

# AR-7211A V2 / AR-7211B V2

## User Manual

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**Note: The images/screenshots used in this manual are for reference only – actual screens may vary according to firmware version. The contents of this manual are based on the most recent firmware version at the time of writing.**

# 1. Product Introduction

## 1.1. Package Contents

Before you start using this product, please check if there is anything missing in the package and contact your dealer to claim the missing item(s):

- ADSL2+ router (AR-7211A V2 or AR-7211B V2)
- Power adapter
- 1 meter RJ-45 Ethernet cable
- 1.8M RJ-11 telephone line x 2
- Quick installation guide
- CD containing setup wizard, user manual & multi-language QIG

## 1.2. System Requirements

Recommended system requirements are as follows.

- A 10/100 base-T Ethernet card installed in your PC
- A hub or Switch (connected to several PCs through one of the Ethernet interfaces on the device)
- Operating system: Windows 98 SE, Windows 2000, Windows ME, Windows XP or higher
- Internet Explorer V5.0 or higher, Netscape V4.0 or higher, or Firefox 1.5 or higher

## 1.3. Safety Precautions

Follow the following instructions to prevent the device from risks and damage caused by fire or electric power:

- Use volume labels to mark the type of power.
- Use the power adapter included within the package contents.
- Pay attention to the power load of the outlet or prolonged lines. An overburdened power outlet or damaged lines and plugs may cause an electric shock or fire. Check the power cords regularly. If you find any damage, replace it at once.
- Proper space left for heat dissipation is necessary to avoid damage caused by overheating to the device. The long and thin holes on the device are designed for heat dissipation to ensure that the device works normally. Do not cover these heat dissipation holes.

- Do not put this device close to heat sources or high temperatures. Keep the device out of direct sunshine.
- Do not put this device close to a place where it is damp or wet. Do not spill any fluid on this device.
- Do not connect this device to any PCs or electronic products, other than those which you are instructed or recommended to do so in the product's documentation, by our customer engineers or by your broadband provider – connecting to incorrect devices may cause a fire risk.
- Place this device on a stable surface.

## 1.4. LED & Button Definitions

### Front Panel



Figure 1

LEDs	Color	Status	Description	
⏻	Green	ON	Powered on	
		OFF	Powered off	
ADSL	Red	ON	ADSL broadband initial self-test failed or upgrading firmware	
		Green	ON	ADSL line is synchronized and ready to use
		SLOW BLINK	ADSL synchronization failed ( Please refer to <b>Note 1</b> )	
		FAST BLINK	ADSL negotiation is in progress.	

Internet	Green	ON	Internet connected in router mode
		BLINK	Internet activity (transferring/receiving data) in router mode
		OFF	Device in bridged mode
	Red	ON	Internet not connected in router mode (Please refer to <b>Note 2</b> )
LAN	Green	ON	LAN port connected
		BLINK	LAN activity (transferring/receiving data)
		OFF	LAN port not connected


**Note:**

- 1)** If the ADSL LED is off, please check your Internet connection. Refer to **A . Hardware Installation** for more information about how to connect the router correctly. If all connections are correct, please contact your ISP to check if there is a problem with your Internet service.
- 2)** If the Internet LED is red, please check your ADSL LED first. If your ADSL LED is off, refer to **Note 1**. If the green ADSL LED is ON, please check your Internet configuration. You may need to check with your ISP that your Internet is configured correctly.

**Rear Panel**



Figure 2

Items	Description
	Power ON/OFF
<b>5V</b>	Power connector
<b>LAN</b>	Ethernet RJ-45 port
<b>Reset</b>	Resets device to factory defaults (to reset to factory defaults, push a paper clip into the hole when the device is powered and hold for more than 10 seconds)
<b>Line</b>	Line RJ-11 port

## 1.5. Features

The device supports the following features:

- Various line modes
- External PPPoE dial-up access
- Internal PPPoE/PPPoA dial-up access
- 1483Briged/1483Routed/MER/IPoA access
- Multiple PVCs (up to eight) which can be isolated from each other
- A single PVC with multiple sessions
- Multiple PVCs with multiple sessions
- 802.1Q and 802.1P protocol
- DHCP server
- NAT
- Static route
- Firmware upgrading through Web, TFTP, or FTP
- Reset to factory defaults with reset button or web-based interface.
- DNS
- Virtual server
- DMZ
- Two-level passwords and usernames
- Web interface
- Telnet CLI
- System status display
- PPP session PAP/CHAP
- IP filter
- IP quality of service (QoS)
- Remote access control
- Line connection status test
- Remote managing through Telnet or HTTP
- Backup and restoration of configuration file
- Ethernet interface supporting crossover detection, auto-correction, and polarity correction
- Universal plug and play (UPnP)



## 2. Hardware Installation

### Step 1. Connect the ADSL line

Connect the Line interface of the device to the Modem interface of a splitter using a telephone cable. Connect a telephone to the Phone interface of the splitter using a telephone cable. Connect the Line interface of the splitter to your existing, incoming line.

The splitter has three interfaces:

- Line: Connect to a wall phone jack (RJ-11 jack).
- Modem: Connect to the ADSL jack of the device.
- Phone: Connect to a telephone set.

### Step 2. Connect the router to your LAN network

Connect the LAN interface of the router to your PC, Hub or Switch using an Ethernet cable (MDI/MDIX).

#### Note:

**Use twisted-pair Ethernet cables to connect the router to a hub or switch.**

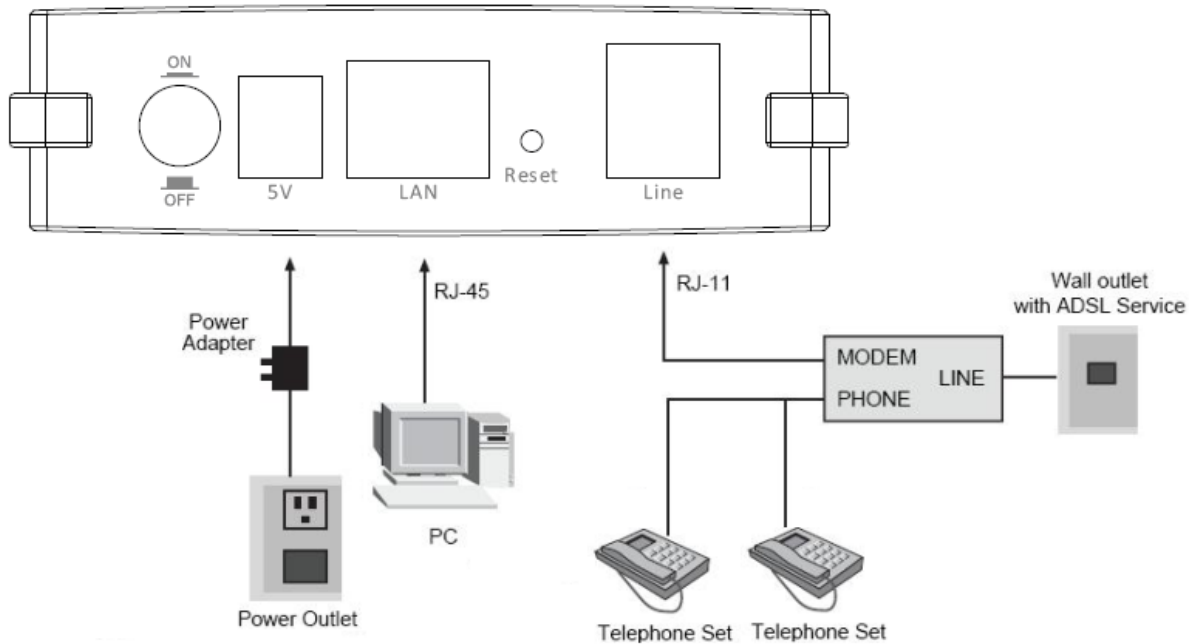
### Step 3. Connect the power adapter to the router

Plug one end of the power adapter into a wall outlet and connect the other end to the 5V interface of the device.

The following diagrams show how to correctly connect the router, PC, splitter and the telephone sets under two different configurations:

#### Configuration 1

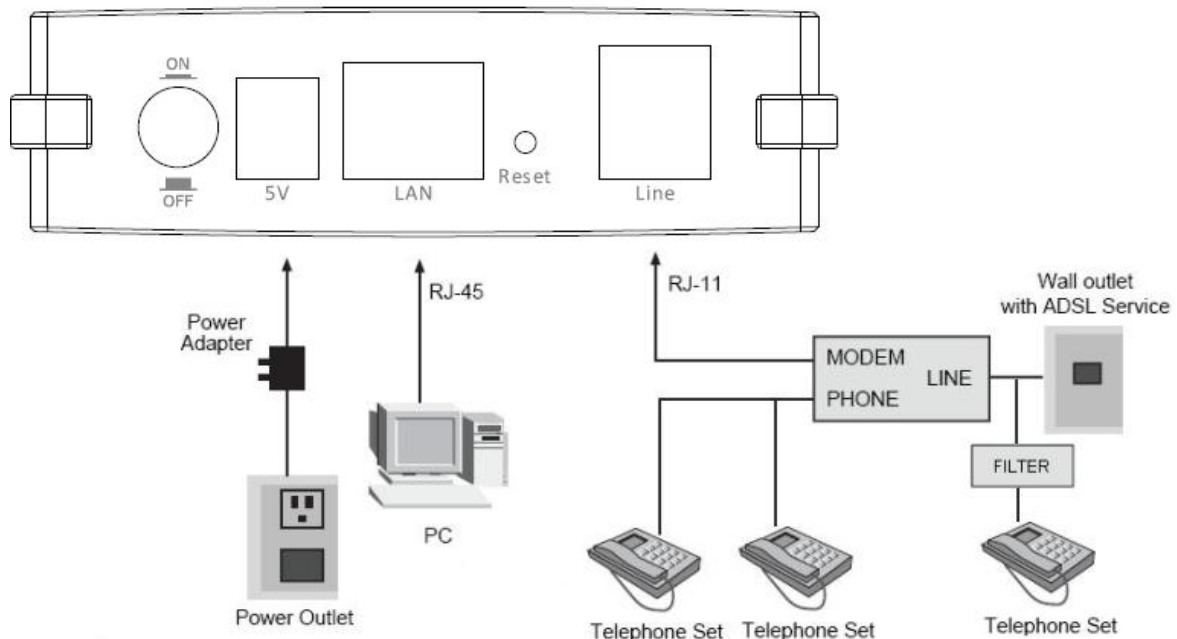
**0** shows the correct connection of the router, PC, splitter and the telephone sets, with no telephone set placed before the splitter.



**Figure 1 – No telephone before the splitter**

## Configuration 2

0 shows the correct connection when a telephone set is installed before the splitter.



**Figure 2 - Telephone set connected before the splitter**

### Note:

When **Configuration 2** is used, the filter must be installed close to the telephone cable. Do not use the splitter to replace the filter.

Installing a telephone directly before the splitter may lead to failure of connection between the device and the central office, or failure of Internet

access, or slow connection speed. If you really need to add a telephone set before the splitter, you must add a micro filter before a telephone set. Do not connect several telephones before the splitter or connect several telephones with the micro filter.

#### **Step 4. Check the ADSL LED status**

Please check the ADSL LED on the front panel. This light indicates the status of your ADSL broadband through your telephone line. If the light is on, you can continue setup. However if the light is flashing, there is no broadband line detected. Please call your Internet Service Provider (ISP) and inform them about the flashing ADSL light to resolve the issue.

#### **Step 5. Firewall settings**

Please turn off all personal firewalls before you continue the setup – firewalls can block communication between your PC and router.

**Note: You must use the power adapter included in the package with the router, do NOT attempt to use a third-party power adapter.**

#### **Step 6: PC LAN IP configuration**

Configure your PC's LAN settings to automatically obtain an IP address from the router by following the steps below:

1. Click **“Start”** and then select **“Control Panel”**.



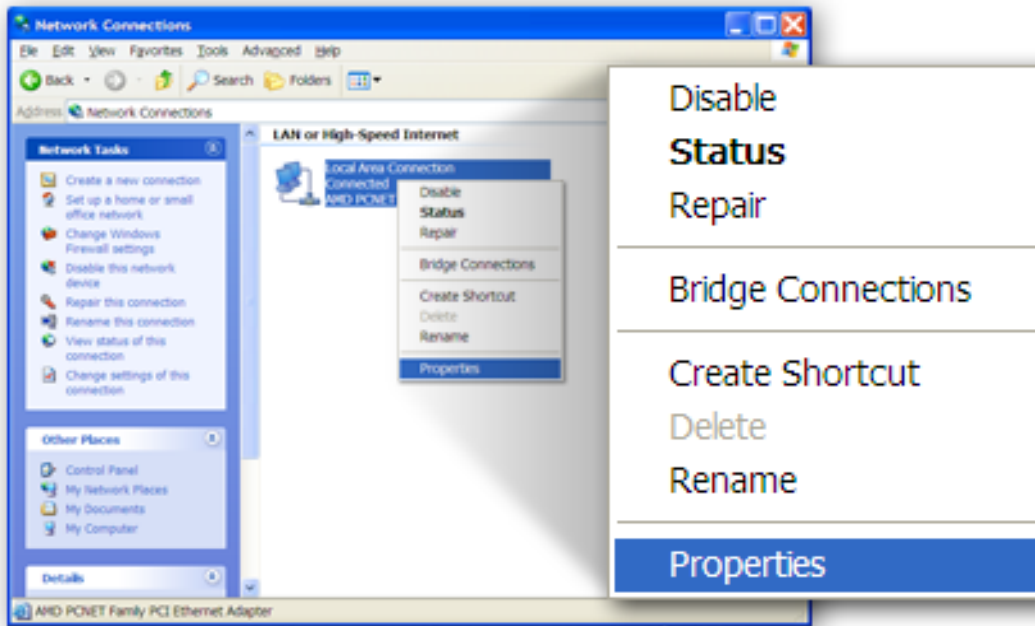
2. Click **“Switch to Classic View”** in the top left to show additional setting icons.



