically**: Obtain the DNS server assigned by the uplink equipment, such as BAS. ● **Use the following IP address**: Enter the static IP address provided by your ISP.
Default Route	You can select **Enable** or **Disable**.
DNS Settings	● **Obtain DNS Automatically**: IP address is assigned by the office end automatically. You need not to enter the IP address. ● **Use the following DNS server address**: If you want to enter the DNS server address manually, select it and enter the related data.

After finishing the configuration, click **NEXT**. The page shown in the following figure appears.

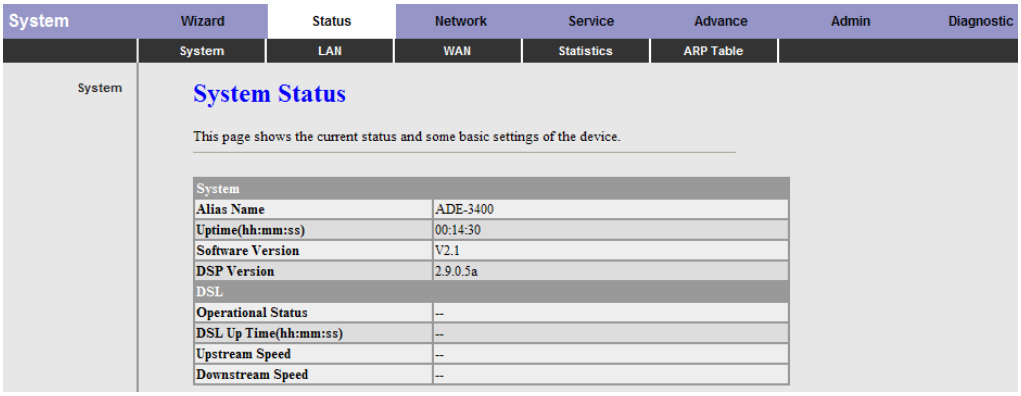


3.3 Status

In the navigation bar, click **Status**. In the **Status** page that is displayed contains **System**, **LAN**, **WAN**, **Statistics** and **ARP Table**.

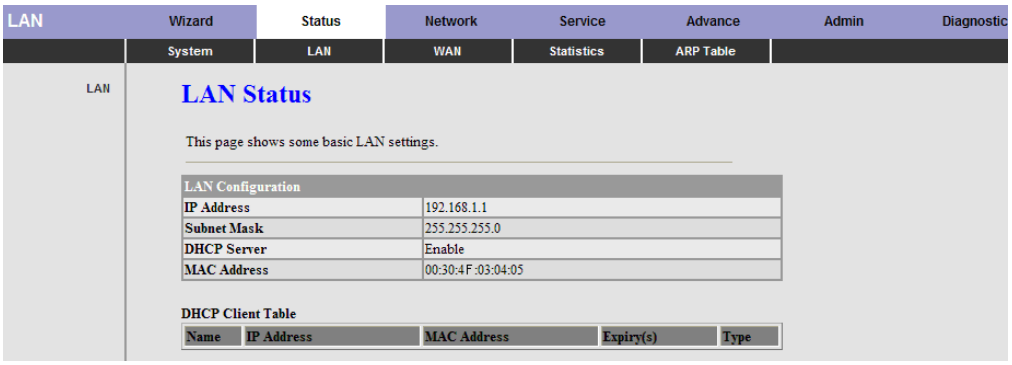
3.3.1System

Choose **Status** > **System**. The page that is displayed shows the current status and some basic settings of the router, such as, uptime, software version, upstream speed, downstream speed, and other information.



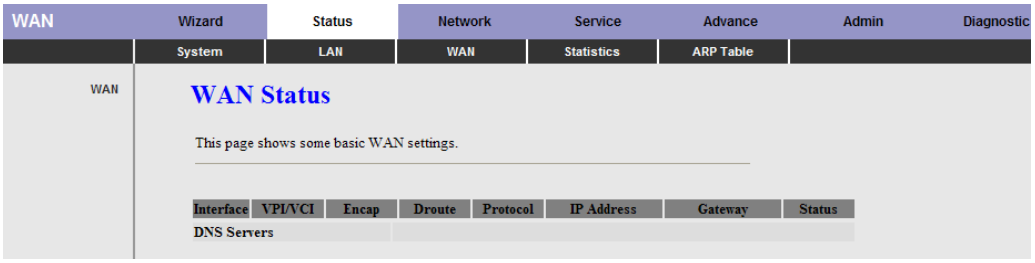
3.3.2 LAN

Choose **Status** > **LAN**. The page that is displayed shows some basic LAN settings of the router. In the **LAN Status** page, you can view the LAN IP address, DHCP server status, MAC address and DHCP client table. If you want to configure the LAN network, refer to the chapter 03.4.1 LAN.



3.3.3 WAN

Choose **Status** > **WAN**. The page that is displayed shows some basic WAN settings of the router. In the **WAN Status** page, you can view basic status of WAN, default gateway, DNS server. If you want to configure the WAN network, refer to the chapter 03.4.2 WAN.

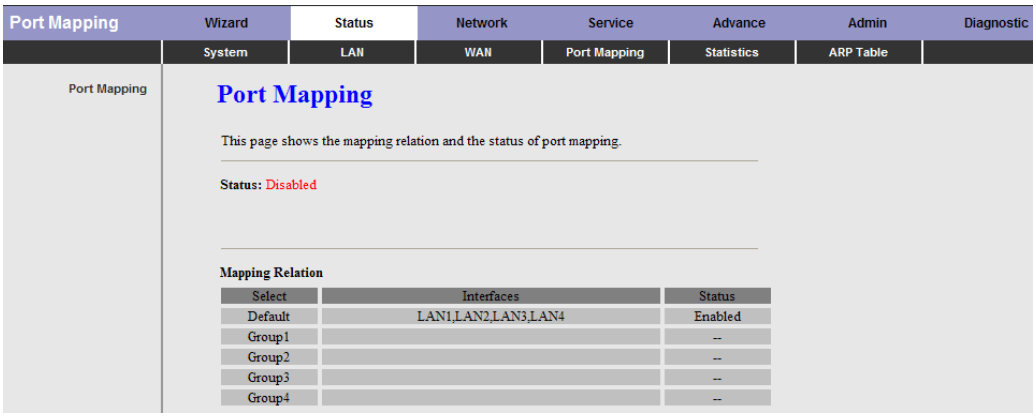


3.3.4 WLAN (ADW-4401 only)

Choose **Status** > **WLAN**. The page that is displayed shows some basic WLAN settings of the router. In the **WLAN Status** page, you can view basic status of WLAN, BSSID, channel, encrypt mode, wireless client list. If you want to configure the WLAN network, refer to the chapter 03.4.2 WAN.

3.3.5 Port Mapping

Choose **Status** > **Port Mapping**. The page that is displayed shows the relationship and status of port mapping.

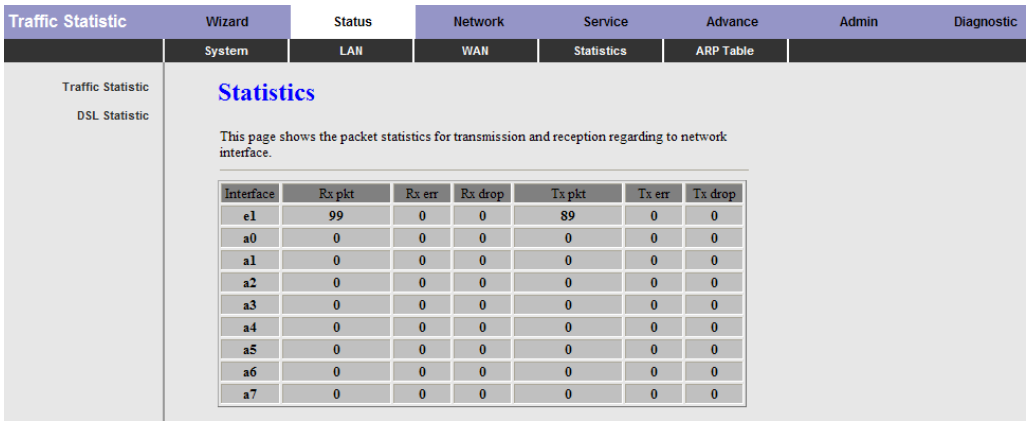


3.3.6 Statistics

Choose **Status** > **Statistics**. The **Statistics** page that is displayed contains **Traffic Statistic** and **DSL Statistic**.

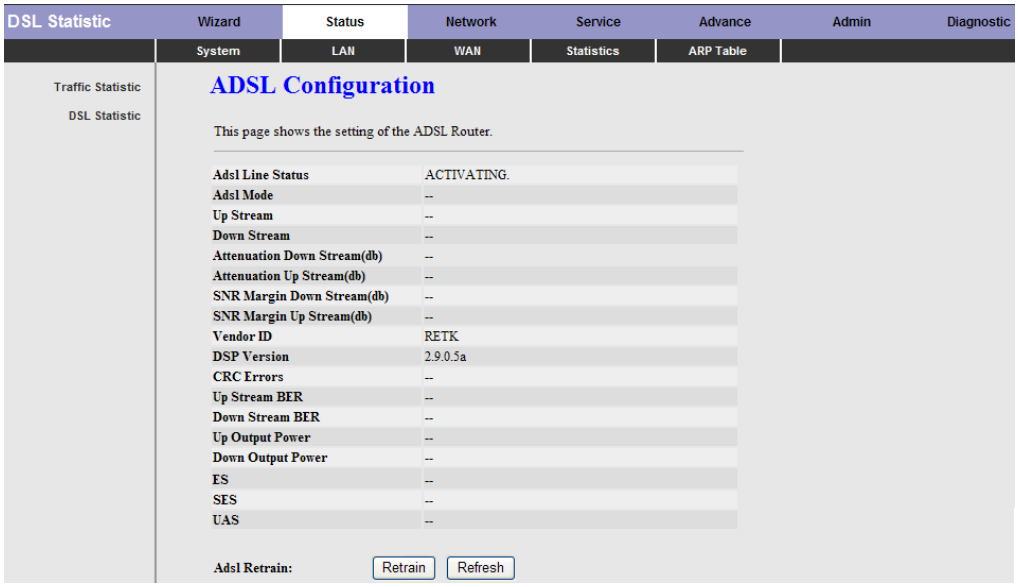
3.3.6.1 Traffic Statistic

Click **Traffic Statistic** in the left pane, the page shown in the following figure appears. In this page, you can view the statistics of each network interface.



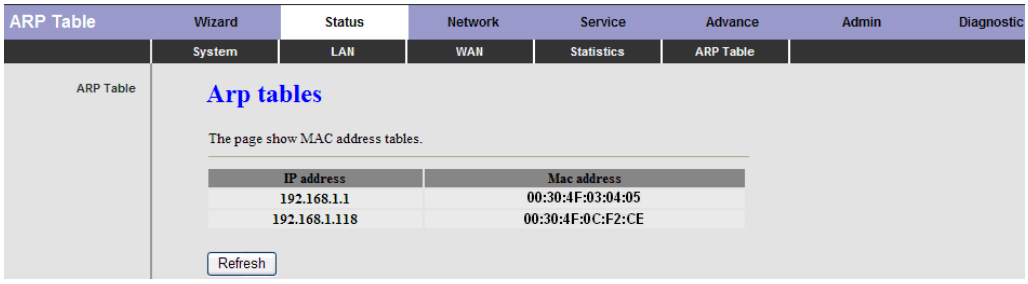
3.3.6.2 DSL Statistic

Click **DSL Statistic** in the left pane, the page shown in the following figure appears. In this page, you can view the ADSL line statistics, downstream rate, upstream rate and other information.



3.3.7 ARP Table

Choose **Status** > **ARP Table**. In the **Arp tables** page, you can view the table that shows a list of learned MAC addresses.



3.4 Network

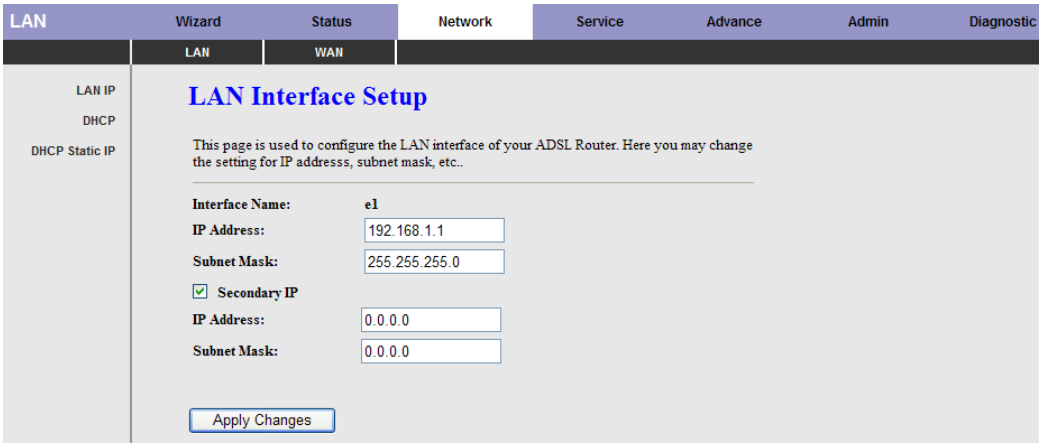
In the navigation bar, click **Network**. The **Network** page that is displayed contains **LAN** and **WAN**.

3.4.1 LAN

Choose **Network** > **LAN**. The **LAN** page that is displayed contains **LAN IP**, **DHCP**, and **DHCP Static IP**.

3.4.1.1 LAN IP

Click **LAN IP** in the left pane, the page shown in the following figure appears.
In this page, you can change IP address of the router. The default IP address is 192.168.1.1, which is the private IP address of the router.

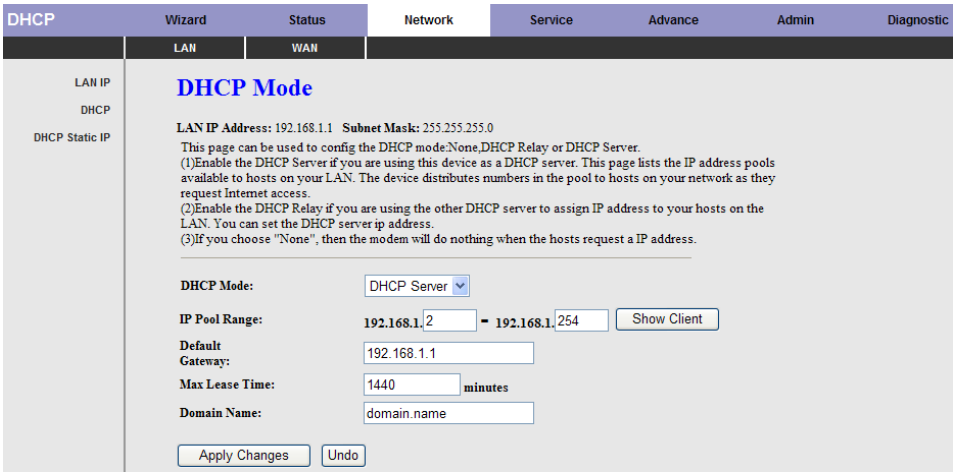


The following table describes the parameters of this page:

Field	Description
IP Address	Enter the IP address of LAN interface. It is recommended to use an address from a block that is reserved for private use. This address block is 192.168.1.1- 192.168.255.254.
Subnet Mask	Enter the subnet mask of LAN interface. The range of subnet mask is from 255.255.0.0-255.255.255.254.
Secondary IP	Select it to enable the secondary LAN IP address. The two LAN IP addresses must be in the different network.

3.4.1.2 DHCP

Dynamic Host Configuration Protocol (DHCP) allows the individual PC to obtain the TCP/IP configuration from the centralized DHCP server. You can configure this router as a DHCP server or disable it. The DHCP server can assign IP address, IP default gateway, and DNS server to DHCP clients. This router can also act as a surrogate DHCP server (DHCP proxy) where it relays IP address assignment from an actual real DHCP server to clients. You can enable or disable DHCP server or DHCP proxy.
Click **DHCP** in the left pane, the page shown in the following figure appears.



The following table describes the parameters of this page:

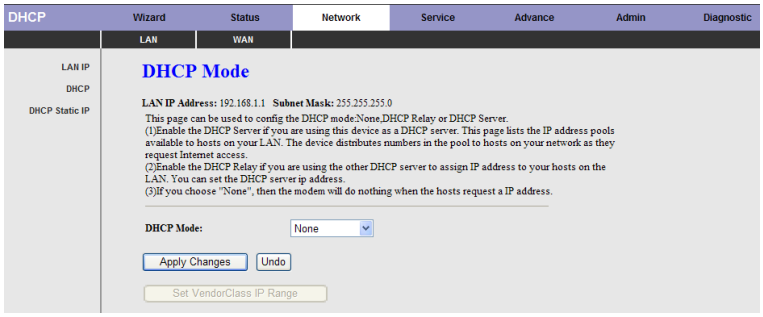
Field	Description
DHCP Mode	If set to **DHCP Server**, the router can assign IP addresses, IP default gateway and DNS Servers to the host in Windows95, Windows NT and other operation systems that support the DHCP client.
IP Pool Range	It specifies the first and the last IP address in the IP address pool. The router assigns IP address that is in the IP pool range to the host.
Show Client	Click it, the **Active DHCP Client Table** appears. It shows IP addresses assigned to clients.
Default Gateway	Enter the default gateway of the IP address pool.
Max Lease Time	The lease time determines the period that the host retains the assigned IP addresses before the IP addresses change.
Domain Name	Enter the domain name if you know. If you leave this blank, the domain name obtained by DHCP from the ISP is used. You must enter host name (system name) on each individual PC. The domain name can be assigned from the router through the DHCP server.