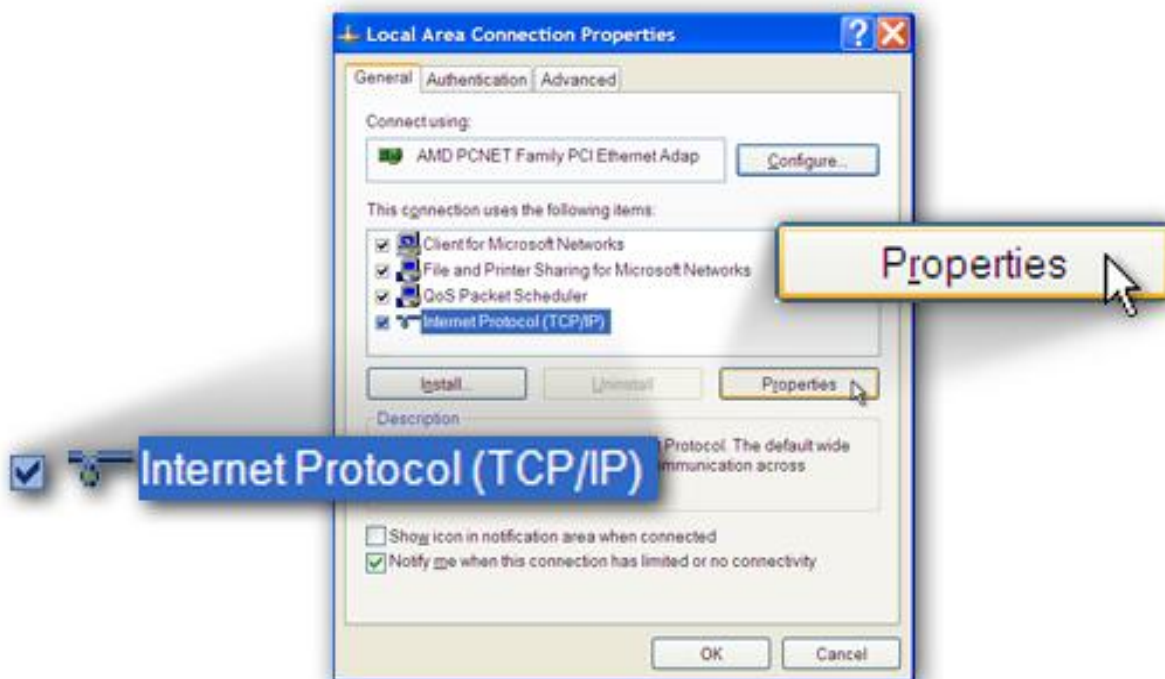
3. Locate the **“Network Connections”** icon and double-click to open network connection settings.



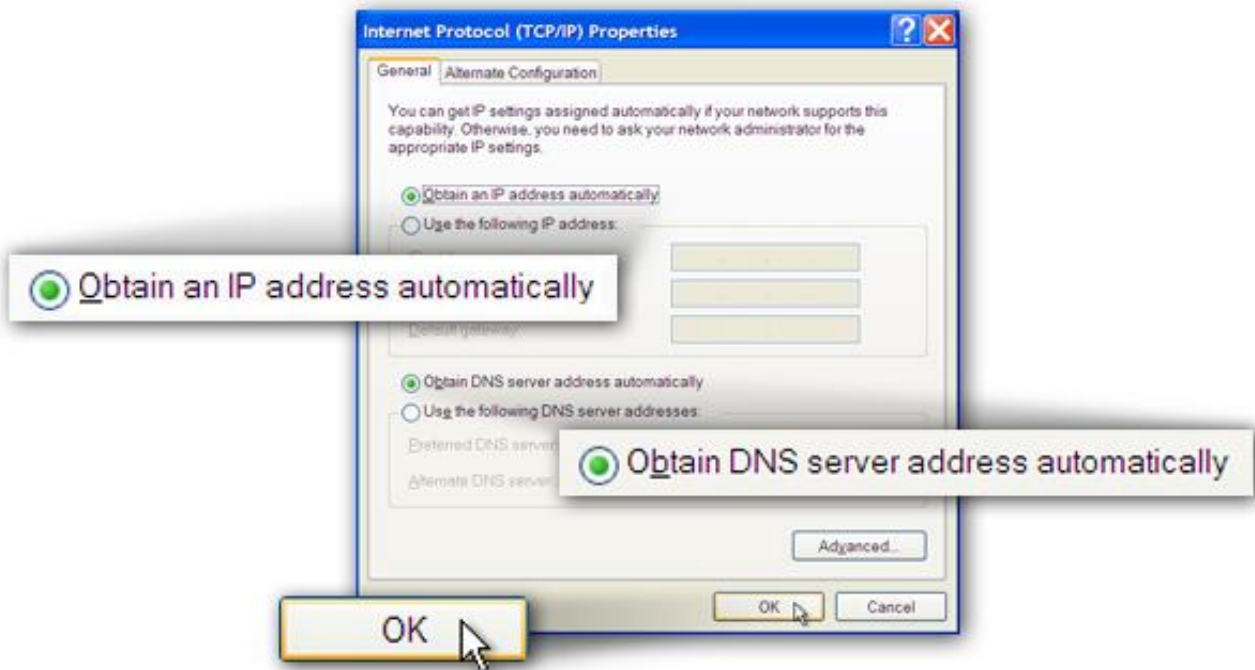
4. Select the **“Local Area Connection”** icon and right-click it to open the sub-menu, then select **“Properties”**.



5. Select **“Internet Protocol (TCP/IP)”** and then click **“Properties”**



6. Ensure that **“Obtain an IP address automatically”** and **“Obtain DNS server address automatically”** are selected and then press **“OK”**.



## 3. IP Address Setting

To use the router to access the Internet, the PCs in the network must have an Ethernet adapter installed and be connected to the router either directly or through a hub or switch. The TCP/IP protocol of each PC has to be installed and the IP Address of each PC has to be set in the same subnet as the router.

The router's default IP Address is **192.168.2.1** and the subnet mask is **255.255.255.0**. PCs can be configured to obtain IP Address automatically through the DHCP Server of the router or a fixed IP Address in order to be in the same subnet as the router. By default, the DHCP Server of the router is enabled and will dispatch IP Address to PC from **192.168.2.100** to **192.168.2.200**. It is strongly recommended to set obtaining IP address automatically.

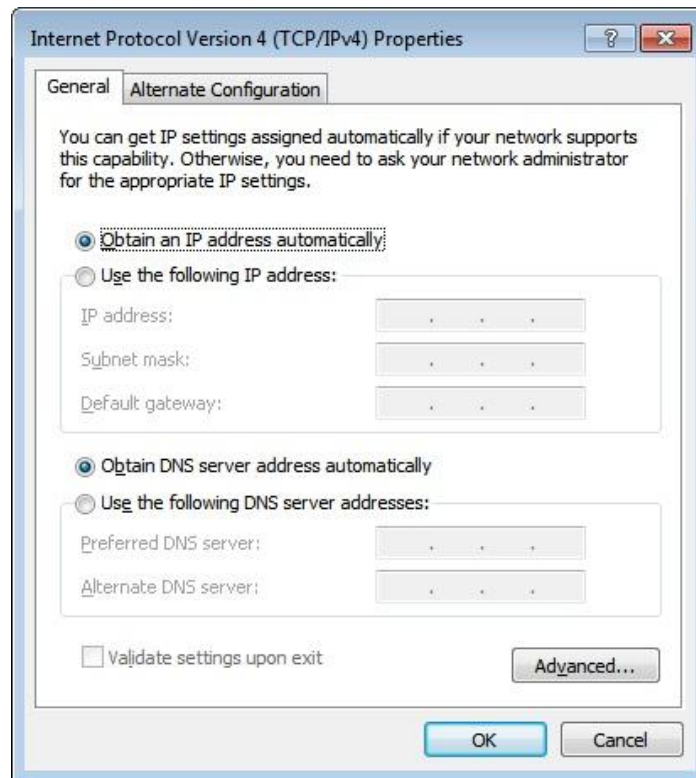
This section shows you how to configure your PC's so that it can obtain an IP address automatically for either Windows 95/98/Me, 2000 or NT operating systems. For other operating systems (Macintosh, Sun, etc.), please follow the manual of the operating system. The following is a step-by-step illustration of how to configure your PC to obtain an IP address automatically for **Windows 7, Windows Vista and Windows XP**.

### 3.1. Windows 7

1. Click the Start button and select Control Panel. Double click Network and Internet and click Network and Sharing Center, the Network and Sharing Center window will appear.
2. Click Change adapter settings and right click on the Local Area Connection icon and select Properties. The Local Area Connection window will appear.
3. Check your list of Network Components. You should see Internet Protocol Version 4 (TCP/IPv4) on your list. Select it and click the Properties button.



4. In the Internet Protocol Version 4 (TCP/IPv4) Properties window, select Obtain an IP address automatically and Obtain DNS server address automatically as shown on the following screen.



5. Click OK to confirm the setting. Your PC will now obtain an IP address automatically from your router's DHCP server.

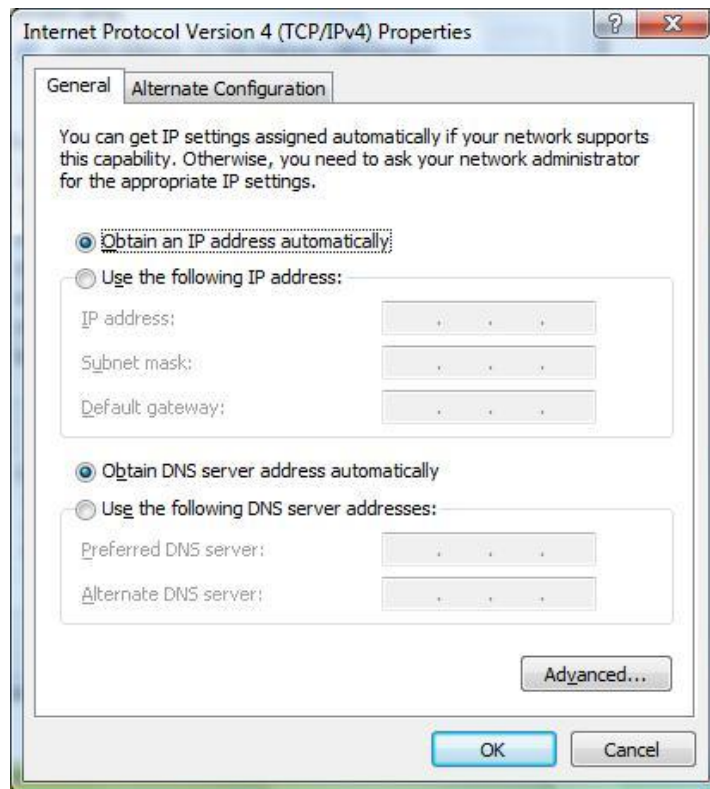
**Note: Please make sure that the router's DHCP server is the only DHCP server available on your LAN.**

## 3.2. Windows Vista

1. Click the Start button and select Settings and then select Control Panel. Double click Network and Sharing Center, the Network and Sharing Center window will appear.
2. Click Manage network connections and right click on the Local Area Connection icon and select Properties. The Local Area Connection window will appear.



3. Check your list of Network Components. You should see Internet Protocol Version 4 (TCP/IPv4) on your list. Select it and click the *Properties* button.
4. In the Internet Protocol Version 4 (TCP/IPv4) Properties window, select *Obtain an IP address automatically* and *Obtain DNS server address automatically* as shown on the following screen.



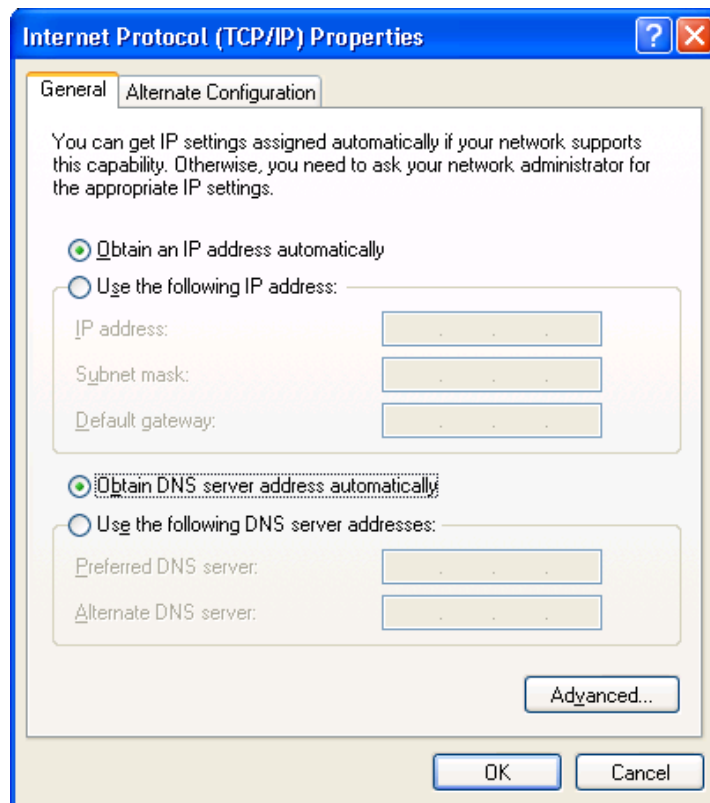
5. Click OK to confirm the setting. Your PC will now obtain an IP address automatically from your router's DHCP server.

**Note: Please make sure that the router's DHCP server is the only DHCP server available on your LAN.**

### 3.3. Windows XP

1. Click the *Start* button and select *Control Panel* and then double click *Network Connections*. The *Network Connections* window will appear.
2. Right click on the *Local Area Connection* icon and select *Properties*. The *Local Area Connection* window will appear.

3. Check your list of Network Components. You should see Internet Protocol [TCP/IP] on your list. Select it and click the Properties button.
4. In the Internet Protocol (TCP/IP) Properties window, select Obtain an IP address automatically and Obtain DNS server address automatically as shown on the following screen.



5. Click OK to confirm the setting. Your PC will now obtain an IP address automatically from your router's DHCP server.

**Note: Please make sure that the router's DHCP server is the only DHCP server available on your LAN.**

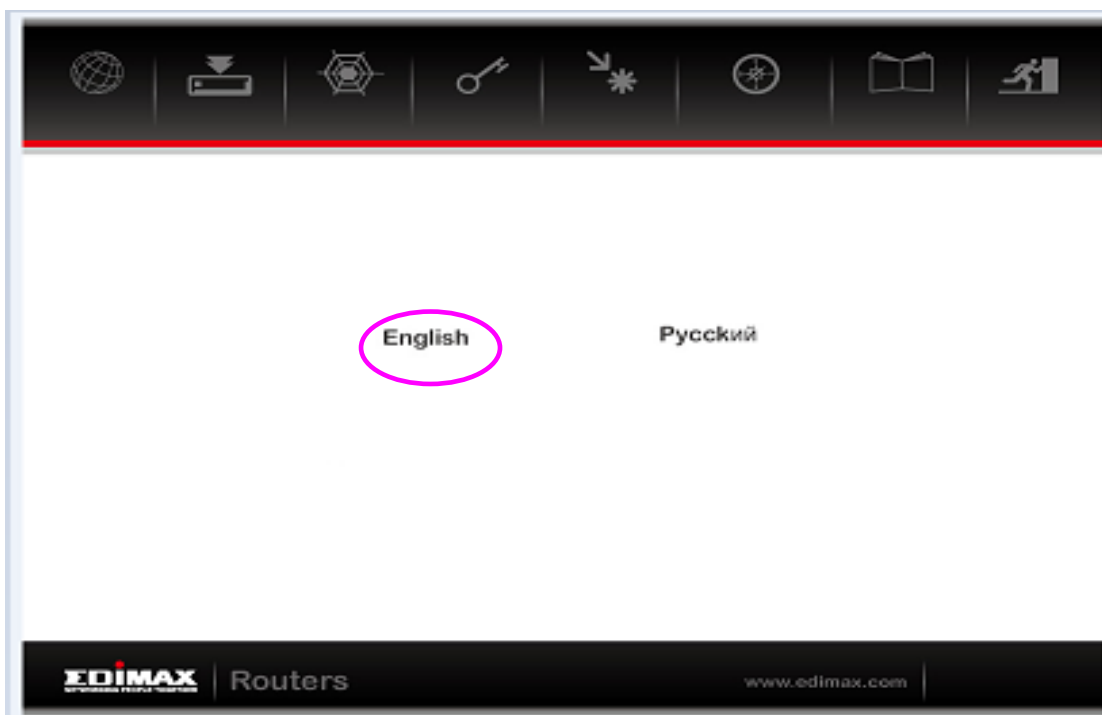
## 4. EZmax Setup Wizard

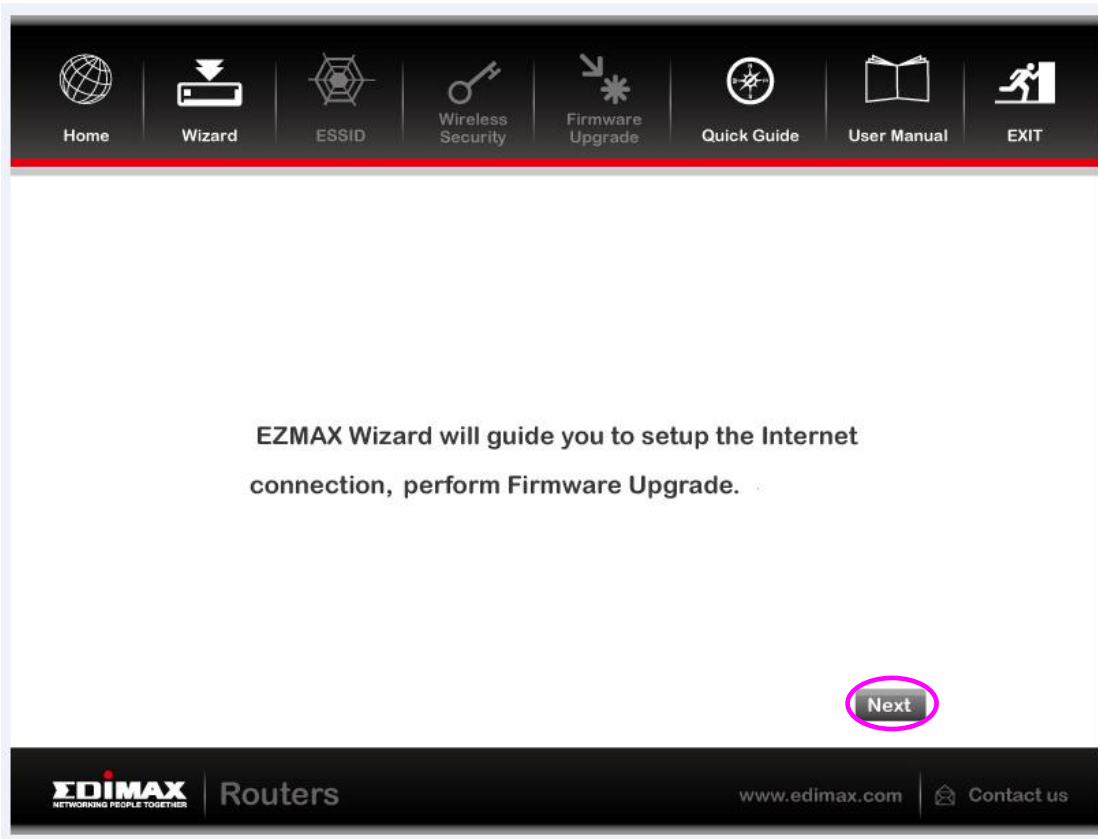
You can configure the router by running the setup wizard on the CD-ROM included in the package contents. The wizard enables you to configure your Internet connection, upgrade the firmware and change the router's password. Please follow the instructions below.

Alternatively, if you lose the CD-ROM or prefer a web based setup, you can login to the ADSL router using Internet Explorer, and configure the router from there using the web-based interface. Instructions for how to do so can be found in **5. Web Configuration**

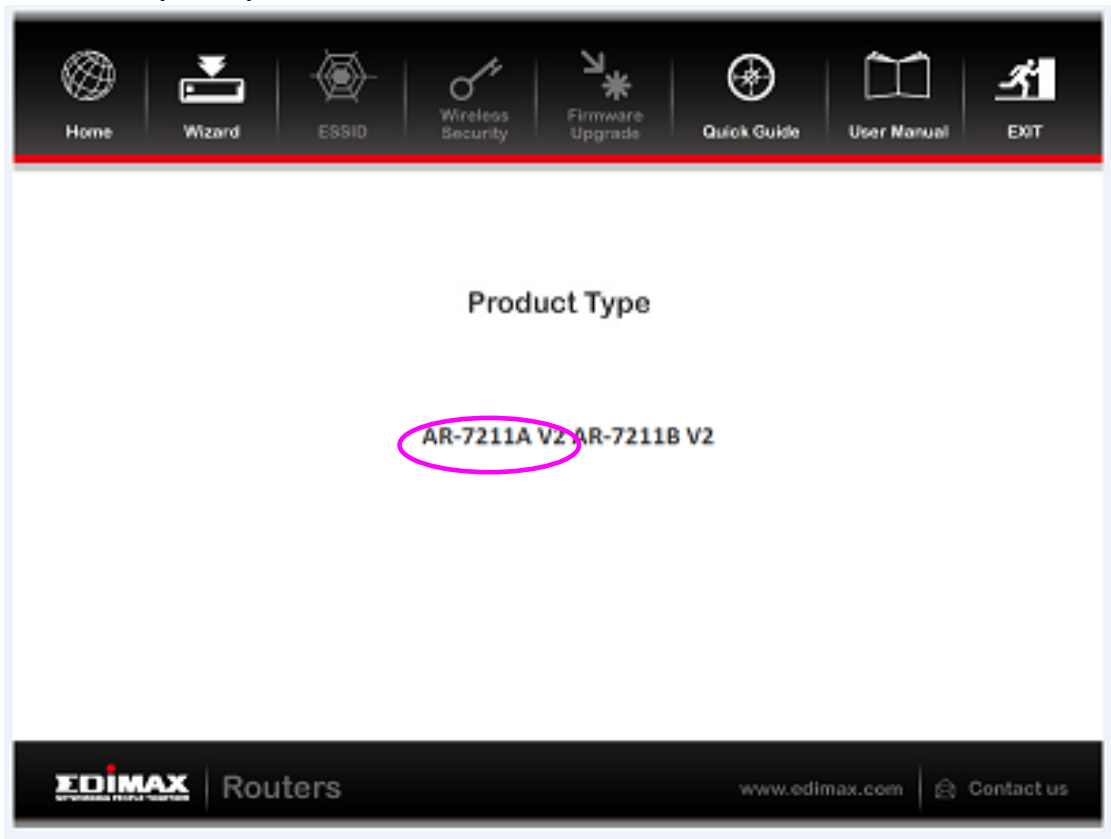
### 4.1. Setup Wizard

1. When you start the setup wizard, you will see the following screen. Please choose a language and follow the on screen instructions





2. Please select your product.



3. Please ensure all hardware is correctly installed. Check the box and click "Next"

Next Enter the Wizard of AR-series

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Home Wizard ESSID Wireless Security Firmware Upgrade Quick Guide User Manual EXIT

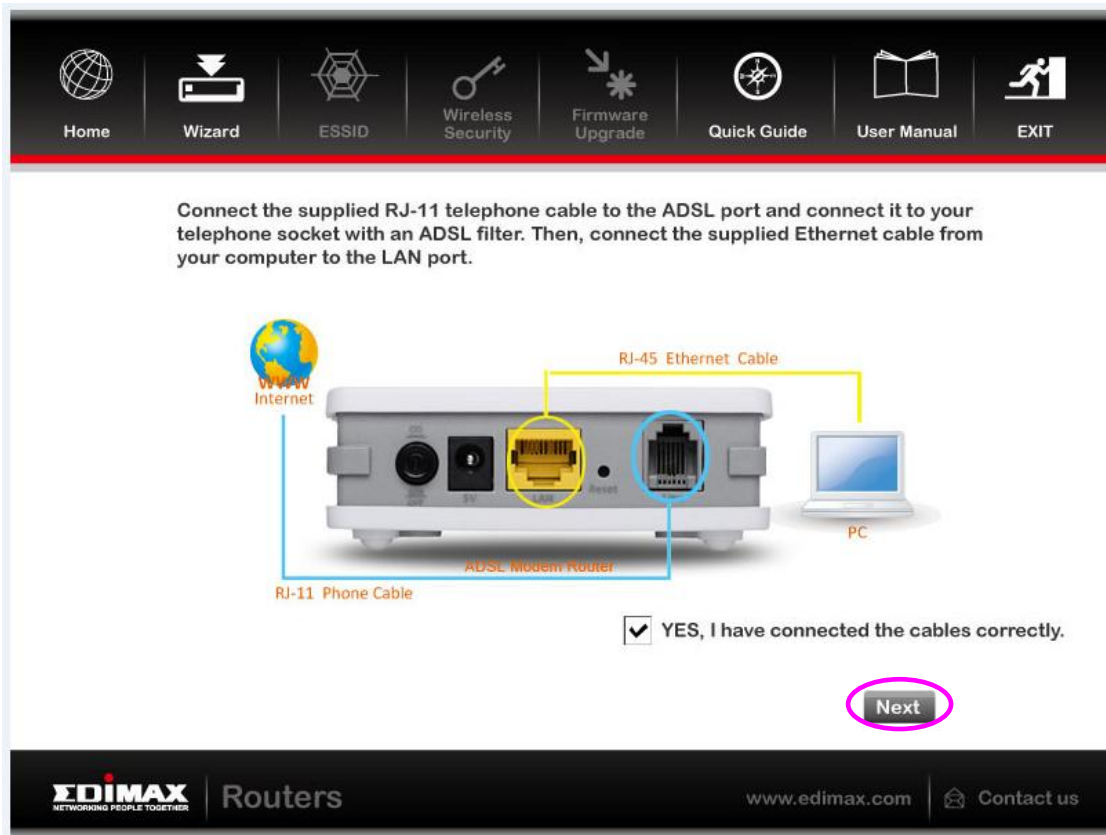
Connect the supplied RJ-11 telephone cable to the ADSL port and connect it to your telephone socket with an ADSL filter. Then, connect the supplied Ethernet cable from your computer to the LAN port.