Click **Show Client** in the **DHCP Mode** page, the page shown in the following figure appears. You can view the IP address assigned to each DHCP client.

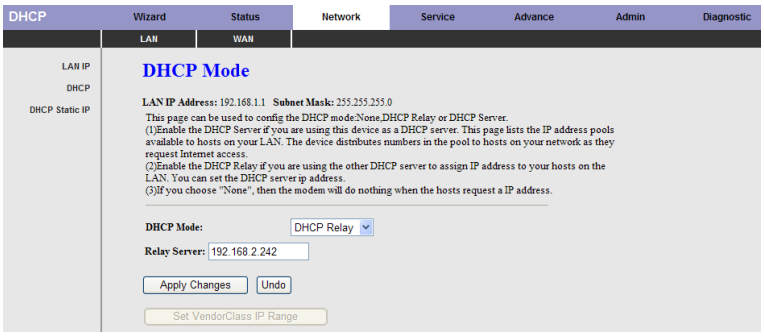
The following table describes the parameters and buttons in this page:

Field	Description
IP Address	It displays the IP address assigned to the DHCP client from the router.
MAC Address	It displays the MAC address of the DHCP client. Each Ethernet device has a unique MAC address. The MAC address is assigned at the factory and it consists of six pairs of hexadecimal character, for example, 00-A0-C5-00-02-12.
Expired (s)	It displays the lease time. The lease time determines the period that the host retains the assigned IP addresses before the IP addresses change.
Refresh	Click it to refresh this page.
Close	Click it to close this page.

In the **DHCP Mode** field, choose **None**. The page shown in the following figure appears.



In the **DHCP Mode** field, choose **DHCP Relay**. The page shown in the following figure appears.

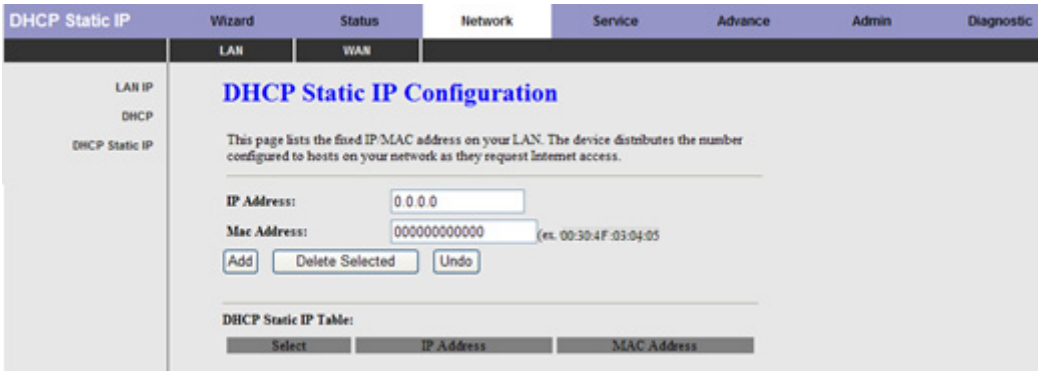


The following table describes the parameters and buttons of this page:

Field	Description
DHCP Mode	If set to **DHCP Relay**, the router acts a surrogate DHCP Server and relays the DHCP requests and responses between the remote server and the client.
Relay Server	Enter the DHCP server address provided by your ISP.
Apply Changes	Click it to save the settings of this page.
Undo	Click it to refresh this page.

3.4.1.3 DHCP Static IP

Click **DHCP Static IP** in the left pane, the page shown in the following figure appears. You can assign the IP addresses on the LAN to the specific individual PCs based on their MAC address.



The following table describes the parameters and buttons of this page:

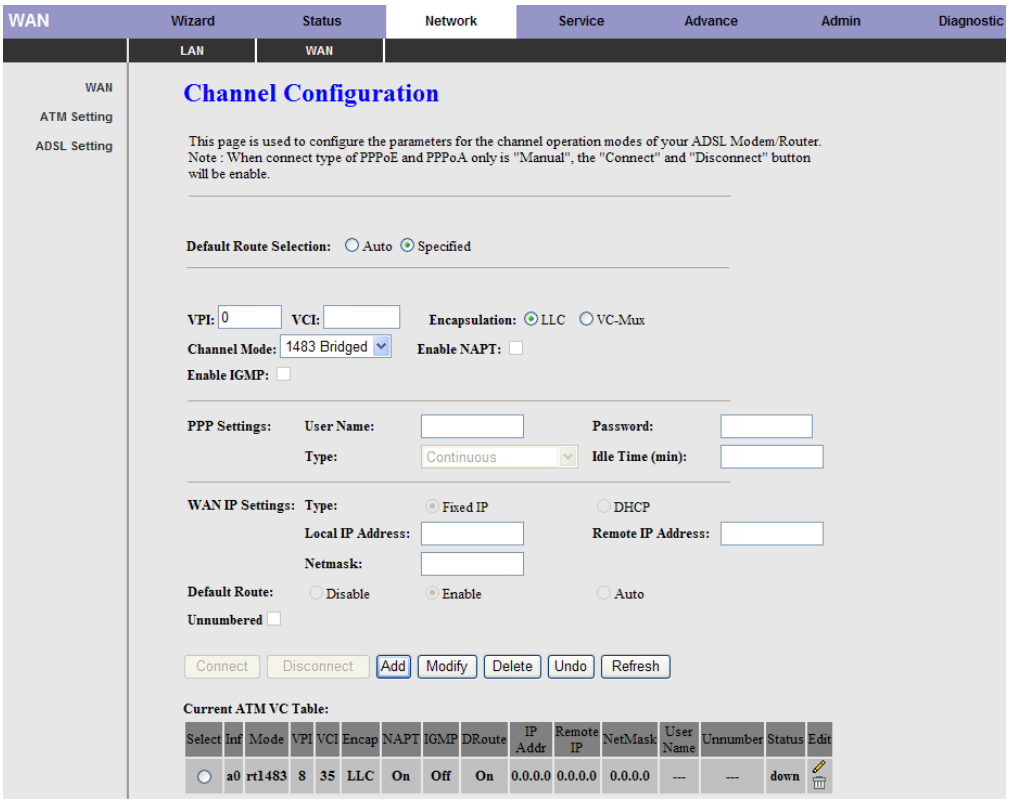
Field	Description
IP Address	Enter the specified IP address in the IP pool range, which is assigned to the host.
Mac Address	Enter the MAC address of a host on the LAN.
Add	After entering the IP address and MAC address, click it. A row will be added in the **DHCP Static IP Table**.
Delete Selected	Select a row in the **DHCP Static IP Table**, then click it, this row is deleted.
Undo	Click it to refresh this page.
DHCP Static IP Table	It shows the assigned IP address based on the MAC address.

3.4.2 WAN

Choose **Network** > **WAN**. The **WAN** page that is displayed contains **WAN**, **ATM Setting**, and **ADSL Setting**.

3.4.2.1 WAN

Click **WAN** in the left pane, the page shown in the following figure appears. In this page, you can configure WAN interface of your router.

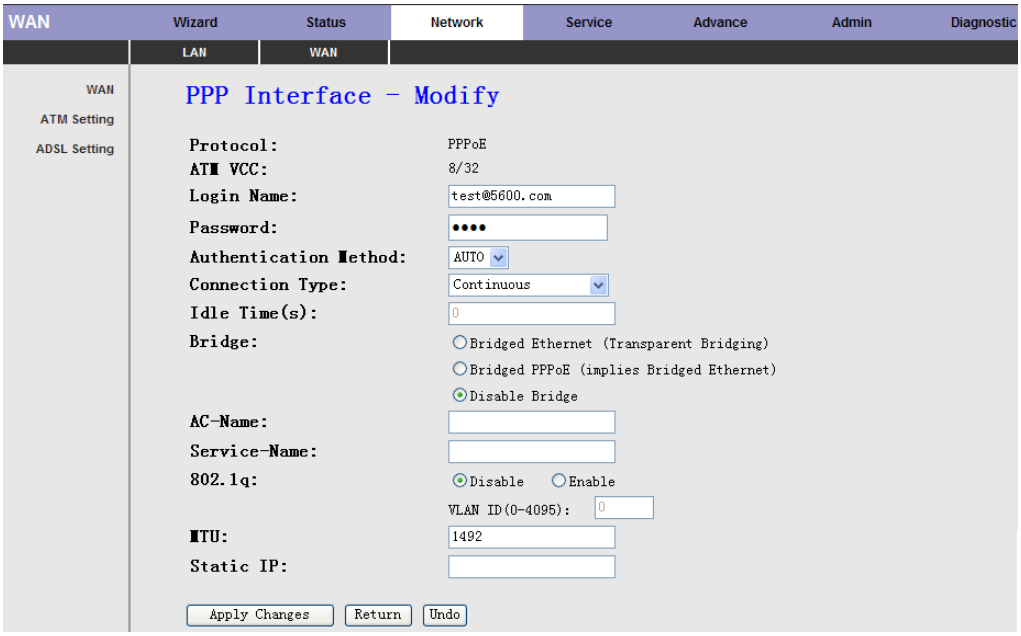


The following table describes the parameters of this page:

Field	Description
Default Route Selection	You can select **Auto** or **Specified**.
VPI	The virtual path between two points in an ATM network, ranging from 0 to 255.
VCI	The virtual channel between two points in an ATM network, ranging from 32 to 65535 (1 to 31 are reserved for known protocols)
Encapsulation	You can choose **LLC** and **VC-Mux**.
Channel Mode	You can choose **1483 Bridged**, **1483 MER**, **PPPoE**, **PPPoA**, or **1483 Routed**.
Enable NAPT	Select it to enable Network Address Port Translation (NAPT) function. If you do not select it and you want to access the Internet normally, you must add a route on the uplink equipment. Otherwise, the access to the Internet fails. Normally, it is enabled.
Enabel IGMP	You can enable or disable Internet Group Management Protocol (IGMP) function.
PPP Settings	
User Name	Enter the correct user name for PPP dial-up, which is provided by your ISP.
Password	Enter the correct password for PPP dial-up, which is provided by your ISP.
Type	You can choose **Continuous**, **Connect on Demand**, or **Manual**.
Idle Time (min)	If set the type to **Connect on Demand**, you need to enter the idle timeout time. Within the preset minutes, if the

Field	Description
	router does not detect the flow of the user continuously, the router automatically disconnects the PPPoE connection.
WAN IP Settings	
Type	You can choose **Fixed IP** or **DHCP**. ● If select **Fixed IP**, you should enter the local IP address, remote IP address and subnet mask. ● If select **DHCP**, the router is a DHCP client, the WAN IP address is assigned by the remote DHCP server.
Local IP Address	Enter the IP address of WAN interface provided by your ISP.
Remote IP Address	Enter the gateway IP address provided by your ISP.
Netmask	Enter the subnet mask of the local IP address.
Unnumbered	Select this checkbox to enable IP unnumbered function.
Add	After configuring the parameters of this page, click it to add a new PVC into the **Current ATM VC Table**.
Modify	Select a PVC in the **Current ATM VC Table**, and then modify the parameters of this PVC. After finishing, click it to apply the settings of this PVC.
Current ATM VC Table	This table shows the existed PVCs. It shows the interface name, channel mode, VPI/VCI, encapsulation mode, local IP address, remote IP address and other information. The maximum item of this table is eight.
	Click it, the **PPP Interface-Modify** appears. You can modify the PVCs' parameters.

Click  in the **PPPoE** mode, the page shown in the following figure appears. In this page, you can configure parameters of this PPPoE PVC.

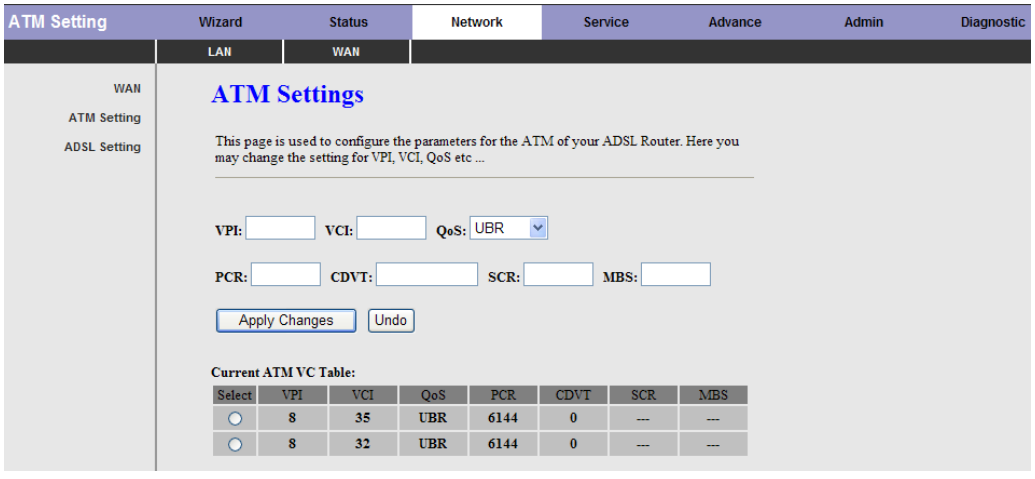


The following table describes the parameters and buttons of this page:

Field	Description
Protocol	It displays the protocol type used for this WAN connection.
ATM VCC	The ATM virtual circuit connection assigned for this PPP interface (VPI/VCI).
Login Name	The user name provided by your ISP.
Password	The password provided by your ISP.
Authentication Method	You can choose **AUTO**, **CHAP**, or **PAP**.
Connection Type	You can choose **Continuous**, **Connect on Demand**, or **Manual**.
Idle Time (s)	If choose **Connect on Demand**, you need to enter the idle timeout time. Within the preset minutes, if the router does not detect the flow of the user continuously, the router automatically disconnects the PPPoE connection.
Bridge	You can select **Bridged Ethernet**, **Bridged PPPoE**, or **Disable Bridge**.
AC-Name	The accessed equipment type.
Service-Name	The service name.
802.1q	You can select **Disable** or **Enable**. After enable it, you need to enter the VLAN ID. The value ranges from 0 to 4095.
Apply Changes	Click it to save the settings of this page temporarily.
Return	Click it to return to the **Channel Configuration** page.
Undo	Click it to refresh this page.

3.4.2.2 ATM Setting

Click **ATM Setting** in the left pane, the page shown in the following figure appears. In this page, you can configure the parameters of the ATM, including QoS, PCR, CDVT, SCR, and MBS.

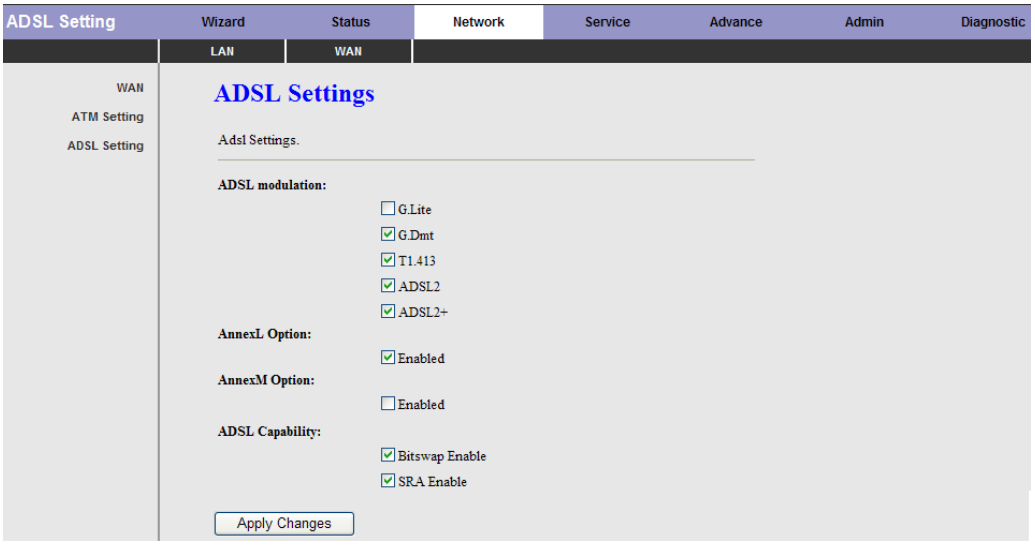


The following table describes the parameters of this page:

Field	Description
VPI	The virtual path identifier of the ATM PVC.
VCI	The virtual channel identifier of the ATM PVC.
QoS	The QoS category of the PVC. You can choose **UBR**, **CBR**, **rt-VBR**, or **nrt-VBR**.
PCR	Peak cell rate (PCR) is the maximum rate at which cells can be transmitted along a connection in the ATM network. Its value ranges from 1 to 65535.
CDVT	Cell delay variation tolerance (CDVT) is the amount of delay permitted between ATM cells (in microseconds). Its value ranges from 0 to 4294967295.
SCR	Subtain cell rate (SCR) is the maximum rate that traffic can pass over a PVC without the risk of cell loss. Its value ranges from 0 to 65535.
MBS	Maximum burst size (MBS) is the maximum number of cells that can be transmitted at the PCR. Its value ranges from 0 to 65535.