Internet  
RJ-11 Phone Cable  
ADSL Modem Router  
LAN  
RJ-45 Ethernet Cable  
PC

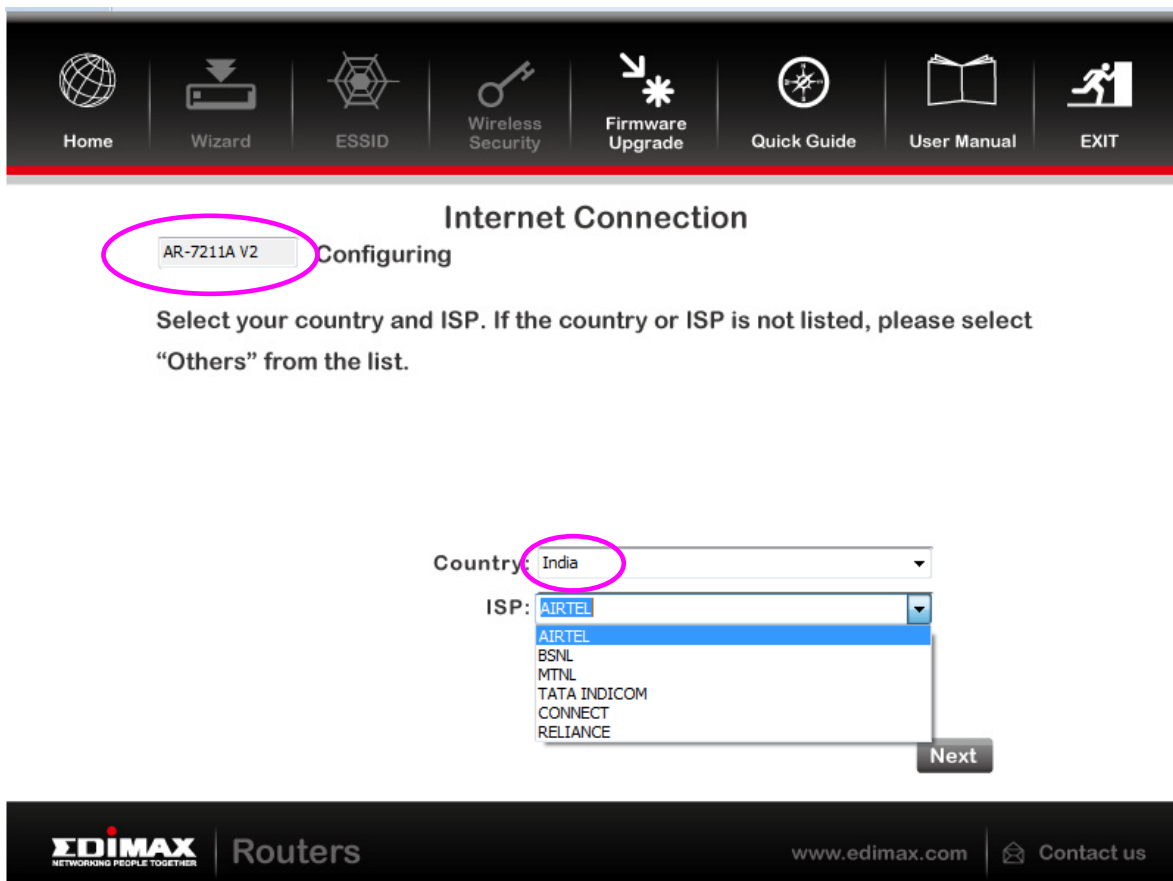
YES, I have connected the cables correctly.

Next

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4. Select your country and ISP. If your ISP is not listed, select "Other" from the list and refer to **4.2. Internet Connection Type**.

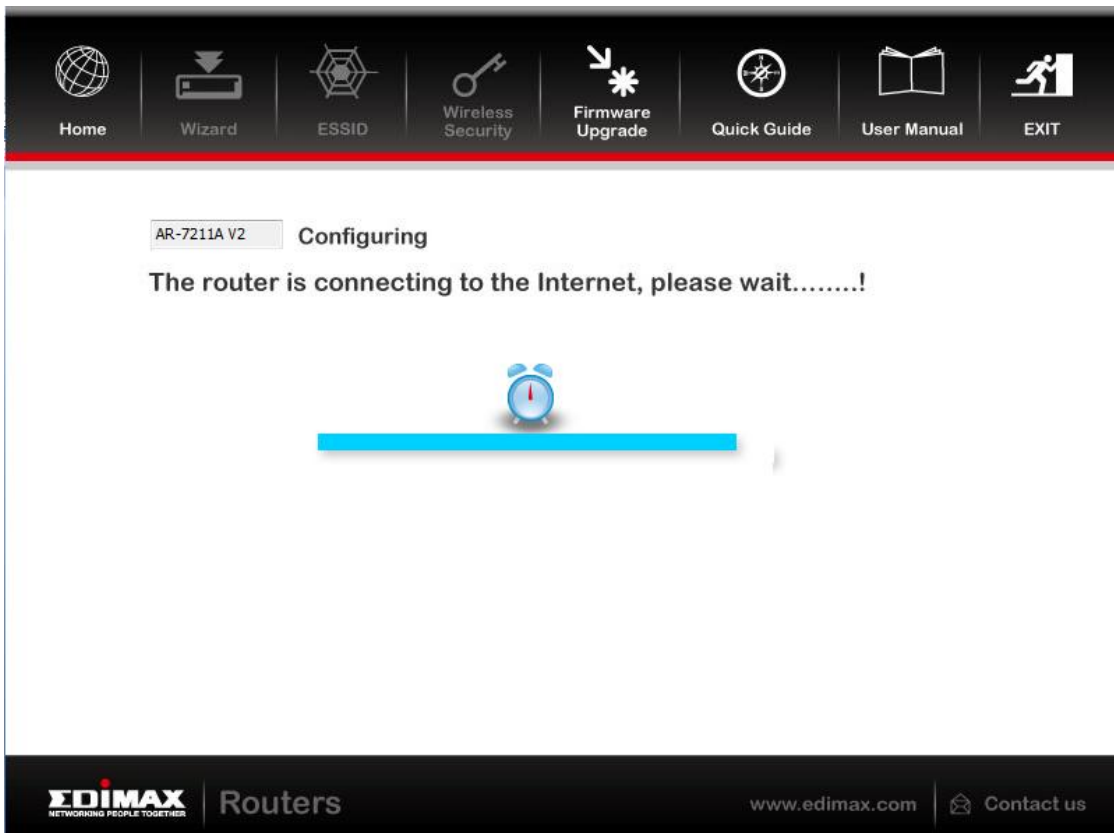
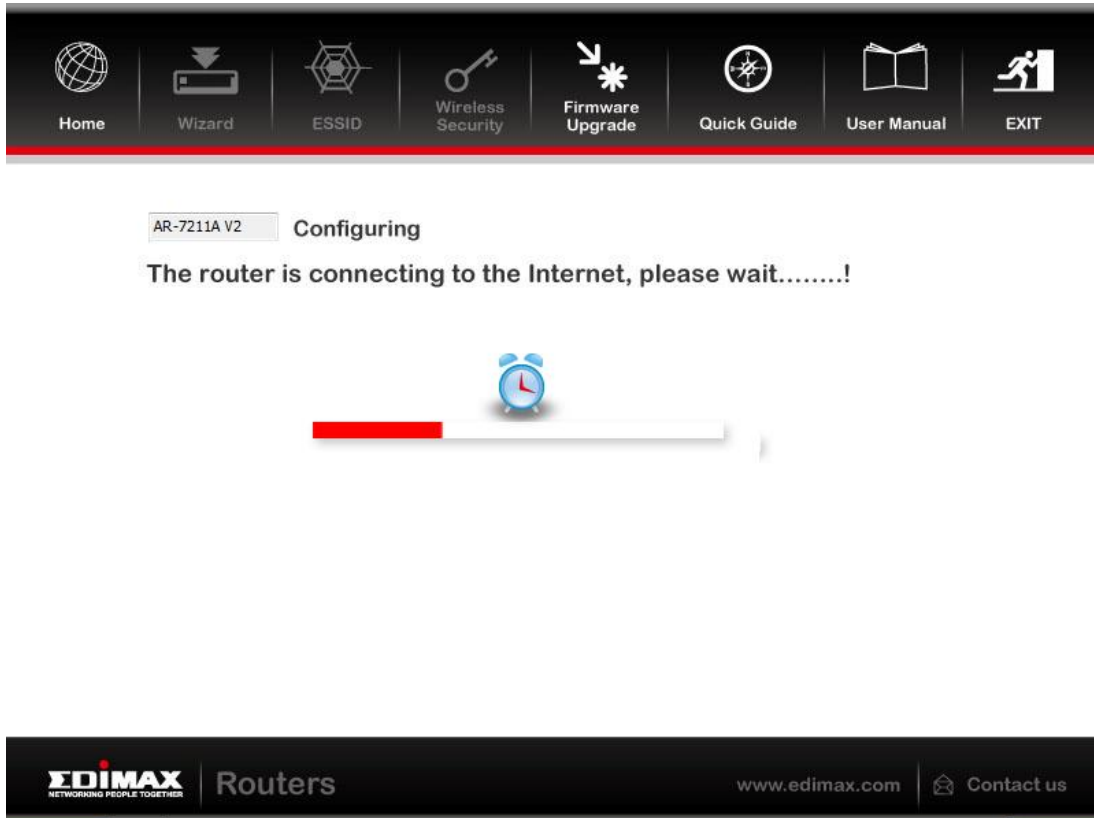


5. Enter your ISP's username and password and click "Apply". On the next screen, click "Apply" again.

The screenshot shows the 'Internet Connection' configuration page for an AR-7211A V2 router. At the top, there is a navigation bar with icons for Home, Wizard, ESSID, Wireless Security, Firmware Upgrade, Quick Guide, User Manual, and EXIT. Below the navigation bar, the page title is 'Internet Connection' and the model is 'AR-7211A V2'. The page is in 'Configuring' mode. The main content area contains the instruction: 'Enter your ISP's username and password. (Your ISP should have provided this information to you. Please contact your ISP if you forget the username or password)'. There are two input fields: 'Username:' and 'Password:'. Both fields are highlighted with a pink oval. At the bottom right of the form area, there are two buttons: 'Back' and 'Apply'. The 'Apply' button is highlighted with a pink oval. At the bottom of the page, there is a footer with the Edimax logo, 'Routers', the website 'www.edimax.com', and a 'Contact us' link.

The screenshot shows the 'Settings Overview' page for an AR-7211A V2 router. At the top, there is a navigation bar with icons for Home, Wizard, ESSID, Wireless Security, Firmware Upgrade, Quick Guide, User Manual, and EXIT. Below the navigation bar, the page title is 'Settings Overview' and the model is 'AR-7211A V2'. The page is in 'Configuring' mode. The main content area contains several configuration fields: 'Country:' with 'India' selected, 'ISP:' with 'AIRTEL', 'VPI:' with '1', 'VCI:' with '32', and 'Connection Type:' with 'ADSLTYPE\_PPPOE\_LLC'. At the bottom right of the form area, there are two buttons: 'Back' and 'Apply'. The 'Apply' button is highlighted with a pink oval. At the bottom of the page, there is a footer with the Edimax logo, 'Routers', the website 'www.edimax.com', and a 'Contact us' link.

6. Please wait while the router connects to the Internet. When the router is connected successfully, you will see the screen below.





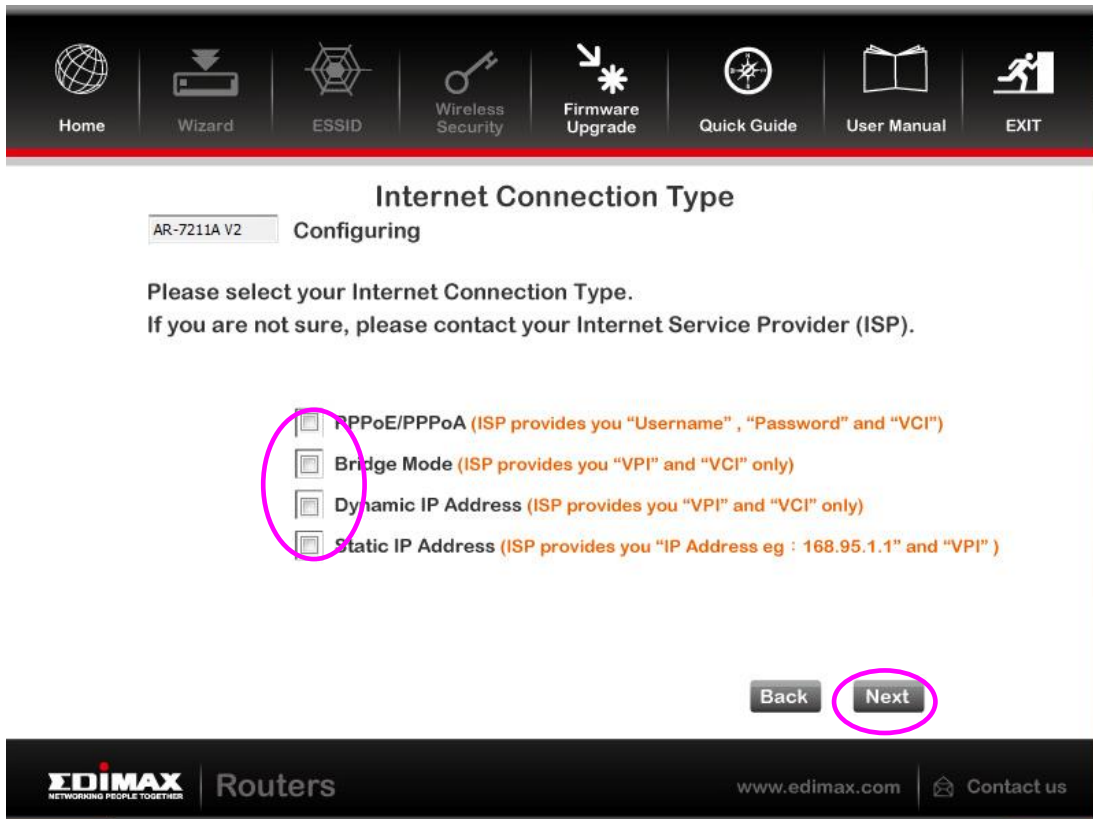
## 4.2. Internet Connection Type

If your country or ISP is not listed, please select “Other” from the list.



The screenshot shows the configuration wizard for the Edimax AR-7211A V2 router. At the top, there is a navigation bar with icons for Home, Wizard, ESSID, Wireless Security, Firmware Upgrade, Quick Guide, User Manual, and EXIT. Below this, the title "Internet Connection" is displayed, followed by the model "AR-7211A V2" and the step "Configuring". The instruction reads: "Select your country and ISP. If the country or ISP is not listed, please select 'Others' from the list." There are two dropdown menus: "Country:" with "Other" selected, and "ISP:". A "Next" button is highlighted with a pink circle. The footer contains the Edimax logo, "Routers", the website "www.edimax.com", and a "Contact us" link.

Then select your Internet connection type and click “Next”. If you are not sure, please contact your Internet Service Provider (ISP). Depending on your selection, please refer to the appropriate chapter **4.1.1.1. PPPoE/PPPoA**, **4.1.1.2. Bridge Mode**, **4.1.1.3. Dynamic IP Address** or **4.1.1.4. Static IP**.



Parameter	Description
PPPoE/PPPoA	PPPoE (PPP over Ethernet) and PPPoA (PPP over ATM) are common connection methods used for xDSL.
Bridge Mode	Bridge Mode is a common connection method used for xDSL modems.
Dynamic IP Address	Obtain an IP address automatically from your service provider.
Static IP Address	Uses a static IP address. Your service provider gives a static IP address to access Internet services.

#### 4.2.1.1. PPPoE/PPPoA



## PPPoE/PPPoA

AR-7211A V2 **Configuring**

Enter your ISP's username and password. (Your ISP should have provided this information to you. Please contact your ISP if you forget the username or password)

User Name:

Password:

VPI:  (0~255)

VCI:  (32~65535)

Connection Type:

**Back**

**Apply**



Parameter	Description
User Name	Enter the username exactly as your ISP assigned.
Password	Enter the password that your ISP has assigned to you.
VPI	Virtual path identifier (VPI) is the virtual path between two points in an ATM network. Its valid value is in the range of 0 to 255. Enter the correct VPI provided by your ISP. By default, VPI is set to 8.
VCI	Virtual channel identifier (VCI) is the virtual channel between two points in an ATM network. Its valid value is in the range of 32 to 65535 (0 to 31 is reserved for local management of ATM traffic). Enter the correct VCI provided by your ISP. By default, VCI is set to 35.
Connection type	Please check with your ISP the method of multiplexing. In PPPoE/PPPoA mode, please select "PPPoE LLC", "PPPoE VCMUX", "PPPoA LLC" or "PPPoA VCMUX".

## 4.2.1.2. Bridge Mode

Home Wizard ESSID Wireless Security Firmware Upgrade Quick Guide User Manual EXIT

### Bridge Mode

AR-7211A V2 Configuring

Enter the Bridge Information of Your ISP

VPI:  (0~255)  
VCI:  (32~65535)  
Connection Type:

Back Apply

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Parameter	Description
VPI	Virtual path identifier (VPI) is the virtual path between two points in an ATM network. Its valid value is in the range of 0 to 255. Enter the correct VPI provided by your ISP. By default, VPI is set to 8.
VCI	Virtual channel identifier (VCI) is the virtual channel between two points in an ATM network. Its valid value is in the range of 32 to 65535 (0 to 31 is reserved for local management of ATM traffic). Enter the correct VCI provided by your ISP. By default, VCI is set to 35.
Connection Type	Please check with your ISP the method of multiplexing. In Bridge Mode, please select “ADSLTYPE_ROUTER_LLC” or “ADSLTYPE_ROUTER_VCMUX”.

### 4.1.1.3. Dynamic IP Address

The screenshot shows the 'Dynamic IP Address' configuration page. At the top, there is a navigation bar with icons for Home, Wizard, ESSID, Wireless Security, Firmware Upgrade, Quick Guide, User Manual, and EXIT. Below the navigation bar, the page title is 'Dynamic IP Address' and the device model is 'AR-7211A V2'. The page is in 'Configuring' mode. The main heading is 'Enter the Dynamic Connection Information of Your ISP'. There are three input fields: 'VPI:' with a range of '(0~255)', 'VCI:' with a range of '(32~65535)', and 'Connection Type:' with a dropdown menu. At the bottom right, there are 'Back' and 'Apply' buttons. The footer contains the Edimax logo, the word 'Routers', the website 'www.edimax.com', and a 'Contact us' link.

Parameter	Description
VPI	Virtual path identifier (VPI) is the virtual path between two points in an ATM network. Its valid value is in the range of 0 to 255. Enter the correct VPI provided by your ISP. By default, VPI is set to 8.
VCI	Virtual channel identifier (VCI) is the virtual channel between two points in an ATM network. Its valid value is in the range of 32 to 65535. (0 to 31 is reserved for local management of ATM traffic) Enter the correct VCI provided by your ISP. By default, VCI is set to 35.
Connection Type	Please check with your ISP the method of multiplexing. In Bridge Mode, please select "ADSLTYPE_ROUTER_LLC" or "ADSLTYPE_ROUTER_VCMUX".

### 4.2.1.3. Static IP

The screenshot shows the 'Static IP' configuration page for an Edimax AR-7211A V2 router. The page has a navigation bar at the top with icons for Home, Wizard, ESSID, Wireless Security, Firmware Upgrade, Quick Guide, User Manual, and EXIT. Below the navigation bar, the page title is 'Static IP' and the status is 'Configuring'. The main heading is 'Enter the Static IP Address Information of Your ISP'. The form contains the following fields:

- VPI:  (0~255)
- VCI:  (32~65535)
- IP Address:
- Subnet mask:
- ISP Gateway:
- Connction Type:

At the bottom right of the form, there are 'Back' and 'Apply' buttons. The footer of the page includes the Edimax logo, the word 'Routers', the website 'www.edimax.com', and a 'Contact us' link.

Parameter	Description
VPI	Virtual path identifier (VPI) is the virtual path between two points in an ATM network. Its valid value is in the range of 0 to 255. Enter the correct VPI provided by your ISP. By default, VPI is set to 8.
VCI	Virtual channel identifier (VCI) is the virtual channel between two points in an ATM network. Its valid value is in the range of 32 to 65535. (0 to 31 is reserved for local management of ATM traffic) Enter the correct VCI provided by your ISP. By default, VCI is set to 35.
Static IP Address	Enter the IP Address assigned by your ISP.
IP Subnet Mask	Enter the Subnet Mask assigned by your ISP.
Gateway	Enter the Gateway assigned by your ISP.
Connection Type	Please check with your ISP the method of

multiplexing. In Bridge Mode, please select “ADSLTYPE\_ROUTER\_LLC” or “ADSLTYPE\_ROUTER\_VCMUX”.

---

### 4.3. Firmware Upgrade

The wizard includes a tool to upgrade the router’s firmware. Firmware can be downloaded from the Edimax website, if you wish to upload new firmware, select “Firmware Upgrade” from the menu across the top of the screen.

The screenshot shows the 'Firmware Upgrade' section of the router's web interface. At the top, there is a navigation menu with icons for Home, Wizard, ESSID, Wireless Security, Firmware Upgrade (selected), Quick Guide, User Manual, and EXIT. Below the menu, the title 'Firmware Upgrade' is centered. Underneath, there is a dropdown menu showing 'AR-7211A V2' and the word 'Configuring'. The main text instructs the user to download the latest firmware from the Edimax website, save and unzip it, and then click 'Browse' to select the file and 'Confirm' to start the upgrade. A warning message states: 'Warning: DO NOT interrupt during the upgrade.' Below this, there is a 'Browse' button, an empty text input field, and a 'Confirm' button. At the bottom, a note in orange text says: 'After the firmware upgrade, please reset the router back to factory default so that the new firmware can take effect. Then run EZMAX Wizard to setup the router to the internet. All other functions are on top menu.' The footer contains the Edimax logo with the tagline 'NETWORKING PEOPLE TOGETHER', the word 'Routers', the website 'www.edimax.com', and a 'Contact us' link.

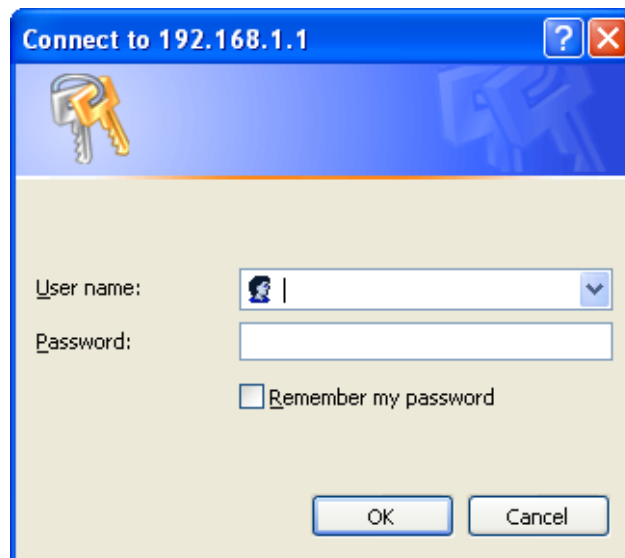
## 5. Web Configuration

The router can also be configured using the web-based configuration interface. Follow the instructions below.

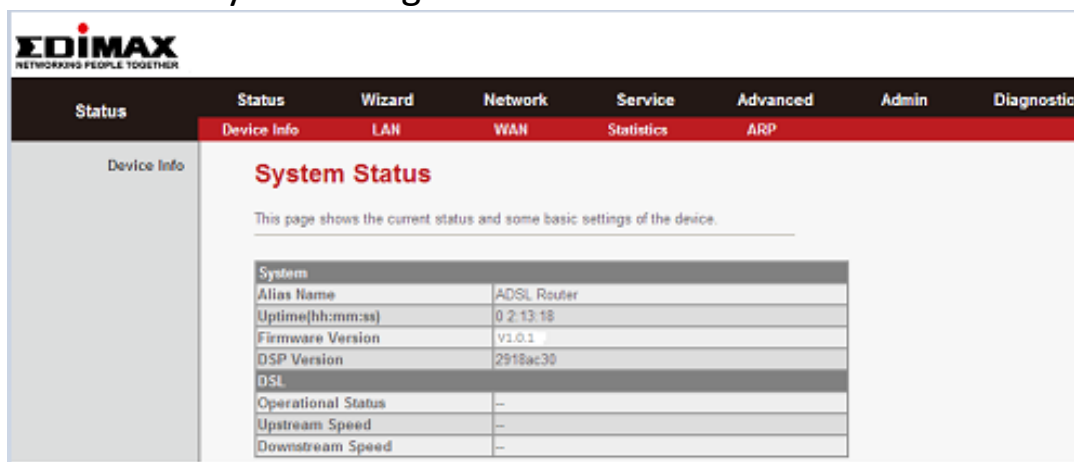
### 5.1. Accessing the Router

To access the web-based configuration interface:

1. Open the Internet Explorer (IE) browser and enter <http://192.168.2.1>.
2. In the **Login** page that is displayed, enter the username and password.
  - The username and password of the super user are **admin** and **1234**.
  - The username and password of a common user are **user** and **user**.