3.4.2.3 ADSL Setting

Click **ADSL Setting** in the left pane, the page shown in the following figure appears. In this page, you can select the DSL modulation. Mostly, you need to remain this factory default settings. The router supports these modulations: **G.Lite**, **G.Dmt**, **T1.413**, **ADSL2**, **ADSL2+**, **AnnexL**, and **AnnexM**. The router negotiates the modulation modes with the DSLAM.

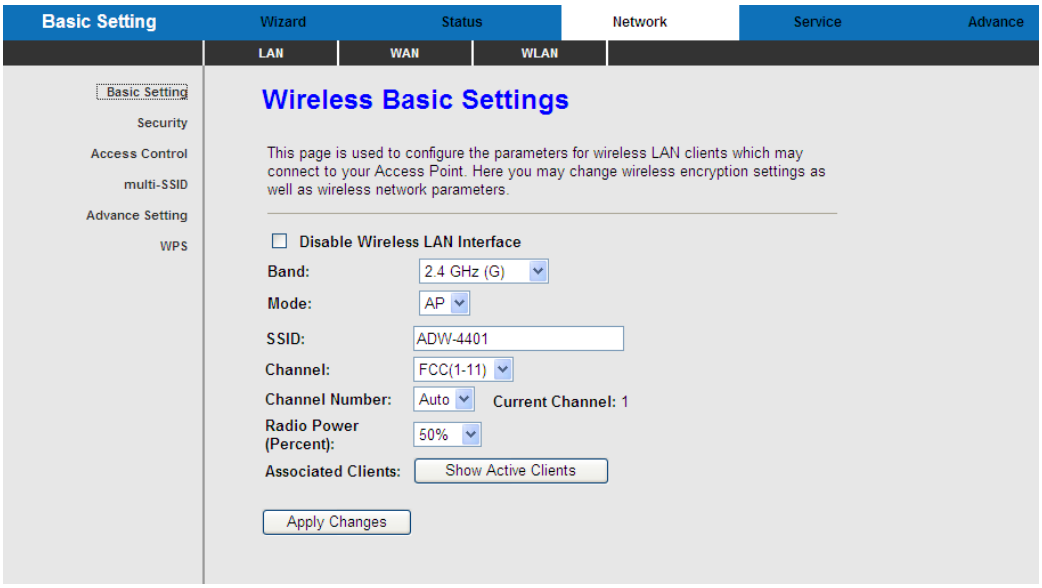


3.4.3 WLAN (ADW-4401 only)

Click **"WLAN"** and it will open out the Sub-Menu. It includes the **"Basic Settings", "Security", "Access Control", ""Multi-SSID", "Advanced Settings" and "WPS"**.

3.4.3.1 Basic Setting

Go to **WLAN → Basic Settings** to setup the wireless parameters.



The following table describes the parameters of this page:

Field	Description
Disable Wireless LAN Interface	Click to disable the WLAN Interface. The Wireless Interface default is Enable.
Band	You can select the proper wireless type for your requirements and environment. There are following types: 2.4GHz（B）/ 2.4GHz（G）/ 2.4GHz（B＋G）
Mode	The Wireless ADSL Router can work like an Acces Point . The Default setting is AP.
SSID	The SSID (Service Set Identification) is the unique name shared among all devices in a wireless network. The SSID must be identical for all devices in the wireless network. Set a string up to 32 letters to identify AP.
Channel	The channel will adjust according to nations to adapt to each nation's frequency provision.
Channel Number	Select the appropriate channel to correspond with your network settings. Auto is the default setting. All devices in your wireless network must use the same channel in order to function correctly.
Radio Power	10%, 25%, 50%, 80%, 100%.
Associated Clients	Click it to show Active Clients.

3.4.3.2 Security

This page allows you can configure security features of the WLAN interface. You can set the network authentication method, selecting data encryption, specify whether a network key is required to authenticate to this wireless network and specify the encryption strength. This device is equipped with 802.1x and WPA/WPA2 (Wi-Fi Protected Access), the latest security standard. It also supports the legacy security standard, WEP (Wired Equivalent Privacy). By default, wireless security is disabled and authentication is open. Before enabling the security, consider your network size, complexity, and existing authentication infrastructure and then determine which solution applies to it.

Encryption:

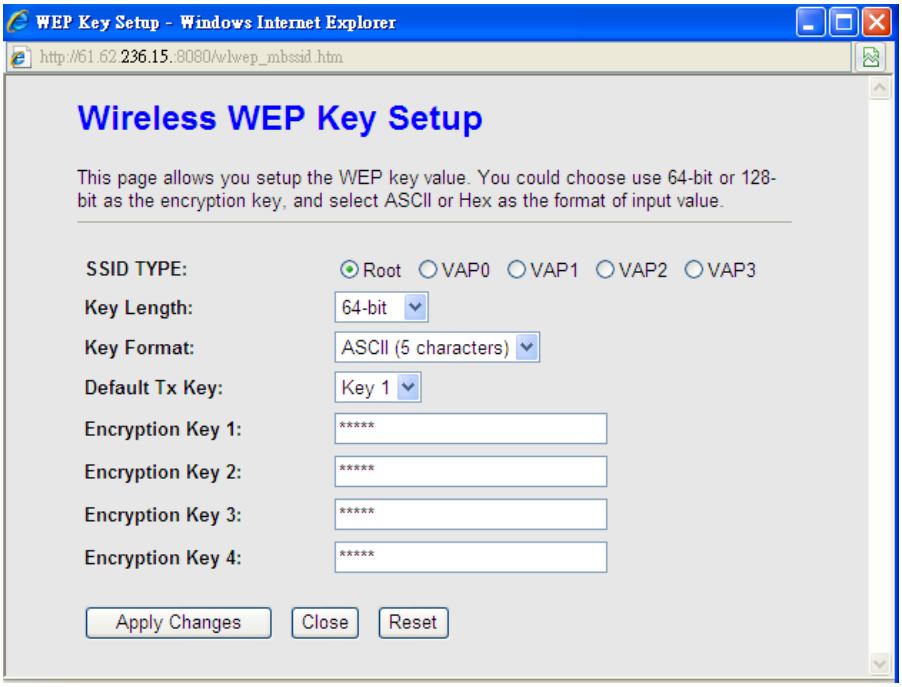
Select the Encryption mode for Authentication. There are seven modes for select.
None / WEP / WPA (TKIP) / WPA (AES) / WPA2 (TKIP) / WPA2 (AES）/ WPA2 Mixed.

- None:

The data is not encrypted when it is transferred from the device to the client station. This is the default option.

- WEP (Wired Equivalent Privacy):

Encrypts data frames before transmitting over the wireless network. After you select WEP, you can click the **"Set WEP Key"** button for further settings.



Following is a description of the different options:

Field	Description
SSID Type	Select the Root, VPA0, VAP1, VAP2 or VAP3.
Key Length	Select 64-bit WEP or 128-bit WEP to use data encryption.
Key Format	Select the ASCII or Hex format for encryption.
Default Tx Key	Select Key 1 ~ 4 for your default Encryption Key.
Network Key 1 to 4	Enter 5 ASCII characters or 10 hexadecimal digits for 64-bit encryption keys to fill out WEP keys box. Or enter 13 ASCII characters or 26 hexadecimal digits for 128-bit encryption keys to fill out WEP keys box. The system allows you to type in 4 kinds of the WEP key.
Channel	The channel will adjust according to nations to adapt to each nation's frequency provision.
Channel Number	Select the appropriate channel to correspond with your network settings. Auto is the default setting. All devices in your wireless network must use the same channel in order to function correctly.
Radio Power	10%, 25%, 50%, 80%, 100%.
Associated Clients	Click it to show Active Clients.

Click **"Apply Changes"** to save the wireless security options and then click **“Close”** to return the Security Setup screen.

Use 802.1x Authentication:

Enable 802.1x Authentication and select WEP 64bits or WEP 128bits for authentication.

Following is a description of the different options:

Field	Description
Radius Port	Enter the port number of the authentication server. The default port number is 1812.
Radius Server IP Address	Enter the IP Address of the authentication server.
Radius Password	Enter the same key as the Radius server's.

Click **"Apply Changes"** again to save the wireless security options and make the change take effect.

- WPA(TKIP) / WPA (AES) / WPA (TKIP) / WPA2(AES):

Wi-Fi Protected Access encrypts data frames before transmitting over the wireless network.

Following is a description of the different options:

Field	Description
WPA Authentication Mode	Select the Enterprise (RADIUS) or Personal (Pre-Shared Key).
Pre-shared Key Format	Select the Passphrase or Hax format.
Pre-shared Key	Enter the pre-shared key for WPA. Client stations must use the same key in order to connect with this device. Check the table below for instructions when entering the key.
Radius Port	Enter the port number of the authentication server. The default port number is 1812.
Radius Password	Enter the same key as the Radius server's.
Channel	The channel will adjust according to nations to adapt to each nation's frequency provision.
Channel Number	Select the appropriate channel to correspond with your network settings. Auto is the default setting. All devices in your wireless network must use the same channel in order to function correctly.
Radio Power	10%, 25%, 50%, 80%, 100%.
Associated Clients	Click it to show Active Clients.

Click **"Apply Changes"** again to save the wireless security options and make the change take effect.

3.4.3.3 Access Control

You can allow or deny a list of MAC addresses associated with the wireless stations access to the ADSL Router.

Following is a description of the different options:

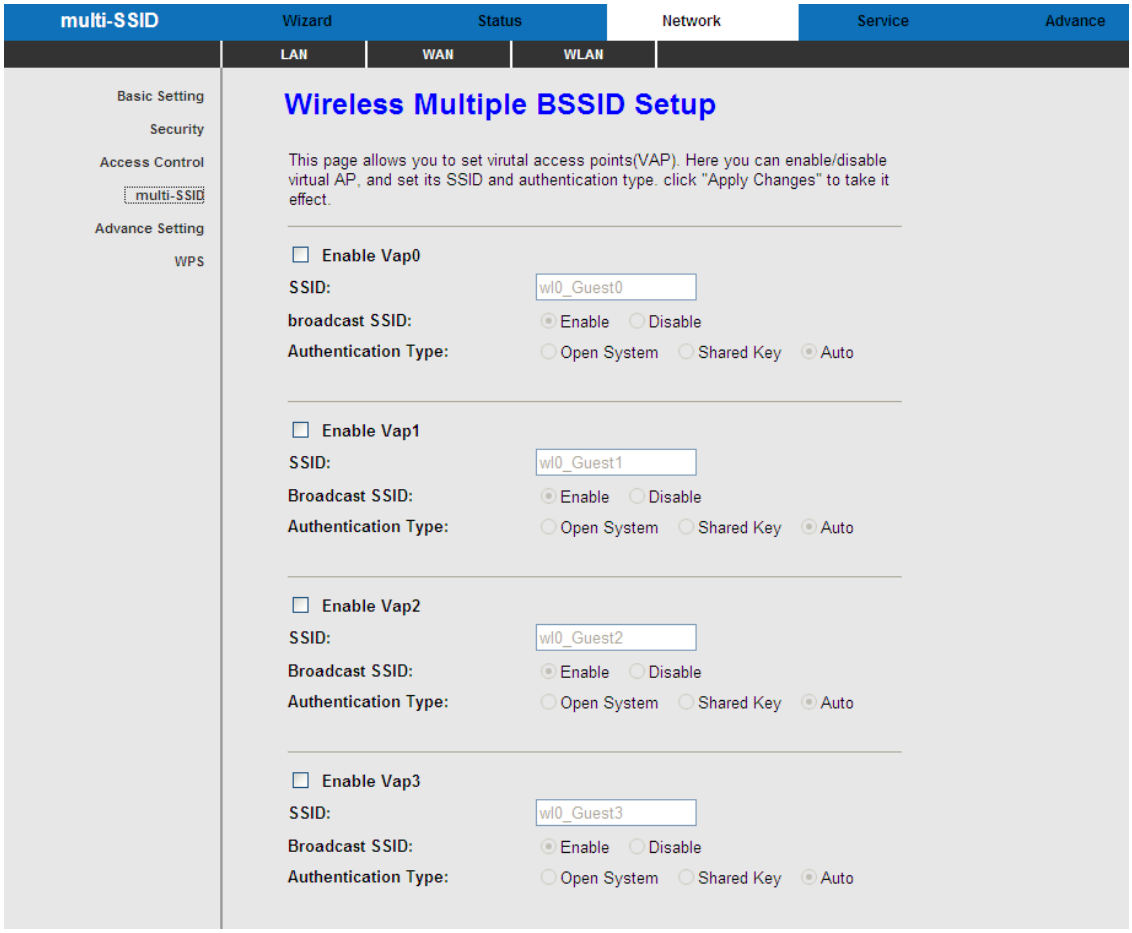
Field	Description
Wireless Access Control Mode	Select the Disabled to disable this function. Select the Allow to make any wireless MAC address in the Wireless Access Control List can be linked to. And select the Deny to ban any wireless MAC address in the Wireless Access Control List to be linked to.
Add MAC Access Control	To add a new MAC address to your wireless MAC address filters, type in the MAC Address in the entry field provided.

And then click on the **"Apply Changes"** button to add the MAC address to the list. The MAC address will appear listed in the "Current Access Control List".

You can click the **"Delete"** to delete the MAC address that you selected, or click **"Delete All"** to delete all MAC address in the list table.

3.4.3.4 Multiple SSID

This page allows you to set virtual access pints (VAP). Here you can enable/disable virtual AP, and set its SSID and authentication type.



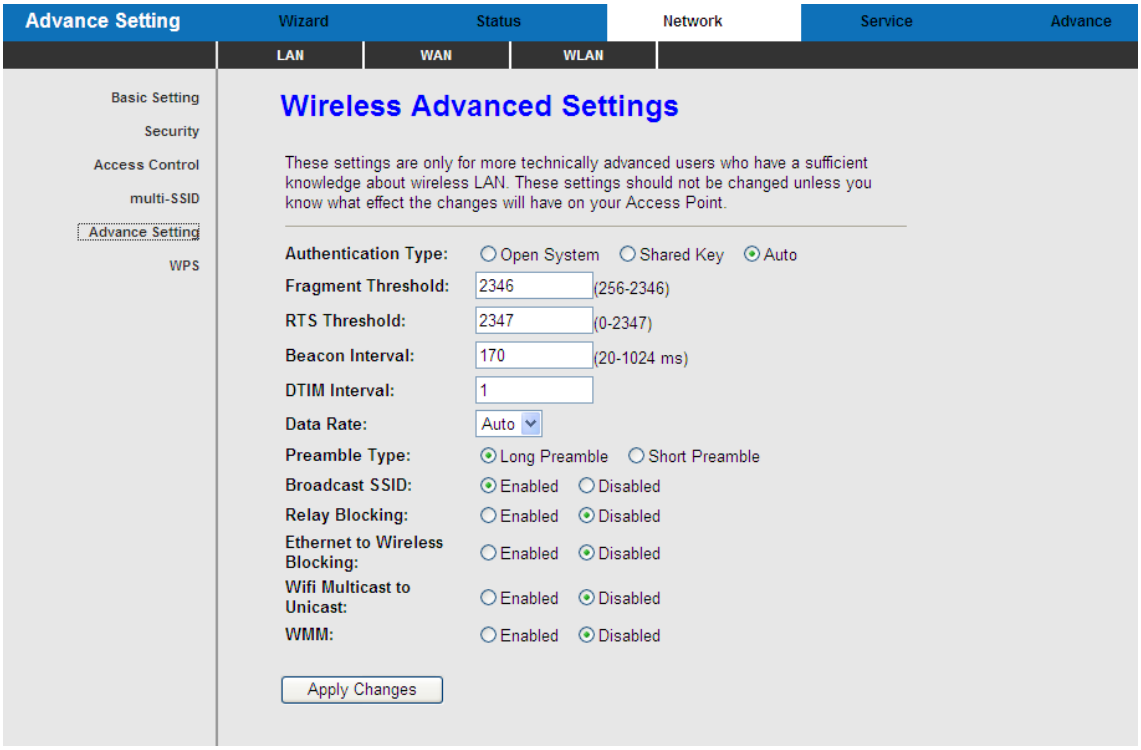
The following table describes the parameters of this page:

Field	Description
Enable Vap 0~3	Click it to enable VAP(s) Interfaces. The default setting is “Disnable”.
SSID	The SSID (Service Set Identification) is the unique name shared among all devices in a wireless network. The SSID must be identical for all devices in the wireless network.
Broadcast SSID	Select enable/disable the SSID broadcast.
Authentication Type	Select Open System, Shard Key or Auto.

Click **"Apply Changes"** to save the multi-SSID options and make the change take effect.

3.4.3.5 Advanced Setting

These settings are only for more technically advanced users who have a sufficient knowledge about wireless LAN. These settings should not be changed unless you know what effect the changes will have on your Access Point.