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



System	
Alias Name	ADSL Router
Uptime(hh:mm:ss)	0 2:13:18
Firmware Version	V1.0.1
DSP Version	2918ac30
DSL	
Operational Status	--
Upstream Speed	--
Downstream Speed	--

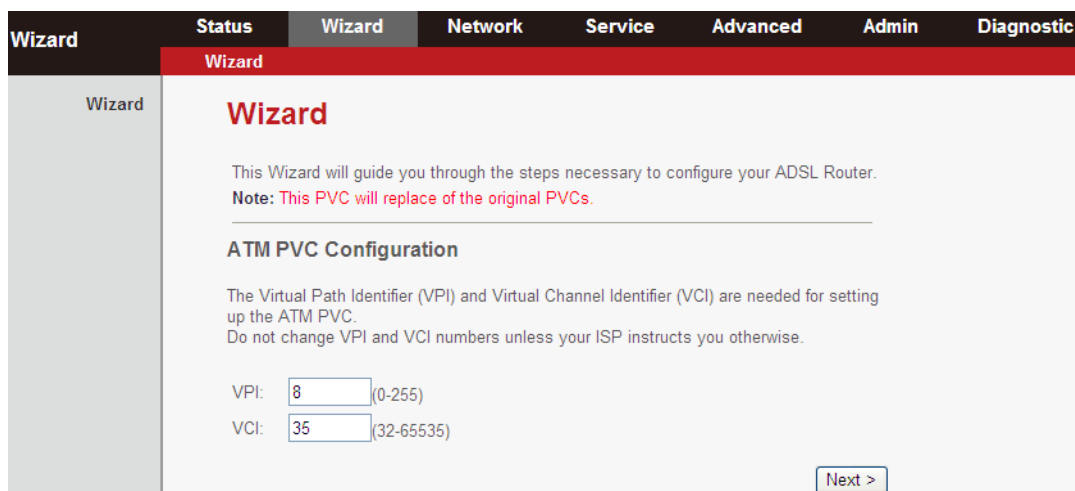


If you log in as a common user, you can check the status of the router, but not configure most of the settings.

## 5.2. Internet Connection

The Wizard page of the web-based interface allows easy configuration of the Internet connection and other parameters. The following sections describe the various parameters you can configure – if you wish, you can leave most of the parameters set to their default values.

1. To begin using the wizard, click “**Wizard**” in the navigation bar across the top of the screen.



Field	Description
VPI	Virtual path identifier (VPI) is the virtual path between two points in an ATM network. Its valid value is in the range of 0 to 255. Enter the correct VPI provided by your ISP. By default, VPI is set to <b>8</b> .
VCI	Virtual channel identifier (VCI) is the virtual channel between two points in an ATM network. Its valid value is in the range of 32 to 65535. (0 to 31 is reserved for local management of ATM traffic) Enter the correct VCI provided by your ISP. By default, VCI is set to <b>35</b> .

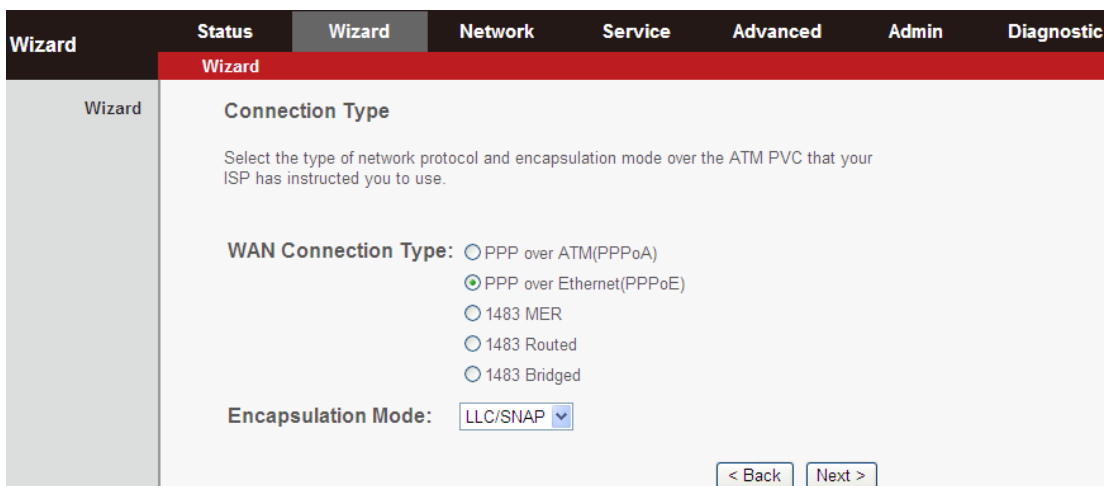
Click **NEXT** to proceed to the next page and select your Internet connection.

**Note:** 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. **If you are unsure about your type of Internet connection, please contact your ISP.**

2. Select your WAN connection type: **PPP over ATM (PPPoA), PPP over Ethernet (PPPoE), 1483 MER, 1483 Routed** or **1483 Bridged** and refer to the appropriate section of the manual accordingly:

### 5.2.1. PPPoE/PPPoA

 **Note:** The settings for PPPoA and PPPoE connection types are the same.



The screenshot shows the 'Wizard' interface for configuring WAN settings. The 'Wizard' tab is active, and the 'Connection Type' section is displayed. The instructions state: 'Select the type of network protocol and encapsulation mode over the ATM PVC that your ISP has instructed you to use.' Under 'WAN Connection Type', there are five radio button options: 'PPP over ATM(PPPoA)', 'PPP over Ethernet(PPPoE)', '1483 MER', '1483 Routed', and '1483 Bridged'. The 'PPP over Ethernet(PPPoE)' option is selected. Below this, the 'Encapsulation Mode' is set to 'LLC/SNAP' via a dropdown menu. At the bottom right, there are '< Back' and 'Next >' buttons.

Set the encapsulation mode to **LLC/SNAP** and click **Next** to continue:



The screenshot shows the 'Wizard' interface for configuring WAN IP settings. The 'Wizard' tab is active, and the 'WAN IP Settings' section is displayed. The instructions state: 'Enter information provided to you by your ISP to configure the WAN IP settings.' There are two radio button options: 'Obtain an IP address automatically' (selected) and 'Use the following IP address:'. Below the second option is a text input field labeled 'WAN IP Address:'. There is also a checked checkbox for 'Enable NAT'. At the bottom right, there are '< Back' and 'Next >' buttons.

Field	Description
Obtain an IP address automatically	When this is selected, DHCP assigns IP address for the PPPoE connection.
Use the following IP address	When this is selected, you need to enter an IP address for the PPPoE connection, which is provided by your ISP.
Enable NAT	Check this box to enable network address translation (NAT). If you do not select it and wish to access the Internet normally, you must add a route on the uplink equipment. Usually, it is required to enable NAT.

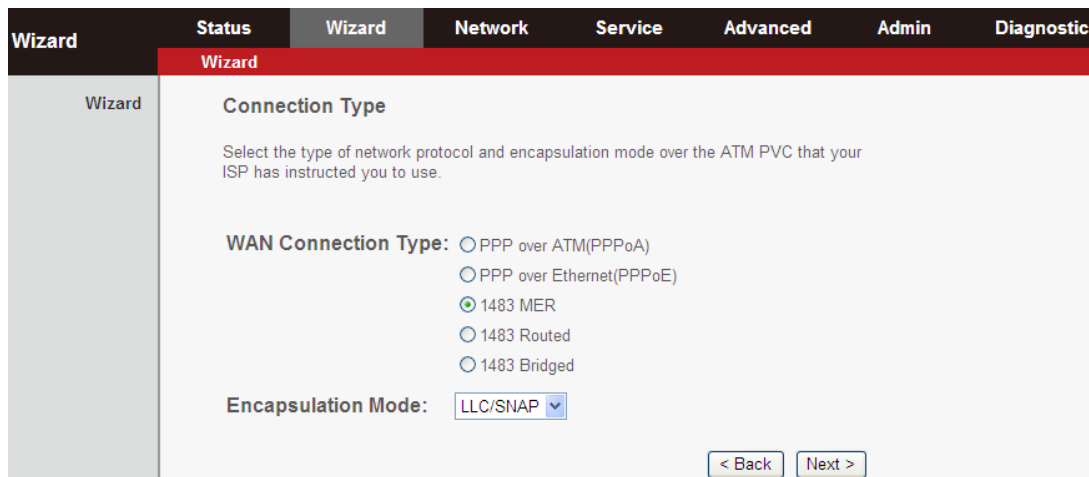
Click **Next** to continue to the next page:

Field	Description
PPP Username	Enter the username for PPPoE dial-up, which is provided by your ISP.
PPP Password	Enter the password for PPPoE dial-up, which is provided by your ISP.
PPP Connection Type	<p>You can select <b>Continuous</b> (recommended), <b>Connect on Demand</b>, or <b>Manual</b>.</p> <ul style="list-style-type: none"> <li>● <b>Continuous:</b> After dial-up is successful, PPPoE connection is always on-line, whether the data is being transmitted or not.</li> <li>● <b>Connect on Demand:</b> After dial-up is successful, if no data is transmitted for the preset idle time, the router automatically disconnects the PPPoE</li> </ul>

Field	Description
	<p>connection.</p> <ul style="list-style-type: none"> <li>● <b>Manual:</b> Dial up and disconnect the connection manually.</li> </ul>

### 5.2.2. 1483 MER/1483 Routed

 **Note:** The settings for **1483 Routed** and **1483 MER** connection types are the same.

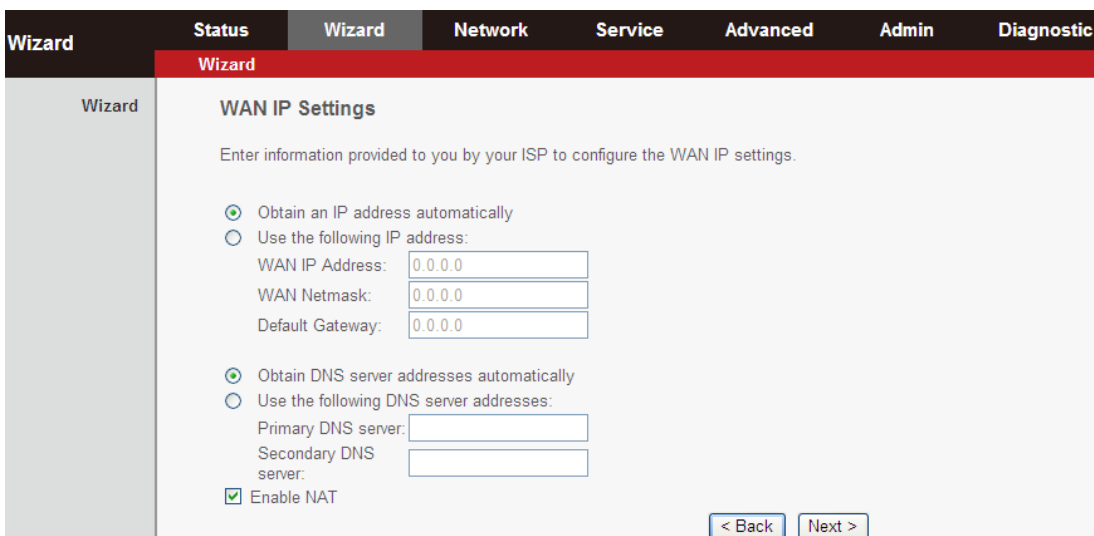


The screenshot shows the 'Wizard' configuration interface. The 'WAN Connection Type' section has the following options:

- PPP over ATM(PPPoA)
- PPP over Ethernet(PPPoE)
- 1483 MER
- 1483 Routed
- 1483 Bridged

The 'Encapsulation Mode' is set to 'LLC/SNAP' via a dropdown menu. Navigation buttons '< Back' and 'Next >' are visible at the bottom right.

Set the encapsulation mode to **LLC/SNAP** and click **Next** to continue:



The screenshot shows the 'WAN IP Settings' configuration page. The 'Obtain an IP address automatically' option is selected. Below it, there are input fields for 'WAN IP Address', 'WAN Netmask', and 'Default Gateway', all containing '0.0.0.0'. There are also fields for 'Primary DNS server' and 'Secondary DNS server'. The 'Enable NAT' checkbox is checked. Navigation buttons '< Back' and 'Next >' are visible at the bottom right.

Field	Description
Obtain an IP address automatically	When this is selected, DHCP assigns IP address for the PPPoE connection.
Use the following IP address	When this is selected, you need to enter an IP

Field	Description
	address, subnet mask and default gateway for the WAN connection, which is provided by your ISP.
Obtain DNS server addresses automatically	When selected, DHCP automatically assigns DNS server address.
Use the following DNS server addresses	When selected, you need to manually enter the primary DNS server address and secondary DNS server address.
Enable NAT	Check this box to enable network address translation (NAT). If you do not select it and wish to access the Internet normally, you must add a route on the uplink equipment. Usually, it is required to enable NAT.

### 5.2.3. 1483 Bridged

**Wizard** | Status | Wizard | Network | Service | Advanced | Admin | Diagnostic

**Wizard**

**Connection Type**

Select the type of network protocol and encapsulation mode over the ATM PVC that your ISP has instructed you to use.