The following table describes the parameters of this page:

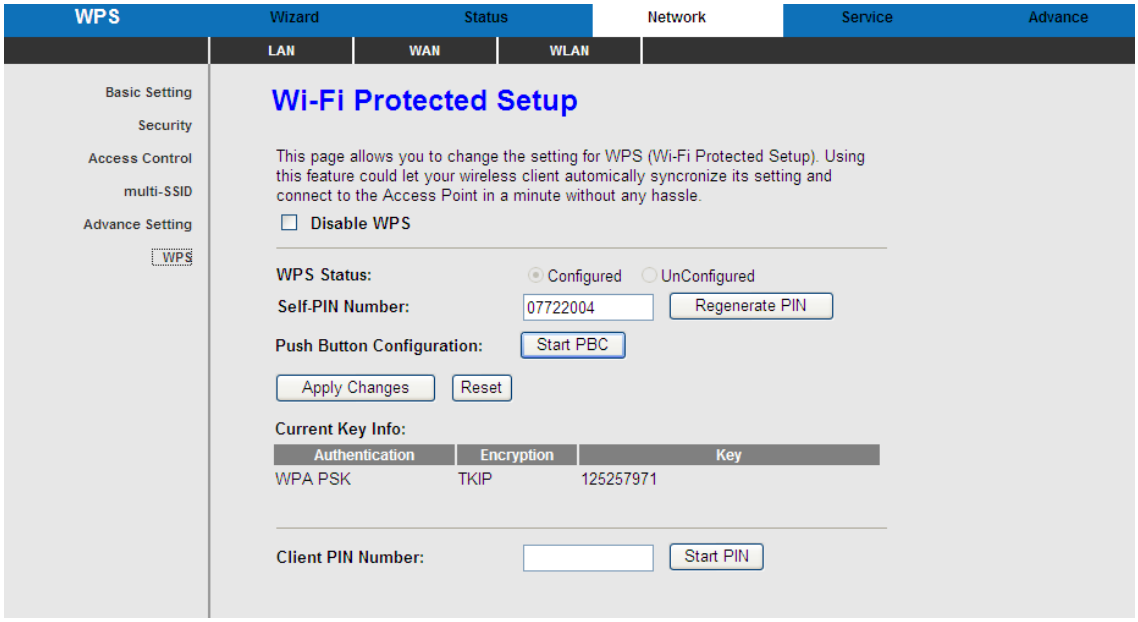
Field	Description
Fragment Threshold	The threshold (number of bytes) for the fragmentation boundary for directed messages. It is the maximum data fragment size that can be sent. Enter a value between 256 and 2346.
RTS Threshold	The RTS (Request To Send) threshold (number of bytes) for enabling RTS/CTS handshake. Data with its frame size larger than this value will perform the RTS/CTS handshake. Set this attribute to be larger than the maximum MSDU (MAC Service Data Unit) size TURNS OFF the RTS/CTS handshake. Set this attribute to ZERO TURNS ON the RTS/CTS handshake. Enter a value between 0 and 2347.
Beacon Interval	The Beacon Interval value indicates the frequency interval of the beacon. Enter a value between 20 and 1024. A beacon is a packet broadcast by the Router to synchronize the wireless network.

Field	Description
DTIM Interval	(Delivery Traffic Indication Message) Enter a value between 1 and 255 for the Delivery Traffic Indication Message (DTIM.) A DTIM is a countdown informing clients of the next window for listening to broadcast and multicast messages.
Data Rate	Select the transmission rate ability for the AP. Auto/6/9/12/18/24/36/48/54M.
Preamble Type	Select the Long or Short Preamble.
Broadcast SSID	Select to enable/disable the SSID broadcast.
Relay Blocking	Select to enable/disable relay blocking.
Ethernet to Wireless Blocking	Select to enable/disable Ethernet to wireless blocking.
Wifi Multicast to Unicast	Select to enable/disable WiFi multicast to unicast.
WMM	Select to enable/disable WMM function.

Click **"Apply Changes"** to save the Advanced Settings options and make the change take effect.

3.4.3.6 WPS

This page allows you to change the settings for WSP (Wi-Fi Protected Setup). Using this feature could let your wireless client automatically synchronize its settings and connect to the Access Point in a minute without any hassle.



The following table describes the parameters of this page:

Field	Description
Disable WPS	Click to disable WPS. The default setting is Enable.
Self-PIN Number	Shows the Self-PIN number.
Push Button Configuration	Click to Start PBC.
Current Key Info	Shows the Authentication information.
Client PIN Number	Fill the PIN number.

3.5 Service

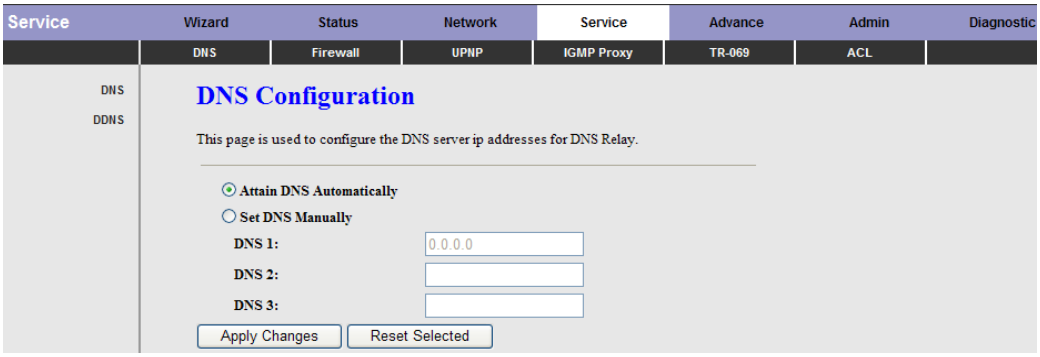
In the navigation bar, click **Service**. In the **Service** page that is displayed contains **DNS**, **Firewall**, **UPNP**, **IGMP Proxy**, **TR-069**, and **ACL**.

3.5.1 DNS

Domain Name System (DNS) is an Internet service that translates the domain name into IP address. Because the domain name is alphabetic, it is easier to remember. The Internet, however, is based on IP addresses. Every time you use a domain name, DNS translates the name into the corresponding IP address. For example, the domain name www.example.com might be translated to 198.105.232.4. The DNS has its own network. If one DNS server does not know how to translate a particular domain name, it asks another one, and so on, until the correct IP address is returned.
Choose **Service** > **DNS**. The **DNS** page that is displayed contains **DNS** and **DDNS**.

3.5.1.1 DNS

Click **DNS** in the left pane, the page shown in the following figure appears.

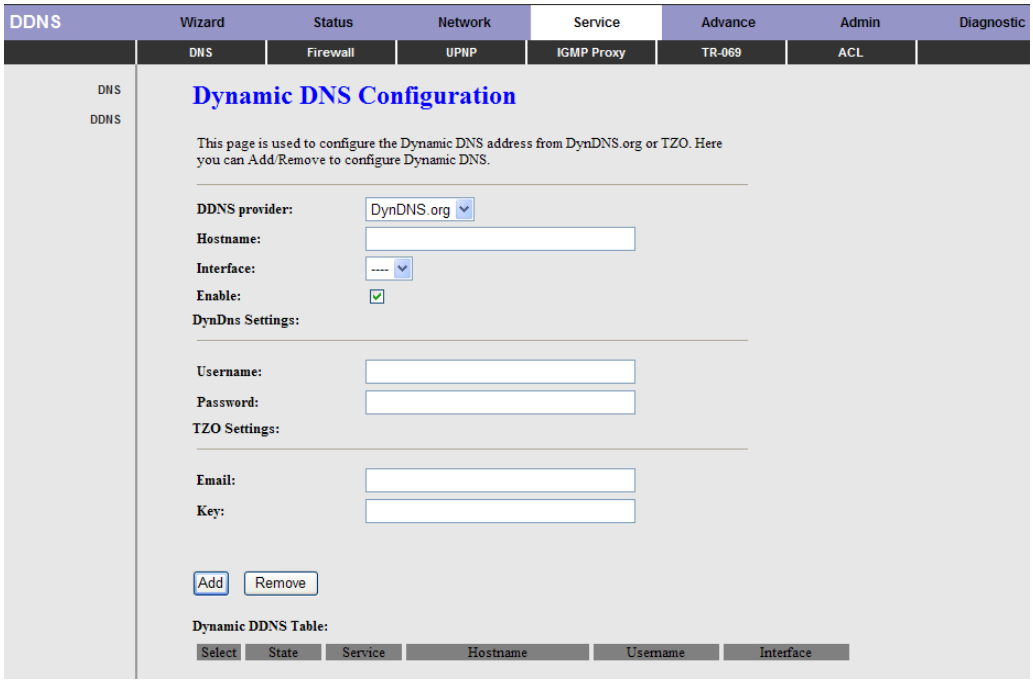


The following table describes the parameters and buttons of this page:

Field	Description
Attain DNS Automatically	Select it, the router accepts the first received DNS assignment from one of the PPPoA, PPPoE or MER enabled PVC(s) during the connection establishment.
Set DNS Manually	Select it, enter the IP addresses of the primary and secondary DNS server.
Apply Changes	Click it to save the settings of this page.
Reset Selected	Click it to start configuring the parameters in this page.

3.5.1.2 DDNS

Click **DDNS** in the left pane, the page shown in the following figure appears. This page is used to configure the dynamic DNS address from DynDNS.org or TZO. You can add or remove to configure dynamic DNS.



The following table describes the parameters of this page:

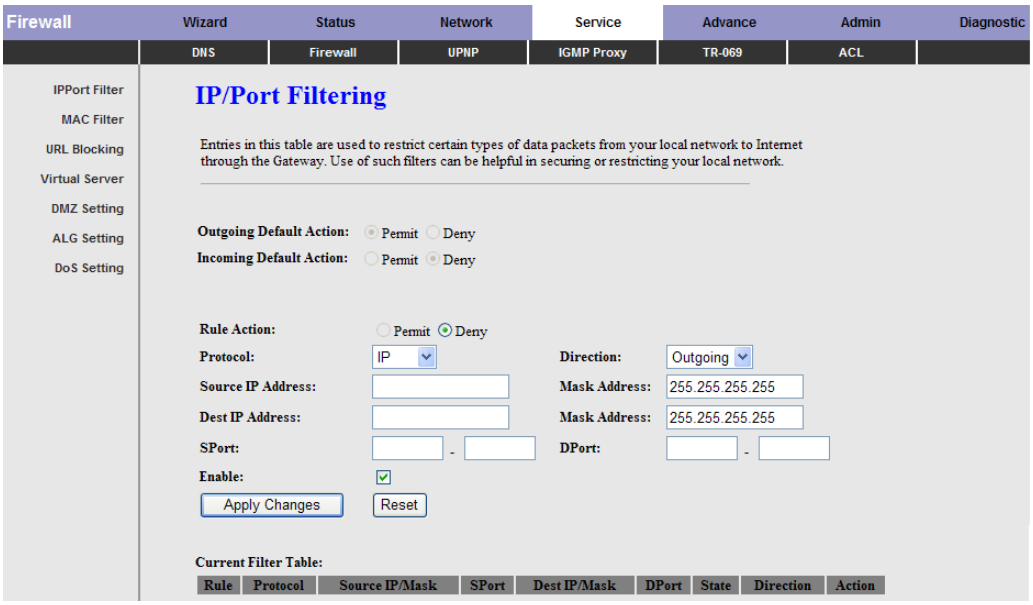
Field	Description
DDNS provider	Choose the DDNS provider name.
Hostname	The DDNS identifier.
Interface	The WAN interface of the router.
Enable	Enable or disable DDNS function.
Username	The name provided by DDNS provider.
Password	The password provided by DDNS provider.
Email	The email provided by DDNS provider.
Key	The key provided by DDNS provider.

3.5.2 Firewall

Choose **Service > Firewall**. The **Firewall** page that is displayed contains **IP Port Filter**, **MAC Filter**, **URL Blocking**, **Virtual Server**, **DMZ Setting**, and **DoS Setting**.

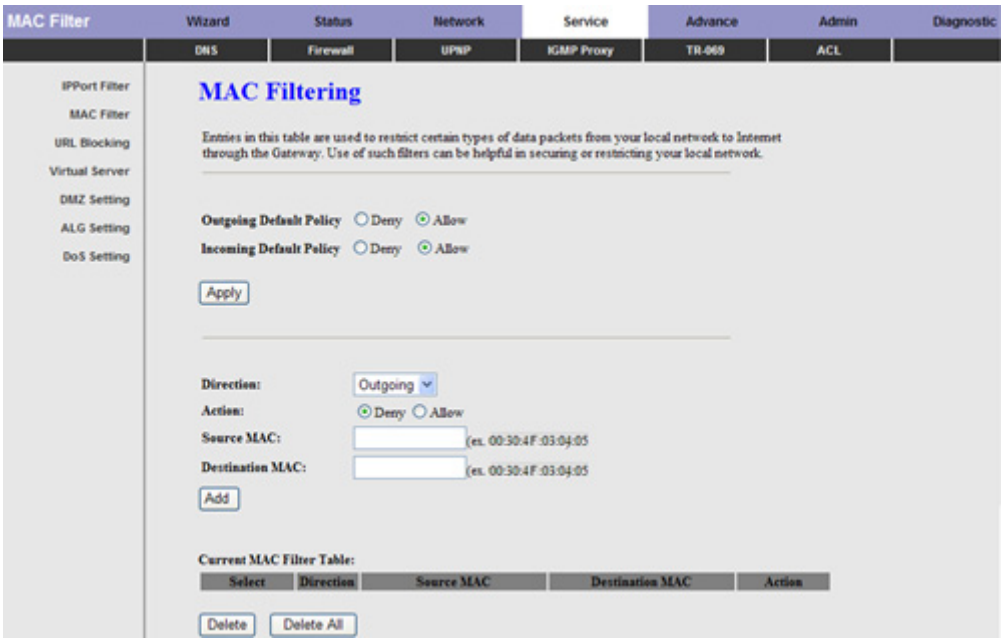
3.5.2.1 IP Port Filter

Click **IP Port Filter** in the left pane, the page shown in the following figure appears. Entries in the table are used to restrict certain types of data packets through the gateway. These filters are helpful in securing or restricting your local network.



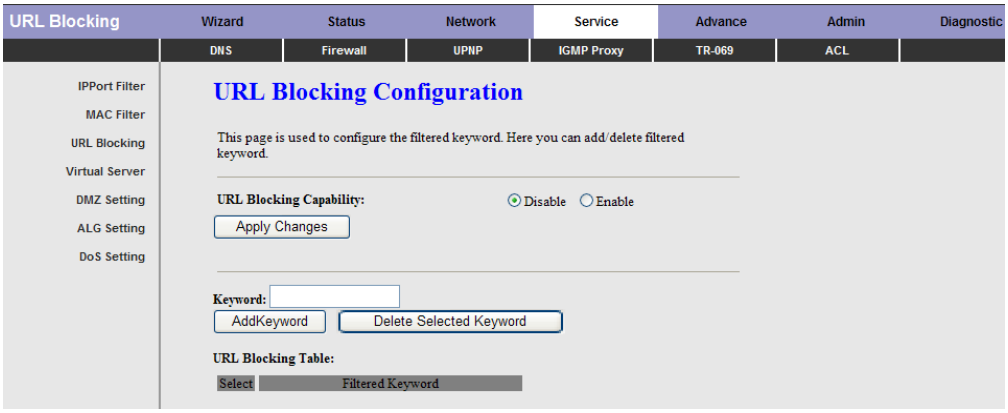
3.5.2.2 MAC Filter

Click **MAC Filter** in the left pane, the page shown in the following figure appears. Entries in the table are used to restrict certain types of data packets from your local network to Internet through the gateway. These filters are helpful in securing or restricting your local network.



3.5.2.3 URL Blocking

Click **URL Blocking** in the left pane, the page shown in the following figure appears. This page is used to block a fully qualified domain name, such as tw.yahoo.com and filtered keyword. You can add or delete FQDN and filtered keyword.

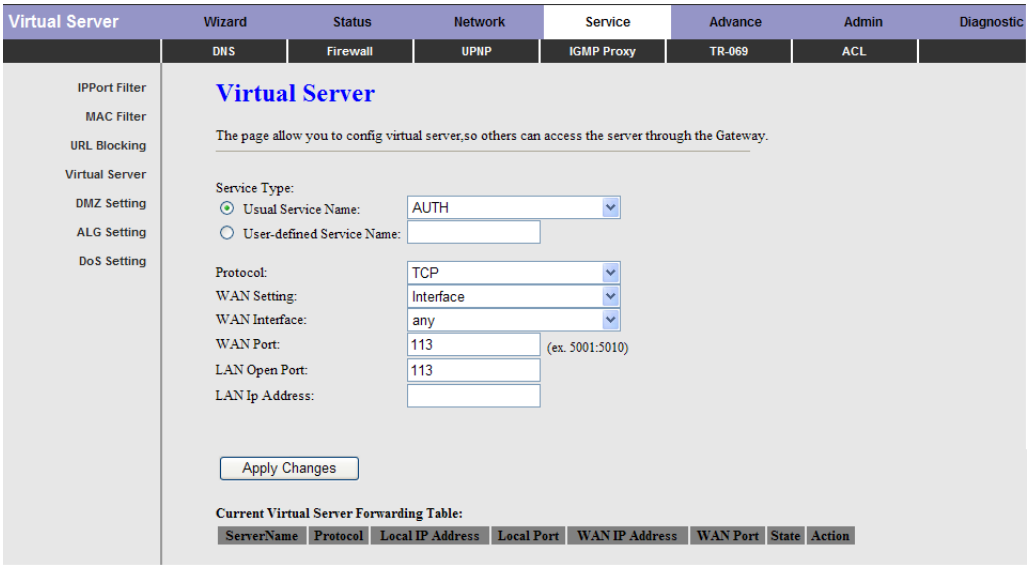


The following table describes the parameters and buttons of this page:

Field	Description
URL Blocking Capability	You can choose **Disable** or **Enable**. ● Select **Disable** to disable URL blocking function and keyword filtering function. ● Select **Enable** to block access to the URLs and keywords specified in the **URL Blocking Table**.
Keyword	Enter the keyword to block.
AddKeyword	Click it to add a keyword to the **URL Blocking Table**.
Delete Selected Keyword	Select a row in the **URL Blocking Table** and click it to delete the row.
URL Blocking Table	A list of the URL (s) to which access is blocked.

3.5.2.4 Virtual Server

Click **Virtual Server** in the left pane, the page shown in the following figure appears.



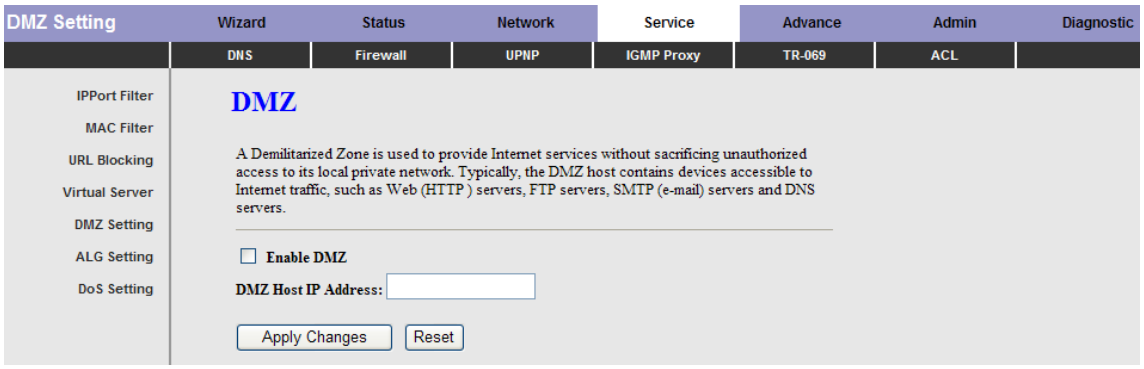
The following table describes the parameters of this page:

Field	Description
Service Type	You can select the common service type, for example, **AUTH**, **DNS**, or **FTP**. You can also define a service name. ● If you select **Usual Service Name**, the corresponding parameter has the default settings. ● If you select **User-defined Service Name**, you need to enter the corresponding parameters.
Protocol	Choose the transport layer protocol that the service type uses. You can choose **TCP** or **UDP**.
WAN Setting	You can choose **Interface** or **IP Address**.
WAN Interface	Choose the router port that uses virtual server.
WAN Port	Choose the access port on the WAN.
LAN Open Port	Enter the port number of the specified service type.
LAN IP Address	Enter the IP address of the virtual server. It is in the same network segment with LAN IP address of the router.

3.5.2.5 DMZ Setting

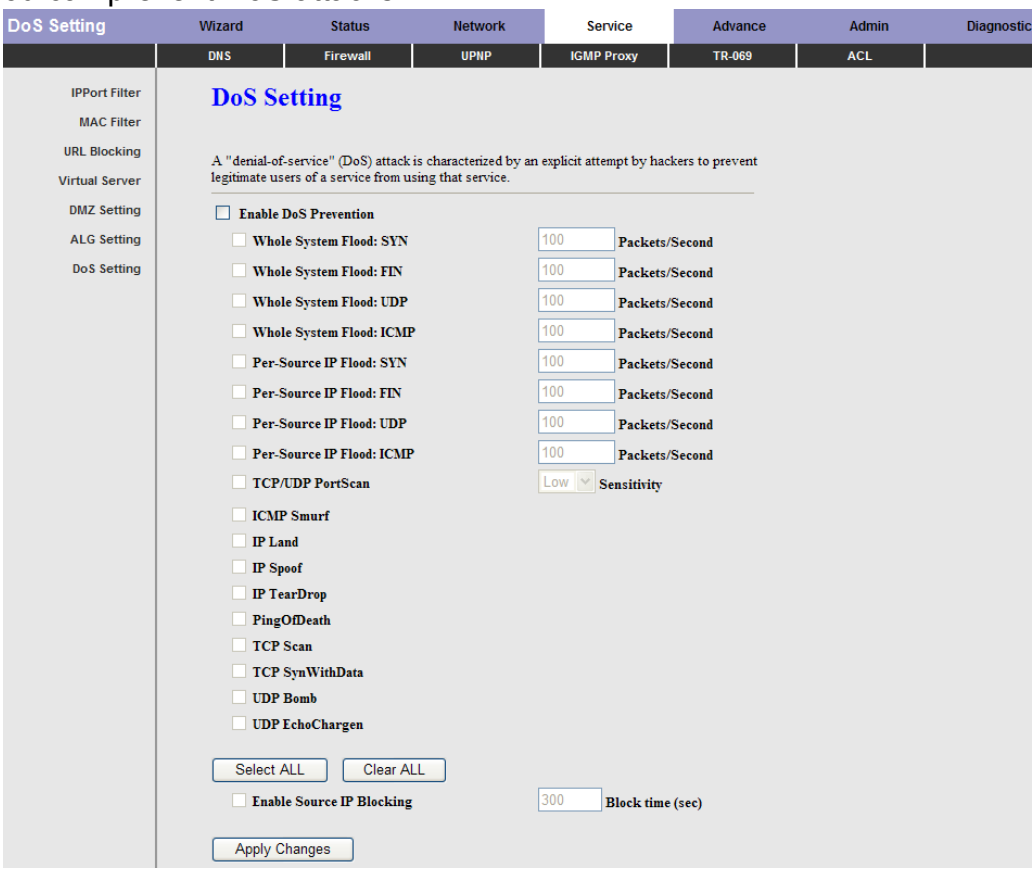
Demilitarized Zone (DMZ) is used to provide Internet services without sacrificing unauthorized access to its local private network. Typically, the DMZ host contains devices accessible to Internet traffic, such as web (HTTP) servers, FTP servers, SMTP (e-mail) servers and DNS servers.
Click **DMZ Setting** in the left pane, the page shown in the following figure appears.

The following describes how to configure DMZ.
Step 1: Select **Enable DMZ** to enable this function.
Step 2: Enter an IP address of the DMZ host.
Step 3: Click **Apply Changes** to save the settings of this page temporarily.



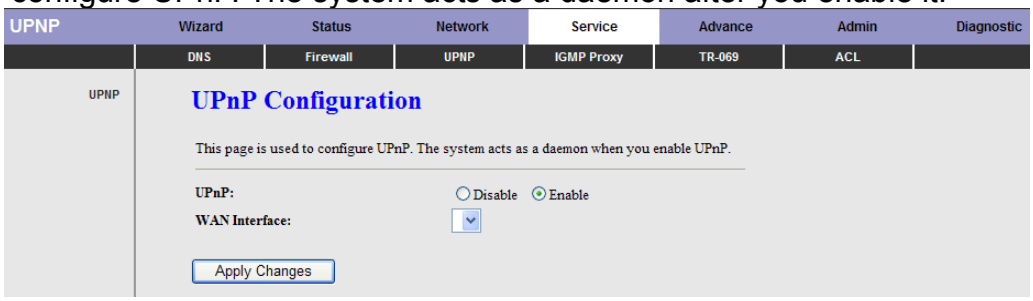
3.5.2.6 DoS Setting

Denial-of-Service Attack (DoS attack) is a type of attack on a network that is designed to bring the network to its knees by flooding it with useless traffic.
Click **DoS Setting** in the left pane, the page shown in the following figure appears. In this page, you can prevent DoS attacks.



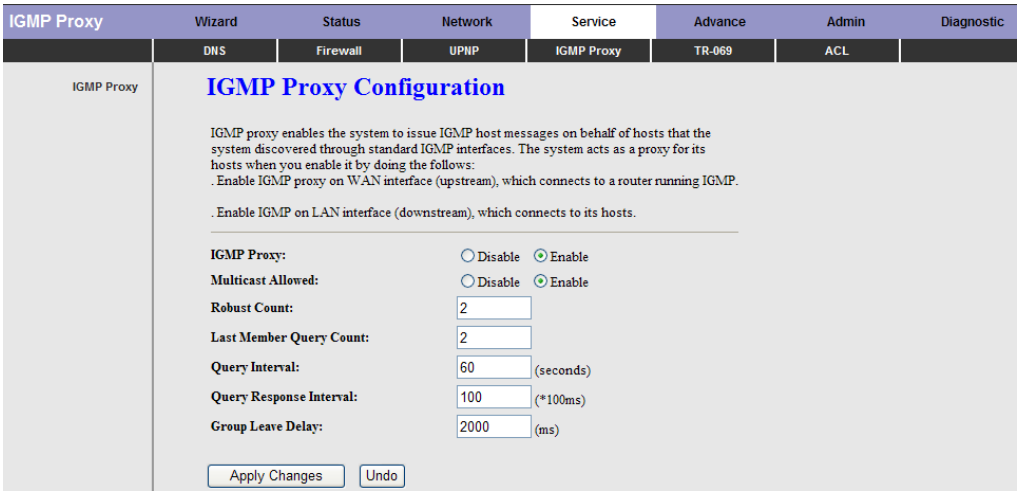
3.5.3 UPNP

Choose **Service** > **UPnP**, the page shown in the following figure appears. This page is used to configure UPnP. The system acts as a daemon after you enable it.



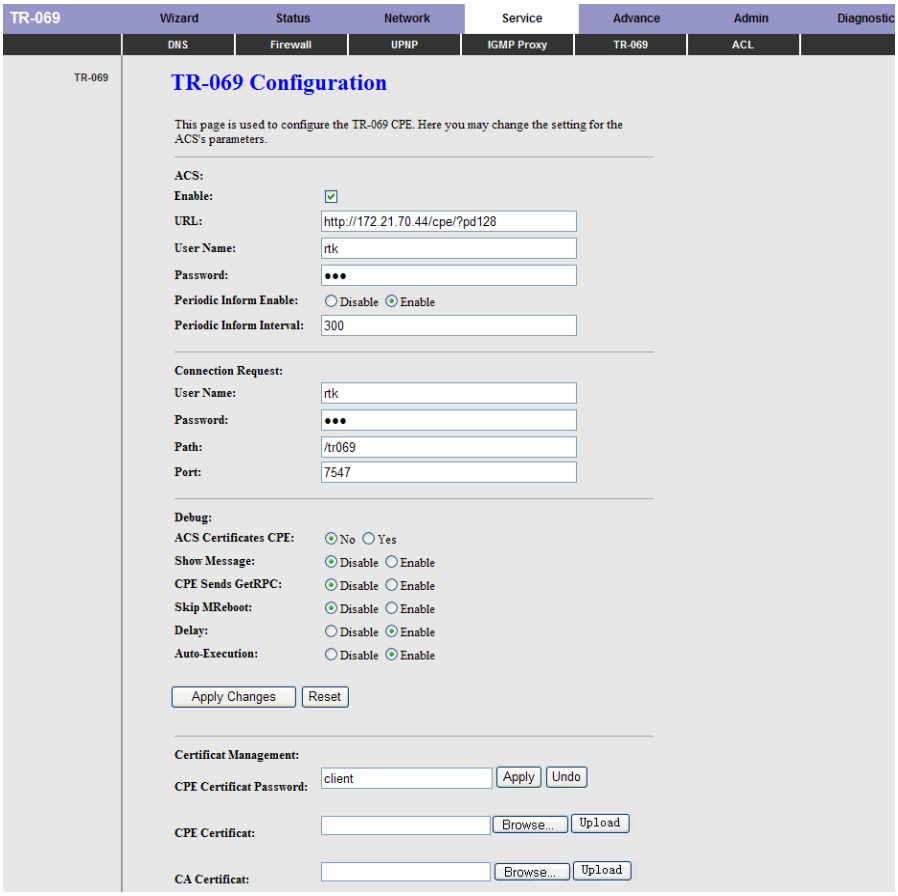
3.5.4 IGMP Proxy

Choose **Service** > **IGMP Proxy**, the page shown in the following figure appears. IGMP proxy enables the system to issue IGMP host messages on behalf of hosts that the system discovered through standard IGMP interfaces. The system acts as a proxy for its hosts after you enable it.



3.5.5 TR-069

Choose **Service** > **TR-069**, the page shown in the following page appears. In this page, you can configure the TR-069 CPE.



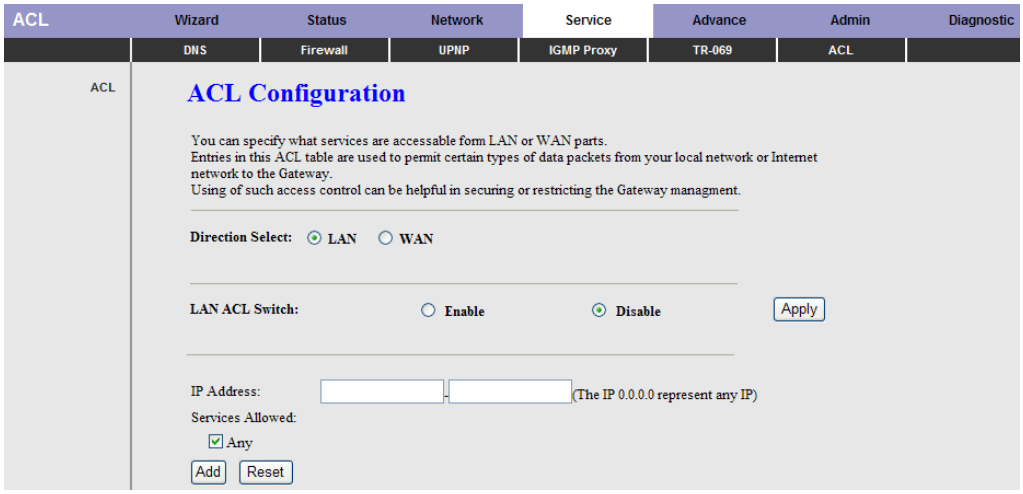
The following table describes the parameters of this page:

Field	Description
ACS	
URL	The URL of the auto-configuration server to connect to.
User Name	The user name for logging in to the ACS.
Password	The password for logging in to the ACS.
Periodic Inform Enable	Select **Enable** to periodically connect to the ACS to check whether the configuration updates.
Periodic Inform Interval	Specify the amount of time between connections to ACS.
Connection Request	
User Name	The connection username provided by TR-069 service.
Password	The connection password provided by TR-069 service.
Debug	
Show Message	Select **Enable** to display ACS SOAP messages on the serial console.
CPE sends GetRPC	Select **Enable**, the router contacts the ACS to obtain configuration updates.
Skip MReboot	Specify whether to send an MReboot event code in the inform message.
Delay	Specify whether to start the TR-069 program after a short delay.
Auto-Execution	Specify whether to automatically start the TR-069 after the router is powered on.

3.5.6 ACL

Choose **Service** > **ACL**, the page shown in the following figure appears. In this page, you can permit the data packets from LAN or WAN to access the router. You can configure the IP address for Access Control List (ACL). If ACL is enabled, only the effective IP address in the ACL can access the router.

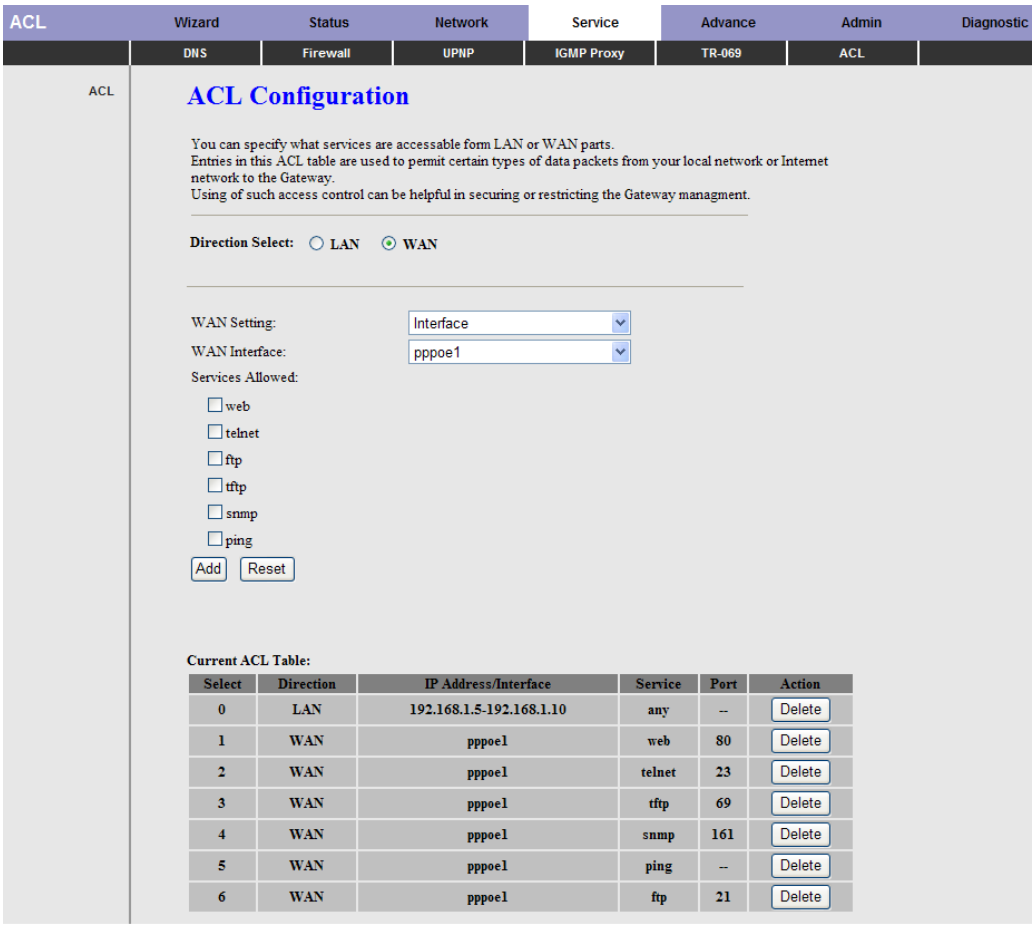
Note:
If you select **Enable** in ACL capability, ensure that your host IP address is in ACL list before it takes effect.