**WAN Connection Type:**

- PPP over ATM(PPPoA)
- PPP over Ethernet(PPPoE)
- 1483 MER
- 1483 Routed
- 1483 Bridged

**Encapsulation Mode:** LLC/SNAP

< Back | Next >

Set the encapsulation mode to **LLC/SNAP** and click **Next** to continue:

**Wizard** | Status | Wizard | Network | Service | Advanced | Admin | Diagnostic

**Wizard**

**LAN Interface Setup**

This page is used to configure the LAN interface of your ADSL router.

LAN IP: 192.168.2.1

LAN Netmask: 255.255.255.0

Enable Secondary IP

**DHCP Server**

Set and configure the Dynamic Host Protocol mode for your device.

Enable DHCP Server

Start IP: 192.168.2.100

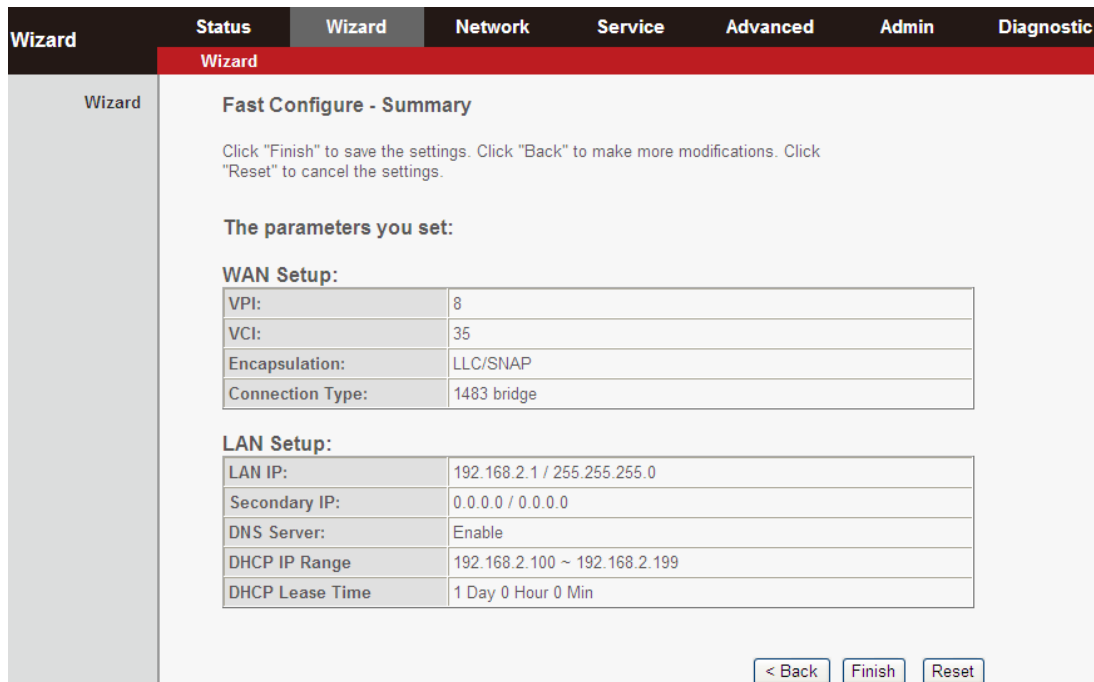
End IP: 192.168.2.199

Max Lease Time: 1 Day 0 Min 0 Min

< Back | Next >

Field	Description
<b>LAN Interface Setup</b>	
LAN IP	Enter the IP address of the LAN interface. Its valid value is in the range of 192.168.2.1 to 192.168.255.254. The default IP address is <b>192.168.2.1</b> .
LAN Netmask	Enter the subnet mask of the LAN interface. Its valid value is in the range of 255.255.0.0 to 255.255.255.254.
Enable Secondary IP	Check this box to enable the secondary LAN IP. The two LAN IP addresses must be in the different networks.
<b>DHCP Server</b>	
Enable DHCP Server	Check this box to enable DHCP server.
Start IP	Enter the start IP address that the DHCP sever assigns.
End IP	Enter the end IP address that the DHCP server assigns.
Max Lease Time	The lease time determines the period that the PCs retain the assigned IP addresses before the IP addresses change.

Click **Next** to continue to the next page:



Click **BACK** to modify the settings.  
 Click **FINISH** to save the settings.  
 Click **RESET** to cancel the settings.

**Note:** After saving the settings in the **Wizard** page, the PVC in the Wizard page replaces that in the **Channel Configuration** page. The preset PVCs in the **Channel Configuration** page do not take effect any more.

## 5.3.Status

In the navigation bar across the top of the screen, click **Status**. The page that is displayed contains **Device Info**, **LAN**, **WAN**, **Statistics** and **ARP**.

### 5.3.1. Device Info

Choose **Status** > **Device Info**. 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.

Status	Status	Wizard	Network	Service	Advanced	Admin	Diagnostic																		
	Device Info	LAN	WAN	Statistics	ARP																				
Device Info	<h2>System Status</h2> <p>This page shows the current status and some basic settings of the device.</p> <table border="1"> <thead> <tr> <th colspan="2">System</th> </tr> </thead> <tbody> <tr> <td>Alias Name</td> <td>ADSL Router</td> </tr> <tr> <td>Uptime(hh:mm:ss)</td> <td>0 0:14:24</td> </tr> <tr> <td>Firmware Version</td> <td>V2.1.2</td> </tr> <tr> <td>DSP Version</td> <td>2918ac30</td> </tr> <tr> <th colspan="2">DSL</th> </tr> <tr> <td>Operational Status</td> <td>--</td> </tr> <tr> <td>Upstream Speed</td> <td>--</td> </tr> <tr> <td>Downstream Speed</td> <td>--</td> </tr> </tbody> </table>							System		Alias Name	ADSL Router	Uptime(hh:mm:ss)	0 0:14:24	Firmware Version	V2.1.2	DSP Version	2918ac30	DSL		Operational Status	--	Upstream Speed	--	Downstream Speed	--
System																									
Alias Name	ADSL Router																								
Uptime(hh:mm:ss)	0 0:14:24																								
Firmware Version	V2.1.2																								
DSP Version	2918ac30																								
DSL																									
Operational Status	--																								
Upstream Speed	--																								
Downstream Speed	--																								

### 5.3.2. 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. To configure the LAN network, refer to chapter **5.4.1 LAN**.

LAN	Status	Wizard	Network	Service	Advanced	Admin	Diagnostic																				
	Device Info	LAN	WAN	Statistics	ARP																						
LAN	<h2>LAN Status</h2> <p>This page shows basic LAN settings of the device.</p> <table border="1"> <thead> <tr> <th colspan="2">LAN Configuration</th> </tr> </thead> <tbody> <tr> <td>IP Address</td> <td>192.168.2.1</td> </tr> <tr> <td>Subnet Mask</td> <td>255.255.255.0</td> </tr> <tr> <td>DHCP Server</td> <td>Enable</td> </tr> <tr> <td>MAC Address</td> <td>00:1F:A4:DD:CC:9C</td> </tr> </tbody> </table> <p>DHCP Client Table</p> <table border="1"> <thead> <tr> <th>Name</th> <th>IP Address</th> <th>MAC Address</th> <th>Expiry(s)</th> <th>Type</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>							LAN Configuration		IP Address	192.168.2.1	Subnet Mask	255.255.255.0	DHCP Server	Enable	MAC Address	00:1F:A4:DD:CC:9C	Name	IP Address	MAC Address	Expiry(s)	Type					
LAN Configuration																											
IP Address	192.168.2.1																										
Subnet Mask	255.255.255.0																										
DHCP Server	Enable																										
MAC Address	00:1F:A4:DD:CC:9C																										
Name	IP Address	MAC Address	Expiry(s)	Type																							

### 5.3.3. WAN

Choose **Status** > **WAN**. The page that is displayed shows 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 **5.4.2.1. WAN**.

WAN	Status	Wizard	Network	Service	Advanced	Admin	Diagnostic																
	Device Info	LAN	WAN	Statistics	ARP																		
WAN	<h2>WAN Status</h2> <p>This page shows some basic WAN settings.</p> <table border="1"> <thead> <tr> <th>Interface</th> <th>VPI/VCI</th> <th>Encapsulation</th> <th>Default Route</th> <th>Protocol</th> <th>IP Address</th> <th>Gateway</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>a0</td> <td>8/35</td> <td>LLC</td> <td>Off</td> <td>br1483</td> <td>0.0.0.0</td> <td>0.0.0.0</td> <td>down</td> </tr> </tbody> </table> <p>DNS Servers</p>							Interface	VPI/VCI	Encapsulation	Default Route	Protocol	IP Address	Gateway	Status	a0	8/35	LLC	Off	br1483	0.0.0.0	0.0.0.0	down
Interface	VPI/VCI	Encapsulation	Default Route	Protocol	IP Address	Gateway	Status																
a0	8/35	LLC	Off	br1483	0.0.0.0	0.0.0.0	down																



## 5.3.4. Statistics

Choose **Status > Statistics**. The **Statistics** page that is displayed contains **Statistics** and **ADSL Statistics**.

### 5.3.4.1. Statistics

In this page, you can view the statistics of each network interface.

The screenshot shows the 'Statistics' page. The top navigation bar includes 'Status', 'Wizard', 'Network', 'Service', 'Advanced', 'Admin', and 'Diagnostic'. Below this, a secondary bar highlights 'Device Info', 'LAN', 'WAN', 'Statistics', and 'ARP'. The left sidebar contains 'Statistics' and 'ADSL Statistics'. The main content area is titled 'Statistics' and includes a description: 'This page shows the packet statistics for transmission and reception regarding to network interface.' Below the text is a table with the following data:

Interface	Rx Packet	Rx Error	Rx Drop	Tx Packet	Tx Error	Tx Drop
e1	891	0	0	930	0	0
a0	0	0	0	0	0	0
a1	0	0	0	0	0	0
a2	0	0	0	0	0	0
a3	0	0	0	0	0	0
a4	0	0	0	0	0	0
a5	0	0	0	0	0	0
a6	0	0	0	0	0	0
a7	0	0	0	0	0	0

A 'Refresh' button is located at the bottom of the table.

### 5.3.4.2. ADSL Statistic

Select **ADSL Statistic** in the left pane to view the ADSL line statistics, downstream rate, upstream rate and other information.

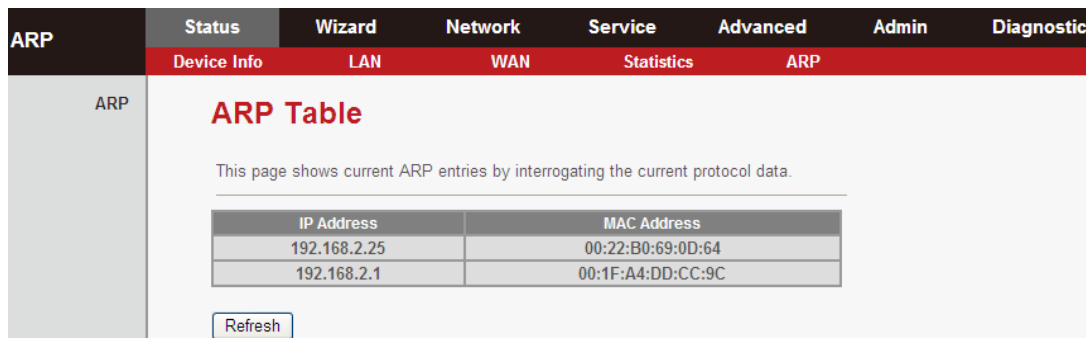
The screenshot shows the 'ADSL Configuration' page. The top navigation bar is the same as in the previous screenshot. The left sidebar highlights 'ADSL Statistics'. The main content area is titled 'ADSL Configuration' and includes a description: 'This page shows the setting of the ADSL Router.' Below the text is a table with the following data:

ADSL Line Status	ACTIVATING.
ADSL Mode	--
Up Stream	--
Down Stream	--
Attenuation Down Stream(db)	--
Attenuation Up Stream(db)	--
SNR Margin Down Stream(db)	--
SNR Margin Up Stream(db)	--
Attainable Down Rate	--
Attainable Up Rate	--
Vendor ID	RETK
Firmware Version	2918ac30
CRC Errors	--
Up Stream BER	--
Down Stream BER	--
Up Output Power	--
Down Output Power	--
Down Stream ES	--
Up Stream ES	--
Down Stream SES	--
Up Stream SES	--
Down Stream UAS	--
Up Stream UAS	--

At the bottom, there is an 'ADSL Retrain:' label with 'Retrain' and 'Refresh' buttons.

### 5.3.5. ARP

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



The screenshot shows a web interface with a navigation bar at the top containing tabs for Status, Wizard, Network, Service, Advanced, Admin, and Diagnostic. Below this is a sub-navigation bar with tabs for Device Info, LAN, WAN, Statistics, and ARP. The main content area is titled "ARP Table" and includes a description: "This page shows current ARP entries by interrogating the current protocol data." Below the text is a table with two columns: "IP Address" and "MAC Address". The table contains two rows of data. A "Refresh" button is located at the bottom of the table.