The following table describes the parameters and buttons of this page:

Field	Description
Direction Select	Select the router interface. You can select **LAN** or **WAN**. In this example, **LAN** is selected.
LAN ACL Switch	Select it to enable or disable ACL function.
IP Address	Enter the IP address of the specified interface. Only the IP address that is in the same network segment with the IP address of the specified interface can access the router.
Services Allowed	You can choose the following services from LAN: **web**, **telnet**, **ftp**, **tftp**, **snmp**, or **ping**. You can also choose all the services.
Add	After setting the parameters, click it to add an entry to the **Current ACL Table**.
Reset	Click it to refresh this page.

Set direction of the data packets to **WAN**, the page shown in the following figure appears.



The following table describes the parameters and buttons of this page:

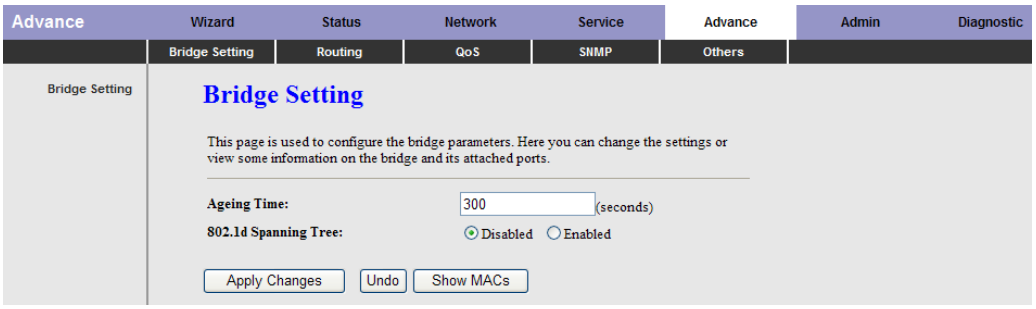
Field	Description
Direction Select	Select the router interface. You can select **LAN** or **WAN**. In this example, **WAN** is selected.
WAN Setting	You can choose **Interface** or **IP Address**.
WAN Interface	Choose the interface that permits data packets from WAN to access the router.
IP Address	Enter the IP address on the WAN. Only the IP address that is in the same network segment with the IP address on the WAN can access the router.
Services Allowed	You can choose the following services from WAN: **web**, **telnet**, **ftp**, **tftp**, **snmp**, or **ping**. You can also choose all the services.
Add	After setting the parameters, click it to add an entry to the **Current ACL Table**.
Reset	Click it to refresh this page.

3.6 Advance

In the navigation bar, click **Advance**. In the **Advance** page that is displayed contains **Bridge Setting**, **Routing**, **QoS**, **SNMP** and **Others**.

3.6.1 Bridge Setting

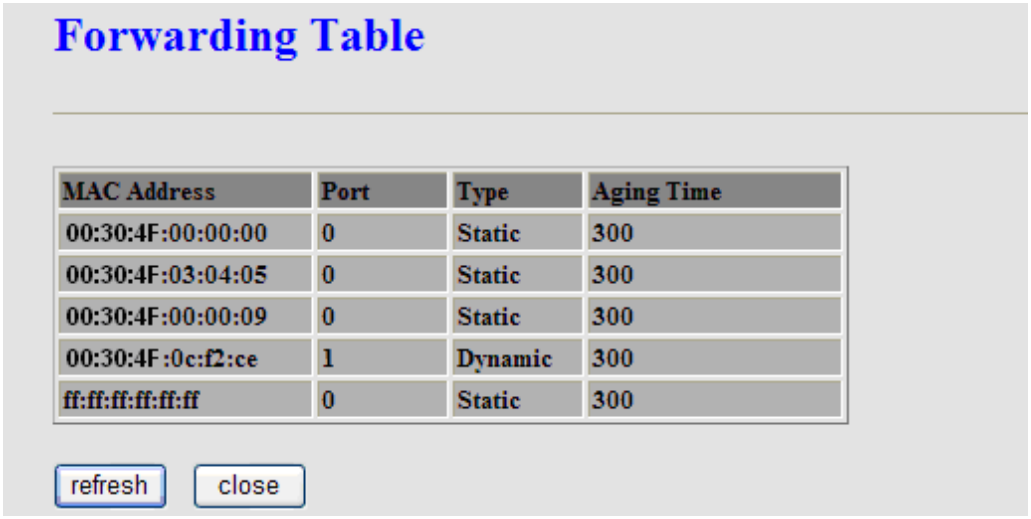
Choose **Advance** > **Bridge Setting**, the page shown in the following figure appears. This page is used to configure the bridge parameters. You can change the settings or view some information on the bridge and its attached ports.



The following table describes the parameters and button of this page:

Field	Description
Aging Time	If the host is idle for 300 seconds (default value), its entry is deleted from the bridge table.
802.1d Spanning Tree	You can select **Disabled** or **Enabled**. Select **Enabled** to provide path redundancy while preventing undesirable loops in your network.
Show MACs	Click it to show a list of the learned MAC addresses for the bridge.

Click **Show MACs**, the page shown in the following figure appears. This table shows a list of learned MAC addresses for this bridge.

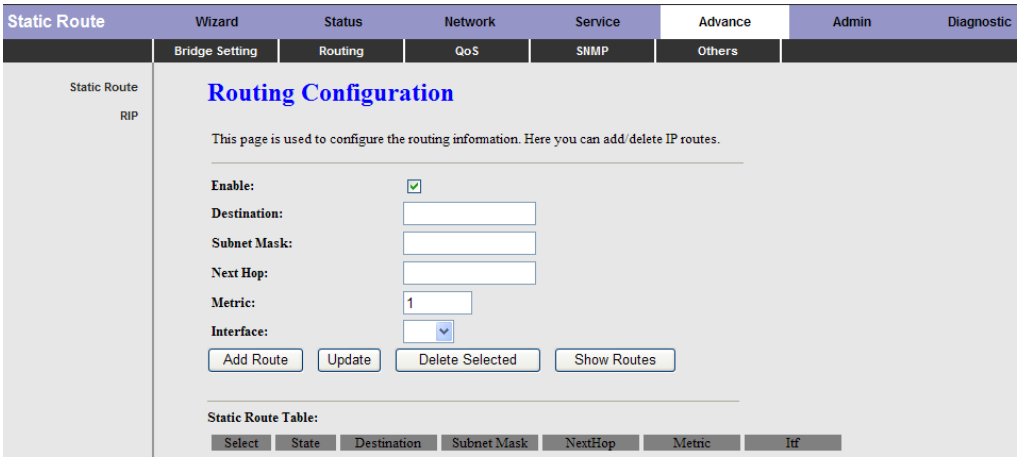


3.6.2 Routing

Choose **Advance > Routing**, the page shown in the following figure appears. The page that is displayed contains **RIP** and **Static Route.**

3.6.2.1 Static Route

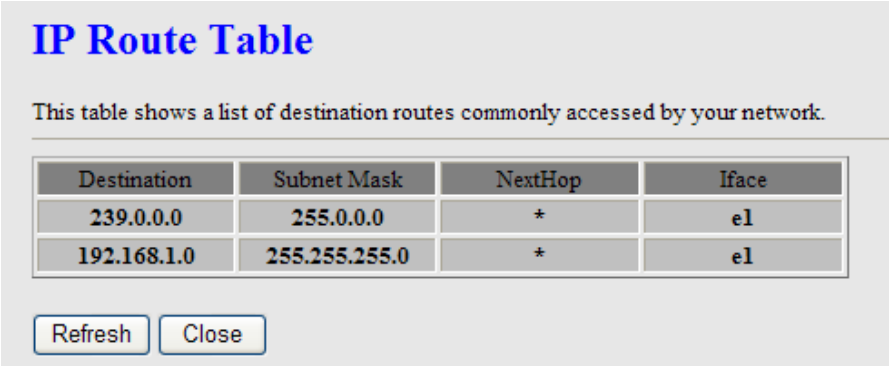
Click **Static Route** in the left pane, the page shown in the following figure appears. This page is used to configure the routing information. You can add or delete IP routes.



The following table describes the parameters and buttons of this page:

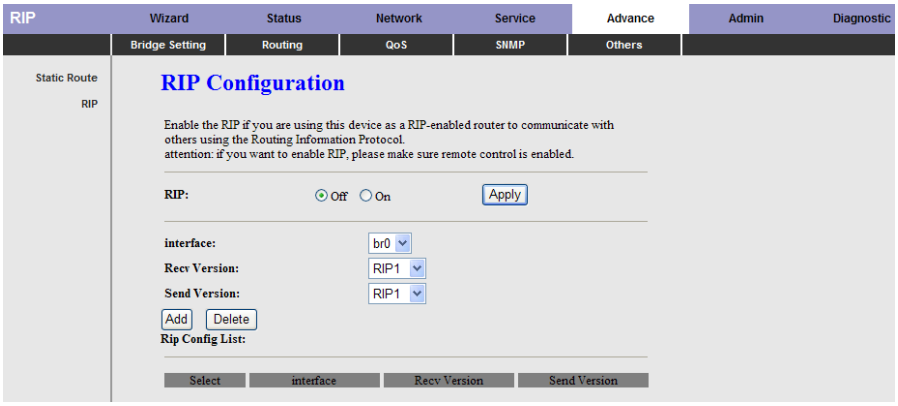
Field	Description
Enable	Select it to use static IP routes.
Destination	Enter the IP address of the destination device.
Subnet Mask	Enter the subnet mask of the destination device.
Next Hop	Enter the IP address of the next hop in the IP route to the destination device.
Metric	The metric cost for the destination.
Interface	The interface for the specified route.
Add Route	Click it to add the new static route to the **Static Route Table**.
Update	Select a row in the **Static Route Table** and modify the parameters. Then click it to save the settings temporarily.
Delete Selected	Select a row in the **Static Route Table** and click it to delete the row.
Show Routes	Click it, the **IP Route Table** appears. You can view a list of destination routes commonly accessed by your network.
Static Route Table	A list of the previously configured static IP routes.

Click **Show Routes**, the page shown in the following figure appears. The table shows a list of destination routes commonly accessed by your network.



3.6.2.2 RIP

Click **RIP** in the left pane, the page shown in the following figure appears. If you are using this device as a RIP-enabled router to communicate with others using Routing Information Protocol (RIP), enable RIP. This page is used to select the interfaces on your devices that use RIP, and the version of the protocol used.

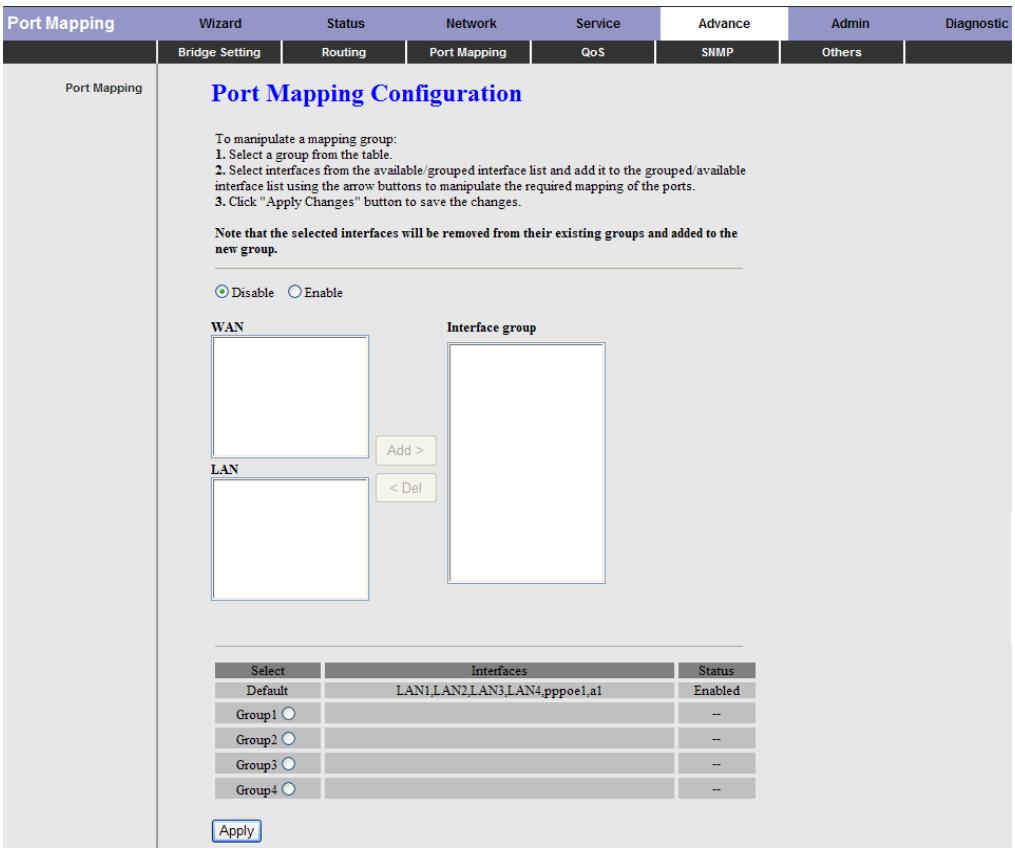


The following table describes the parameters and buttons of this page:

Field	Description
RIP	Select **On**, the router communicates with other RIP-enabled devices.
Apply	Click it to save the settings of this page.
Interface	Choose the router interface that uses RIP.
Recv Version	Choose the interface version that receives RIP messages. You can choose **RIP1**, **RIP2**, or **Both**. ● Choose **RIP1** indicates the router receives RIP v1 messages. ● Choose **RIP2** indicates the router receives RIP v2 messages. ● Choose **Both** indicates the router receives RIP v1 and RIP v2 messages.
Send Version	The working mode for sending RIP messages. You can choose **RIP1** or **RIP2**. ● Choose **RIP1** indicates the router broadcasts RIP1 messages only. ● Choose **RIP2** indicates the router multicasts RIP2 messages only.
Add	Click it to add the RIP interface to the **Rip Config List**.
Delete	Select a row in the **Rip Config List** and click it to delete the row.

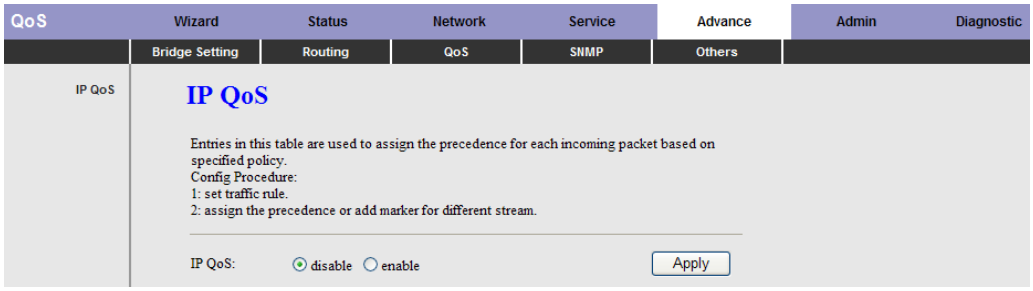
3.6.3 Port Mapping

Choose **Advance > QoS**, the page shown in the following figure appears.



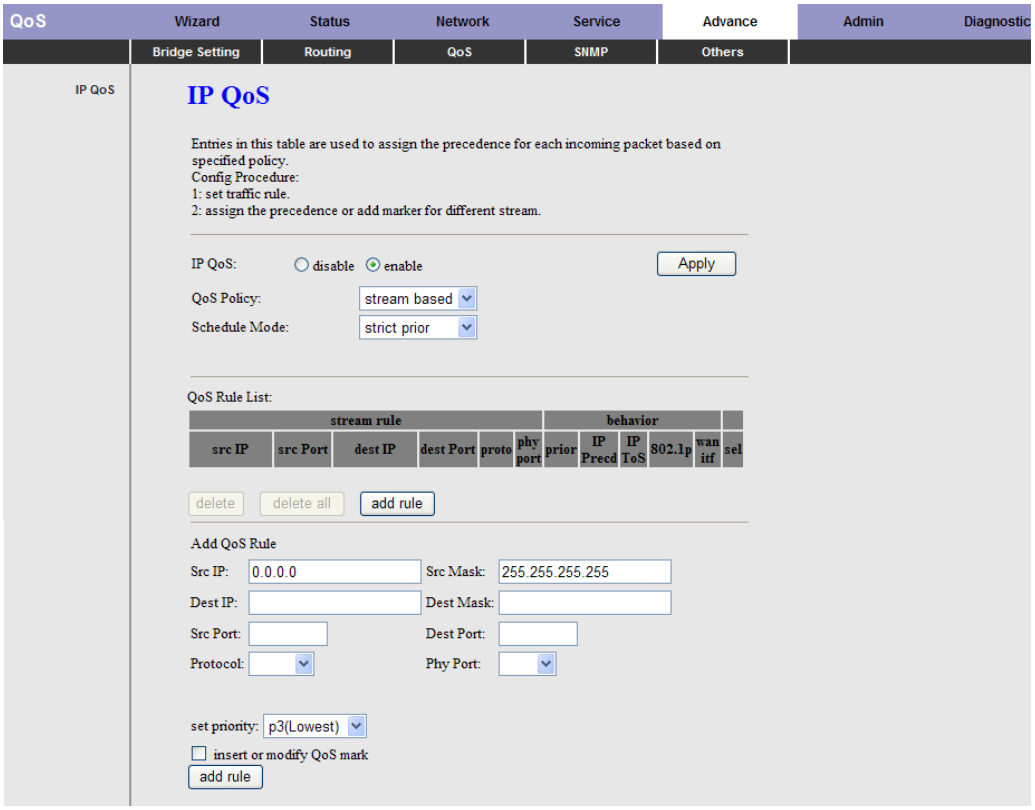
3.6.4 QoS

Choose **Advance > QoS**, the page shown in the following figure appears. Entries in the **QoS Rule List** are used to assign the precedence for each incoming packet based on physical LAN port, TCP/UDP port number, source IP address, destination IP address and other information.



Step 1: Enable IP QoS and click **Apply** to enable IP QoS function.
Step 2: Click **add rule** to add a new IP QoS rule.

The page shown in the following figure appears.

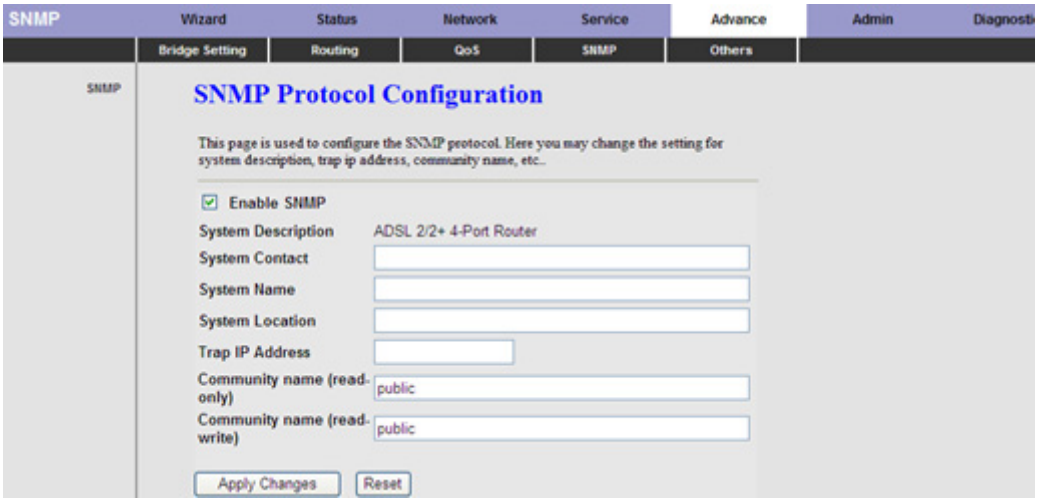


The following table describes the parameters and buttons of this page:

Field	Description
IP QoS	Select to enable or disable IP QoS function. You need to enable IP QoS if you want to configure the parameters of this page.
QoS Policy	You can choose **stream based**, **802.1p based**, or **DSCP based**.
Schedule Mode	You can choose **strict prior** or **WFQ (4:3:2:1)**.
Src IP	The IP address of the source data packet.
Src Mask	The subnet mask of the source IP address.
Dest IP	The IP address of the destination data packet.
Dest Mask	The subnet mask of the destination IP address.
Src Port	The port of the source data packet.
Dest Port	The port of the destination data packet.
Protocol	The protocol responds to the IP QoS rules. You can choose **TCP**, **UDP**, or **ICMP**.
Phy Port	The LAN interface responds to the IP QoS rules.
Set priority	The priority of the IP QoS rules. P0 is the highest priority and P3 is the lowest.
IP Precedence	You can choose from 0 to 7 define the priority in the ToS of the IP data packet.
IP ToS	The type of IP ToS for classifying the data package You can choose **Normal Service**, **Minimize Cost**, **Maximize Reliability**, **Maximize Throughput**, or **Minimize Delay**.
802.1p	You can choose from 0 to 7.
delete	Select a row in the **QoS rule list** and click it to delete the row.
delete all	Select all the rows in the **QoS rule list** and click it to delete the rows.

3.6.5 SNMP

Choose **Advance** > **SNMP**, the page shown in the following figure appears. You can configure the SNMP parameters.

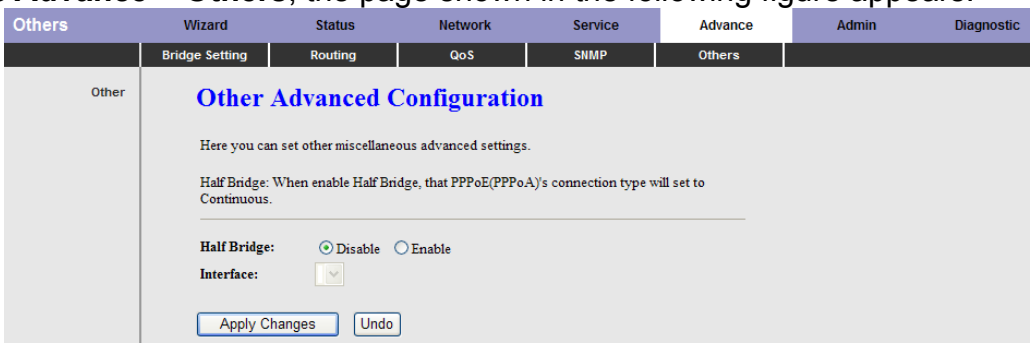


The following table describes the parameters of this page:

Field	Description
Enable SNMP	Select it to enable SNMP function. You need to enable SNMP, and then you can configure the parameters of this page.
Trap IP Address	Enter the trap IP address. The trap information is sent to the corresponding host.
Community name (read-only)	The network administrators must use this password to read the information of this router.
Community name (write-only)	The network administrators must use this password to configure the information of the router.

3.6.6 Others

Choose **Advance** > **Others**, the page shown in the following figure appears.

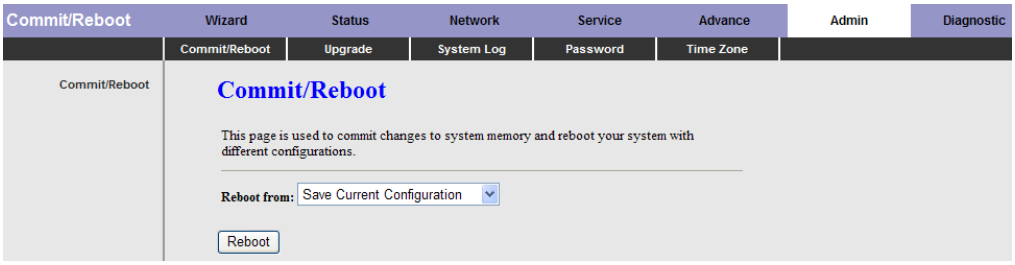


3.7 Admin

In the navigation bar, click **Admin**. The **Admin** page that is displayed contains **Commit/Reboot**, **Upgrade**, **System Log**, **Password** and **Time Zone**.

3.7.1 Commit/Reboot

Choose **Admin** > **Commit/Reboot**, the page shown in the following figure appears. You can set the router reset to the default settings or set the router to commit the current settings.



The following table describes the parameters and button of this page:

Field	Description
Reboot from	You can choose **Save Current Configuration** or **Factory Default Configuration**. ● **Save Current Configuration**: Reset to the factory default settings, and then reboot the router. ● **Factory Default Configuration**: Save the current settings, and then reboot the router.
Reboot	Click it to reboot the router.

3.7.2 Upgrade

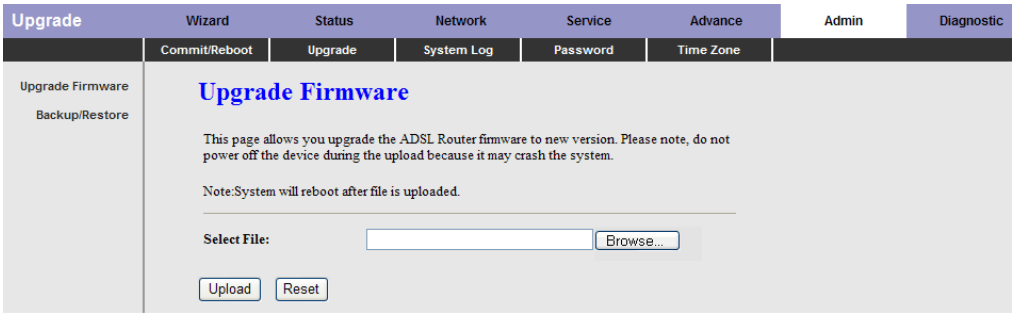
Choose **Admin** > **Upgrade**. The **Upgrade** page that is displayed contains **Upgrade Firmware** and **Backup/Restore**.

Caution:

Do not turn off the router or press the Reset button while the procedure is in progress.

3.7.2.1 Upgrade Firmware

Click **Upgrade Firmware** in the left pane, the page shown in the following figure appears. In this page, you can upgrade the firmware of the router.

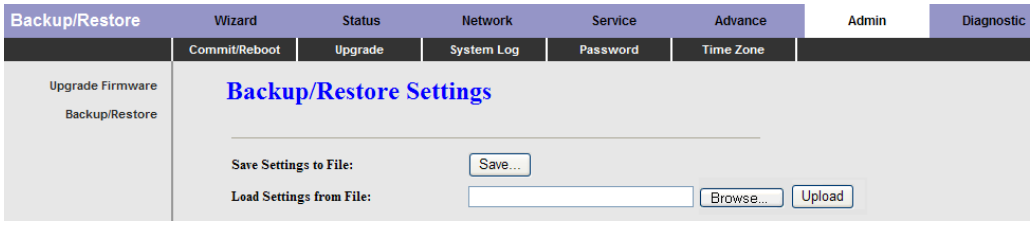


The following table describes the parameters and button of this page:

Field	Description
Select File	Click **Browse** to select the firmware file.
Upload	After selecting the firmware file, click **Upload** to starting upgrading the firmware file.
Reset	Click it to starting selecting the firmware file.

3.7.2.2 Backup/Restore

Click **Backup/Restore** in the left pane, the page shown in the following figure appears. You can backup the current settings to a file and restore the settings from the file that was saved previously.



The following table describes the parameters and button of this page:

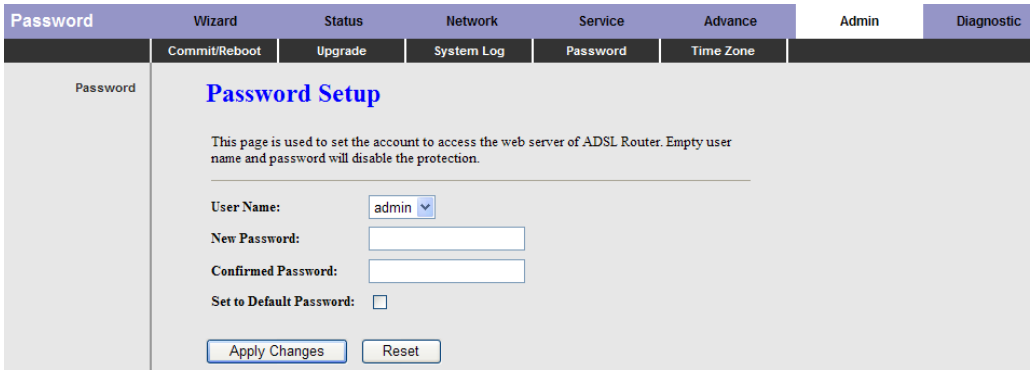
Field	Description
Save Settings to File	Click it, and select the path. Then you can save the configuration file of the router.
Load Settings from File	Click **Browse** to select the configuration file.
Upload	After selecting the configuration file of the router, click **Upload** to start uploading the configuration file of the router.

3.7.3 System Log

Choose **Admin** > **System Log**, the page shown in the following figure appears. In this page, you can enable or disable system log function and view the system log.

3.7.4 Password

Choose **Admin** > **Password**, the page shown in the following figure appears. By default, the user name and password are **admin** and **admin** respectively. The common user name and password are **user** and **user** respectively.

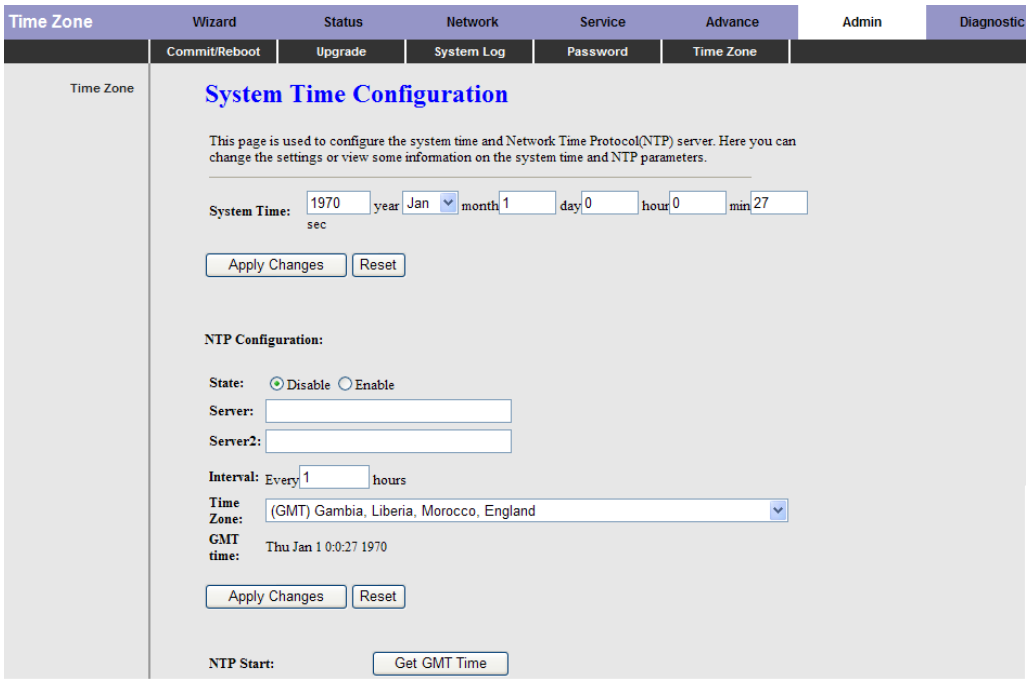


The following table describes the parameters of this page:

Field	Description
User Name	Choose the user name for accessing the router. You can choose **admin** or **user**.
New Password	Enter the password to which you want to change the old password.
Confirmed Password	Enter the new password again.
Set to Default Password	Select it, the password is set to the default password.

3.7.5 Time Zone

Choose **Admin** > **Time Zone**, the page shown in the following figure appears. You can configure the system time manually or get the system time from the time server.



The following table describes the parameters of this page:

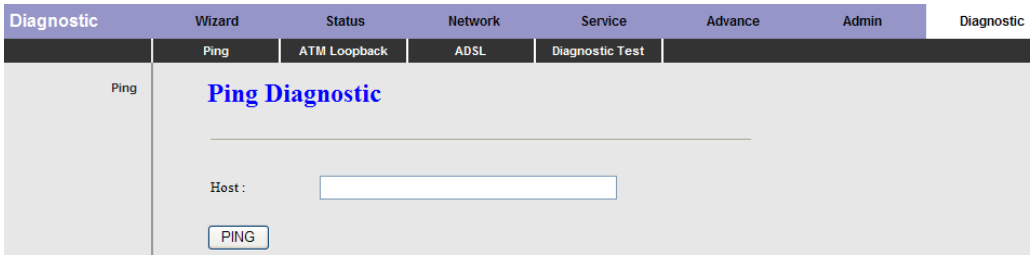
Field	Description
System Time	Set the system time manually.
NTP Configuration	
State	Select enable or disable NTP function. You need to enable NTP if you want to configure the parameters of NTP.
Server	Set the primary NTP server manually.
Server2	Set the secondary NTP server manually.
Time Zone	Choose the time zone in which area you are from the drop down list.

3.8 Diagnostic

In the navigation bar, click **Diagnostic**. The **Diagnostic** page that is displayed contains **Ping**, **ATM Loopback**, **ADSL** and **Diagnostic Test**.

3.8.1 Ping

Choose **Diagnostic** > **Ping**. The page shown in the following figure appears.

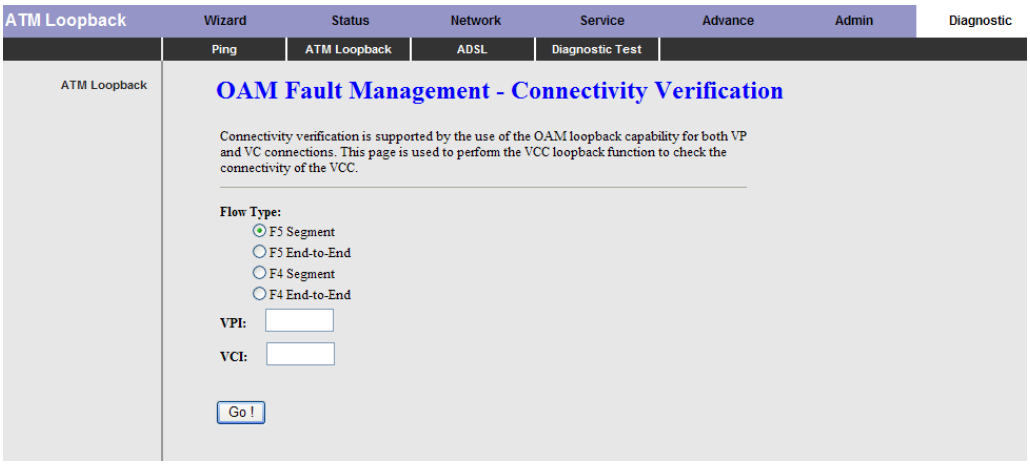


The following table describes the parameter and button of this page:

Field	Description
Host	Enter the valid IP address or domain name.
PING	Click it to start to Ping.

3.8.2 ATM Loopback

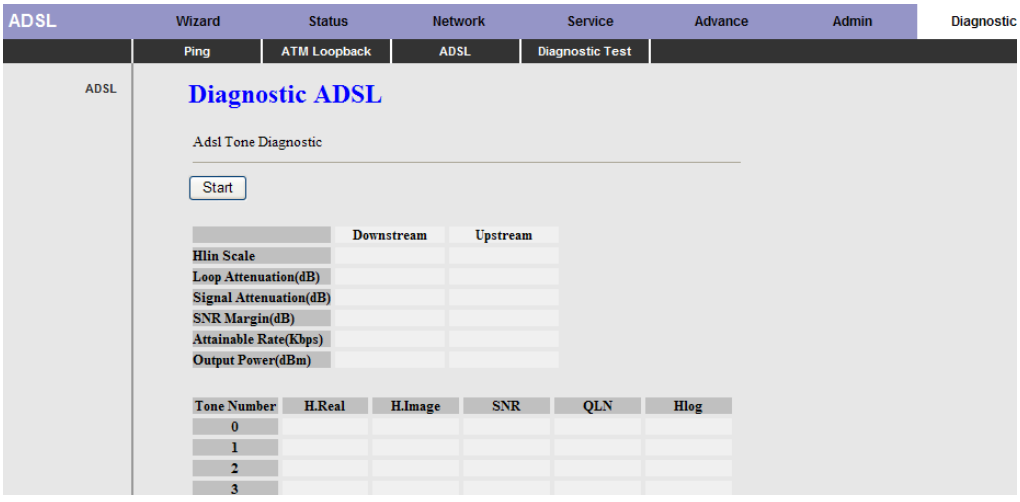
Choose **Diagnostic** > **ATM Loopback**. The page shown in the following figure appears. In this page, you can use VCC loopback function to check the connectivity of the VCC. The ATM loopback test is useful for troubleshooting problems with the DSLAM and ATM network.



Click **Go!** to start testing.

3.8.3 ADSL

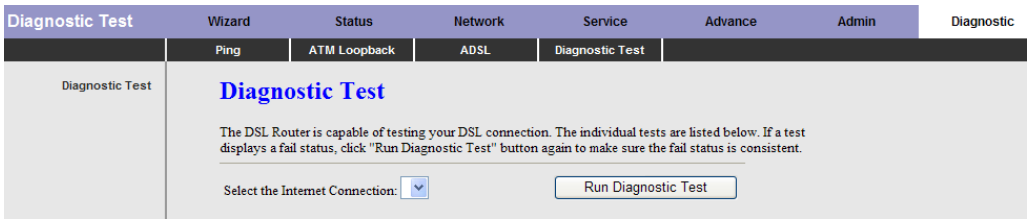
Choose **Diagnostic** > **ADSL**. The page shown in the following figure appears. It is used for ADSL tone diagnostics.



Click **Start** to start ADSL tone diagnostics.

3.8.4 Diagnostic Test

Choose **Diagnostic** > **Diagnostic Test**, the page shown in the following figure appears. In this page, you can test the DSL connection. You can also view the LAN status connection and ADSL connection.



Click **Run Diagnostic Test** to start testing.

Appendix A: Glossary

Address mask

A bit mask select bits from an Internet address for subnet addressing. The mask is 32 bits long and selects the network portion of the Internet address and one or more bits of the local portion. Sometimes it called subnet mask.

AAL5

ATM Adaptation Layer - This layer maps higher layer user data into ATM cells, making the data suitable for transport through the ATM network.

ADSL

Asymmetric digital subscriber line.

ATM

Asynchronous Transfer Mode - A cell-based data transfer technique in which channel demand determines packet allocation. ATM offers fast packet technology, real time, and demand led switching for efficient use of network resources.

AWG

American Wire Gauge - The measurement of thickness of a wire.

Bridge

A device connects two or more physical networks and forward packets between them. Bridges can usually be made to filter packets, that is, to forward only certain traffic. Related devices are repeaters which simply forward electrical signals from one cable to the other and full-fledged routers which make routing decisions based on several criteria.

Broadband

Characteristic of any network multiplexes independent network carriers onto a single cable. Broadband technology allows several networks to coexist on one single cable; traffic from one network does not interfere with traffic from another. Broadcast a packet delivery system where a copy of a given packet is given to all hosts attached to the network. Example: Ethernet.

CO

Central Office. Refers to equipment located at a Telco or service provider's office.

CPE
Customer Premises Equipment located in a user's premises.

DHCP (Dynamic Host Configuration Protocol)
DHCP is software that automatically assigns IP addresses to client stations logging onto a TCP/IP network. DHCP eliminates having to manually assign permanent IP addresses to every device on your network. DHCP software typically runs in servers and is also found in network devices such as Routers.

DMT
Discrete Multi-Tone frequency signal modulation.

Downstream rate
The line rate for return messages or data transfers from the network machine to the user's premises machine.

DSLAM
Digital Subscriber Line Access Multiplex.

Dynamic IP Addresses
A dynamic IP address is an IP address that is automatically assigned to a client station (computer, printer, etc.) in a TCP/IP network. Dynamic IP addresses are typically assigned by a DHCP server, which can be a computer on the network or another piece of hardware, such as the Router. A dynamic IP address may change every time your computer connects to the network.

Encapsulation
The technique layer protocols in which a layer adds header information to the protocol data unit (PDU) from the layer above. As an example, in Internet terminology, a packet would contain a header from the physical layer, followed by a header from the network layer (IP), followed by a header from the transport layer (TCP), and followed by the application protocol data.

Ethernet
One of the most common local area network (LAN) wiring schemes, Ethernet has a transmission rate of 10 Mbps.

FTP
File Transfer Protocol. The Internet protocol (and program) transfer files between hosts.

Hop count
A measure of distance between two points on the Internet. It is equivalent to the number of gateways that separate the source and destination.

HTML
Hypertext Markup Language - The page-coding language for the World Wide Web.

HTML browser
A browser used to traverse the Internet, such as Netscape or Microsoft Internet Explorer.

http
Hypertext Transfer Protocol - The protocol carry world-wide-web (www) traffic between a www browser computer and the www server being accessed.

ICMP
Internet Control Message Protocol - The protocol handle errors and control messages at the IP layer. ICMP is actually part of the IP protocol.

Internet address
An IP address is assigned in blocks of numbers to user organizations accessing the Internet. These addresses are established by the United States Department of Defense's Network Information Center. Duplicate addresses can cause major problems on the network, but the NIC trusts organizations to use individual addresses responsibly. Each address is a 32-bit address in the form of x.x.x.x where x is an eight- bit number from 0 to 255. There are three classes: A, B and C, depending on how many computers on the site are likely to be connected.

Internet Protocol (IP)
The network layer protocol for the Internet protocol suite.

IP address
The 32-bit address assigned to hosts that want to participate in a TCP/IP Internet.

ISP
Internet service provider - A company allows home and corporate users to connect to the Internet.

MAC
Media Access Control Layer - A sub-layer of the Data Link Layer (Layer 2) of the ISO OSI Model responsible for media control.

MIB
Management Information Base - A collection of objects can be accessed via a network management protocol, such as SNMP and CMIP (Common Management Information Protocol).

NAT
Network Address Translation - A proposal for IP address reuse, where the local IP address is mapped to a globally unique address.

NVT
Network Virtual Terminal

PAP
Password Authentication Protocol

PORT
The abstraction used in Internet transport protocols to distinguish among multiple simultaneous connections to a single destination host.

POTS
Plain Old Telephone Service - This is the term describe basic telephone service.

PPP
Point-to-Point-Protocol - The successor to SLIP, PPP provides router-to-router and host-to-network connections over both synchronous and asynchronous circuits.

PPPoE
PPP over Ethernet is a protocol for connecting remote hosts to the Internet over an always-on connection by simulating a dial-up connection.

Remote server
A network computer allows a user to log on to the network from a distant location.

RFC
Request for Comments - Refers to documents published by the Internet Engineering Task Force (IETF) proposing standard protocols and procedures for the Internet. RFC can be found at www.ietf.org.

Route
The path that network traffic takes from its source to its destination. The route a datagram may follow can include many gateways and many physical networks. In the Internet, each datagram is routed separately.

Router
A system is responsible for making decisions about which of several paths network (or Internet) traffic will follow. To do this, it uses a routing protocol to gain information about the network and algorithms to choose the best route based on several criteria known as "routing metrics".

Routing Table
Information stored within a router that contains network path and status information. It is used to select the most appropriate route to forward information along.

Routing Information Protocol
Routers periodically exchange information with one another so that they can determine minimum distance paths between sources and destinations.

SNMP
Simple Network Management Protocol - The network management protocol of choice for TCP/IP-based Internet.

SOCKET
(1) The Berkeley UNIX mechanism for creating a virtual connection between processes.
(2) IBM term for software interfaces that allow two UNIX application programs to talk via TCP/IP protocols.

Spanning-Tree Bridge Protocol (STP)

Spanning-Tree Bridge Protocol (STP) - Part of an IEEE standard. A mechanism for detecting and preventing loops from occurring in a multi-bridged environment. When three or more LAN's segments are connected via bridges, a loop can occur. Because of a bridge forwards all packets that are not recognized as being local, some packets can circulate for long periods of time, eventually degrading system performance. This algorithm ensures only one path connects any pair of stations, selecting one bridge as the 'root' bridge, with the highest priority one as identifier, from which all paths should radiate.

Spoofing

A method of fooling network end stations into believing that keep alive signals have come from and returned to the host. Polls are received and returned locally at
either end.

Static IP Address

A static IP address is an IP address permanently assigned to computer in a TCP/IP network. Static IP addresses are usually assigned to networked devices that are consistently accessed by multiple users, such as Server PCs, or printers. If you are using your Router to share your cable or DSL Internet connection, contact your ISP to see if they have assigned your home a static IP address. You will need that address during your Router's configuration.

Subnet

For routing purposes, IP networks can be divided into logical subnets by using a subnet mask. Values below those of the mask are valid addresses on the subnet.

TCP

Transmission Control Protocol - The major transport protocol in the Internet suite of protocols provides reliable, connection-oriented full-duplex streams.

TFTP

Trivial File Transfer Protocol. A simple file transfer protocol (a simplified version of FTP) that is often boot diskless workstations and other network devices such as routers over a network (typically a LAN).

Telnet

The virtual terminal protocol in the Internet suite of protocols - Allows users of one host to log into a remote host and act as normal terminal users of that host.

Transparent bridging

The intelligence necessary to make relaying decisions exists in the bridge itself and is thus transparent to the communicating workstations. It involves frame forwarding, learning workstation addresses, and ensuring no topology loops exist (in conjunction with the Spanning-Tree algorithm).

UDP

User Datagram Protocol - A connectionless transport protocol that runs on top of TCP/IP's IP. UDP, like TCP, uses IP for delivery; however, unlike TCP, UDP provides for exchange of datagram without acknowledgments or guaranteed delivery. Best suited for small, independent requests, such as requesting a MIB value from an SNMP agent, in which first setting up a connection would take more time than sending the data.

UNI signaling

User Network Interface signaling for ATM communications.

Virtual Connection (VC)

A link that seems and behaves like a dedicated point-to-point line or a system that delivers packets in sequence, as happens on an actual point-to-point network. In reality, the data is delivered across a network via the most appropriate route. The sending and receiving devices do not have to be aware of the options and the route is chosen only when a message is sent. There is no pre-arrangement, so each virtual connection exists only for the duration of that one transmission.

WAN

Wide area network - A data communications network that spans any distance and is usually provided by a public carrier (such as a telephone company or service provider).

Important Note

According to Annex3 of the ERC/REC 70-03 publication, the use of Wideband Data Transmission systems has the following National Restrictions:

Frequency range: 2400-2483.5MHz

Country	Restriction	Reason/Remark
France	Outdoor use limited to 10 mW e.i.r.p. within the band 2454-2483.5 MHz	Military Radiolocation use. Refarming of the 2.4 GHz band has been ongoing in recent years to allow current relaxed regulation. Full implementation planned 2012
Italy		If used outside of own premises, general authorization is required
Luxembourg	None	General authorization required for network and service supply(not for spectrum)
Norway	Implemented	This subsection does not apply for the geographical area within a radius of 20km from the centre of Ny-Alesund
Russian Federation		Only for indoor applications

EC Declaration of Conformity

For the following equipment:

*Type of Product : ADSL 2/2+ Router
*Model Number : ADE-3410A / ADE-3410B
* Produced by:
Manufacturer's Name : **Planet Technology Corp.**
Manufacturer's Address : 9F, No. 96, Min Chuan Road, Hsin Tien, Taipei, Taiwan, R.O.C.

is herewith confirmed to comply with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to 1999/5/EC R&TTE.
For the evaluation regarding the R&TTE the following standards were applied:

Emission	EN 55022	(1998)
Harmonic	EN 61000-3-2	(2000)
Flicker	EN 61000-3-3	(1995 + A1)
Immunity	EN 55024	(2003 + A2)
ESD	IEC 61000-4-2	(1995 + A2)
RS	IEC 61000-4-3	(1995 + A1)
EFT/ Burst	IEC 61000-4-4	(1995 + A2)
Surge	IEC 61000-4-5	(1995 + A1)
CS	IEC 61000-4-6	(1996 + A1)
Voltage Disp	IEC 61000-4-11	(1994 + A1)
LVD	EN 60950	(2001)

Responsible for marking this declaration if the:

☒ **Manufacturer** ☐ **Authorized representative established within the EU**

Authorized representative established within the EU (if applicable):

Company Name: **Planet Technology Corp.**

Company Address: **9F, No.96, Min Chuan Road, Hsin Tien, Taipei, Taiwan, R.O.C**

Person responsible for making this declaration

Name, Surname **Allen Huang**

Position / Title : **Product Manager**

Taiwan	**July, 10th., 2008**	Allen
Place	*Date*	*Legal Signature*

EC Declaration of Conformity

For the following equipment:

*Type of Product	:	802.11g Wireless ADSL 2/2+ Router
*Model Number	:	ADW-4401A / ADW-4401B
* Produced by:		
Manufacturer's Name	:	**Planet Technology Corp.**
Manufacturer's Address	:	9F, No. 96, Min Chuan Road, Hsin Tien Taipei, Taiwan, R. O.C.

is herewith confirmed to comply with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to 1999/5/EC R&TTE.
For the evaluation regarding the R&TTE the following standards were applied:

EN 301 489-1 V1.6.1	
EN 301 489-17 V1.2.1	
EN 300 328 V1.7.1	
EN 50392	(2004)
EN 300 386 V 1.3.3	
EN 55022	(1998 + A1: 2000 + A2: 2003)
EN 55024	(1998 + A1: 2001 + A2: 2003)
EN 60950-1	(2001)

Responsible for marking this declaration if the:

☒ **Manufacturer** ☐ **Authorized representative established within the EU**

Authorized representative established within the EU (if applicable):

Company Name: **Planet Technology Corp.**

Company Address: **9F, No.96, Min Chuan Road, Hsin Tien, Taipei, Taiwan, R.O.C**

Person responsible for making this declaration

Name, Surname **Allen Huang**

Position / Title : **Product Manager**

Taiwan	**7, Dec., 2007**	Allen
Place	*Date*	*Legal Signature*