IP Address	MAC Address
192.168.2.25	00:22:B0:69:0D:64
192.168.2.1	00:1F:A4:DD:CC:9C

## 5.4. Network

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

### 5.4.1. LAN

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

#### 5.4.1.1. LAN IP

Click **LAN IP** in the left pane to see the following page. Here, you can change IP address of the router. The default IP address is 192.168.2.1, which is the private IP address of the router.

Network Status Wizard Network Service Advanced Admin Diagnostic

LAN WAN

LAN IP  
DHCP  
DHCP Static IP

## LAN Interface Setup

This page is used to configure the LAN interface of your ADSL Router. Here you may change the setting for IP addresss, subnet mask, etc..

Interface Name: Ethernet1

IP Address:

Subnet Mask:

Secondary IP

---

LAN Port:

Link Speed/Duplex Mode:

ETHERNET Status Table:

Select	Port	Link Mode
<input type="radio"/>	LAN	Auto Negotiation

MAC Address Control:  LAN1

New MAC Address:

Current Allowed MAC Address Table:

MAC Addr	Action
----------	--------

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 192.168.2.1- 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 this to enable the secondary LAN IP address. The two LAN IP addresses must be in the different networks.
LAN Port	You can choose the LAN interface you want to configure.
Link Speed/Duplex Mode	You can select the following modes from the drop-downlist: <b>100Mbps/FullDuplex,100Mbps/Half Duplex,10Mbps/FullDuplex,10Mbps/Half</b>

Field	Description
	<b>Duplex,Auto Negotiation.</b>
MAC Address Control	Select this to enable access control based on MAC address. Only a host whose MAC address is listed in the <b>Current Allowed MAC Address Table</b> can access the modem.
Add	Enter a MAC address, and click "Add" to add it to the <b>Current Allowed MAC Address Table</b> .

### 5.4.1.2. DHCP

Dynamic Host Configuration Protocol (DHCP) allows an individual PC to obtain TCP/IP configuration from a centralized DHCP server. You can configure this router as a DHCP server or disable it. The DHCP server can assign an 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 to see the following page:

The screenshot shows a web interface for configuring DHCP Mode. The top navigation bar includes 'DHCP', 'Status', 'Wizard', 'Network', 'Service', 'Advanced', 'Admin', and 'Diagnostic'. The left sidebar has 'LAN IP', 'DHCP', and 'DHCP Static IP'. The main content area is titled 'DHCP Mode' and contains the following information:

This page can be used to config the DHCP mode:None,DHCP Relay or DHCP Server.  
(1)Enable the DHCP Server if you are using this device as a DHCP server. This page lists the IP address pools available to hosts on your LAN. The device distributes numbers in the pool to hosts on your network as they request Internet access.  
(2)Enable the DHCP Relay if you are using the other DHCP server to assign IP address to your hosts on the LAN. You can set the DHCP server ip address.  
(3)If you choose "None", then the modem will do nothing when the hosts request a IP address.

LAN IP Address:192.168.2.1 Subnet Mask:255.255.255.0

DHCP Mode:

Interface:  LAN

IP Pool Range: 192.168.2.100 - 192.168.2.199

Subnet Mask:

Default Gateway:

Max Lease Time:  minutes

Domain Name:

DNS Servers:

Field	Description
DHCP Mode	If set to <b>DHCP Server</b> , 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	This specifies the first and the last IP address in the IP address pool. The router assigns an IP address that is in the IP pool range to the host.
Show Client	Click here to display the <b>Active DHCP Client Table</b> which 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 it. If you leave this blank, the domain name obtained by DHCP from the ISP is used. You must enter a host name (system name) on each individual PC. The domain name can be assigned from the router through the DHCP server.
DNS Servers	You can configure the DNS server IP addresses for DNS Relay.
Set VendorClass IP Range	Click here to display the <b>Device IP Range Table</b> . You can configure the IP address range based on the device type.

Click **Show Client** in the **DHCP Mode** page to display the **Active DHCP Client Table** which shows IP addresses assigned to clients, as shown below:

## Active DHCP Client Table

This table shows the assigned IP address, MAC address and time expired for each DHCP leased client.

Name	IP Address	MAC Address	Expiry(s)	Type
------	------------	-------------	-----------	------

Refresh

Close

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

Click **Set VendorClass IP Range** in the **DHCP Mode** page, to display the **Device IP Range Table**. You can configure the IP address range based on the device type, as shown below:

## Device IP Range Table

This page is used to configure the IP address range based on device type.

---

device name:

start address: 192.168.2.

end address: 192.168.2.

router address:

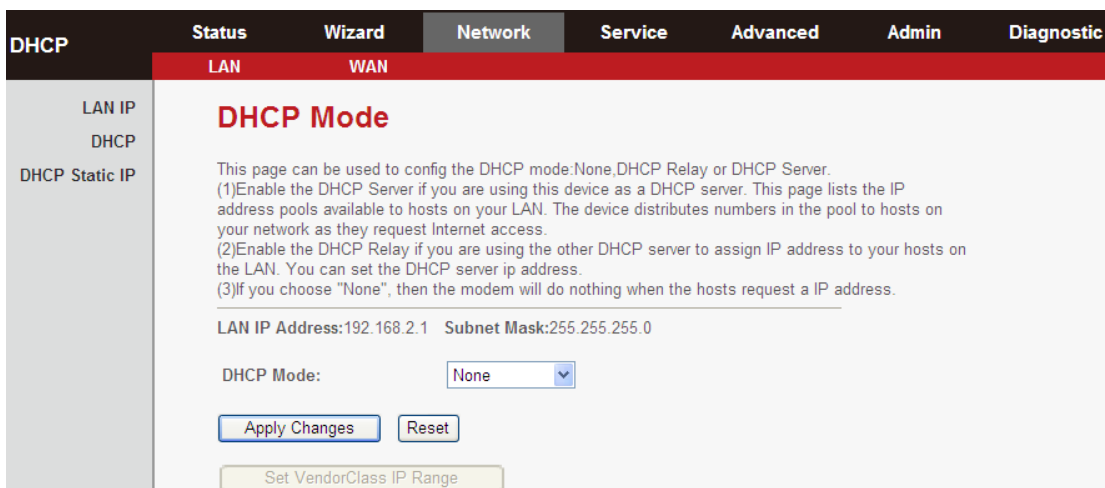
option60

---

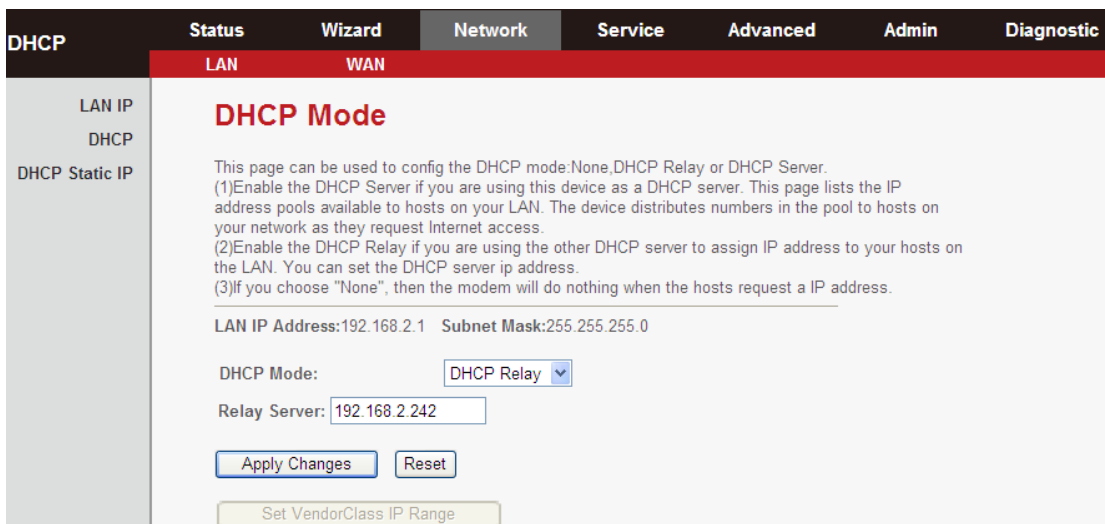
**IP Range Table:**

Select	device name	start address	end address	default gateway	option60
--------	-------------	---------------	-------------	-----------------	----------

In the **DHCP Mode** field, if you select **None** you will see the following page:



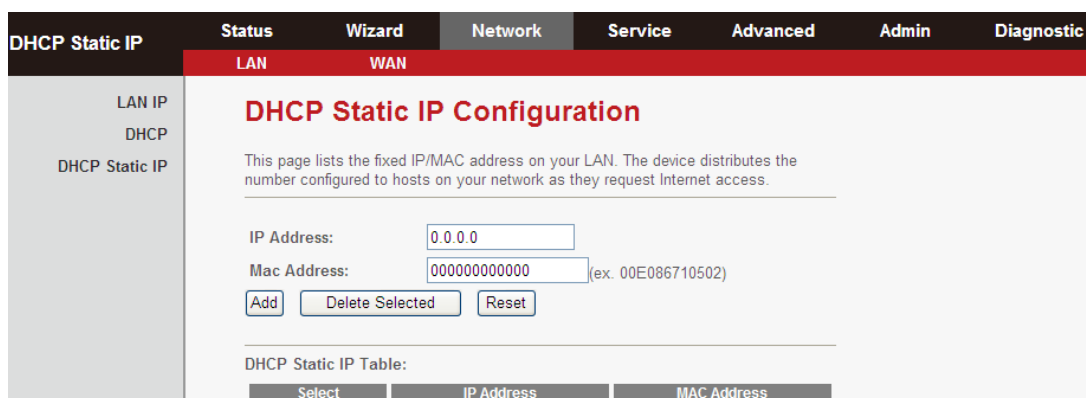
In the **DHCP Mode** field, if you select **DHCP Relay** you will see the following page:



Field	Description
DHCP Mode	If set to <b>DHCP Relay</b> , 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.
Reset	Click it to refresh this page.

### 5.4.1.3. DHCP Static IP

If you select **DHCP Static IP** in the left pane, you will see the following page. Here you can assign the IP addresses on the LAN to the specific individual PCs based on their MAC address.



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 "Add" to add a row to the <b>DHCP Static IP Table</b> .
Delete Selected	Select a row in the <b>DHCP Static IP Table</b> , then click "Delete Selected" to delete this row.
Reset	Resets the fields in this page.
DHCP Static IP Table	Shows the assigned IP address based on the MAC address.

### 5.4.2. WAN

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

#### 5.4.2.1. WAN

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



WAN      Status      Wizard      Network      Service      Advanced      Admin      Diagnostic

LAN      WAN

## Channel Configuration

The DSL WAN connection can be separated virtually into multiple channels by assigning different VPI/VCI in each Permanent Virtual Circuit (PVC). In each PVC you can also set the connection protocol to be PPP, Dynamic IP, Static IP or Bridge mode.

Note : The "Connect" and "Disconnect" button will be enable only when the connect type of PPPoE and PPPoA is "Manual"

Default Route Selection:  Auto  Specified

VPI:  VCI:  Encapsulation:  LLC  VC-Mux

Channel Mode:  Enable NAPT:

Enable IGMP:

PPP Settings:

User Name:  Password:

Type:  Idle Time (min):

WAN IP Settings:

Type:  Fixed IP  DHCP

Local IP Address:  Remote IP Address:

Netmask:

Default Route:  Disable  Enable  Auto


Unnumbered


Current ATM VC Table:

Select	Inf	Mode	VPI	VCI	Encap	NAPT	IGMP	DRou	IP Addr	Remo	NetM	User	Unnu	Statu	Edit
<input checked="" type="radio"/>	a0	br1483	8	35	LLC	Off	Off	Off	0.0.0.0	0.0.0.0	0.0.0.0	---	---	dow	n

Field	Description
Default Route Selection	You can select <b>Auto</b> or <b>Specified</b> .
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 <b>LLC</b> and <b>VC-Mux</b> .
Channel Mode	You can choose <b>1483 Bridged</b> , <b>1483 MER</b> , <b>PPPoE</b> , <b>PPPoA</b> , <b>1483 Routed</b> or <b>IPoA</b> .
Enable NAPT	Check this box to enable Network

Field	Description
	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. Usually, it is enabled.
Enable IGMP	Enable or disable Internet Group Management Protocol (IGMP) function.
<b>PPP Settings</b>	
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 <b>Continuous</b> , <b>Connect on Demand</b> or <b>Manual</b> .
Idle Time (min)	If set the type to <b>Connect on Demand</b> , you need to enter the idle timeout time. If the router does not detect the flow of the user continuously, within the preset Idle time, the router automatically disconnects the PPPoE connection.
<b>WAN IP Settings</b>	
Type	<p>You can choose <b>Fixed IP</b> or <b>DHCP</b>.</p> <ul style="list-style-type: none"> <li>● If you select <b>Fixed IP</b>, enter the local IP address, remote IP address and subnet mask.</li> <li>● If you select <b>DHCP</b>, the router is a DHCP client and the WAN IP address is assigned by the remote DHCP server.</li> </ul>
Local IP Address	Enter the IP address of WAN interface provided by your ISP.

Field	Description
Remote IP Address	Enter the gateway IP address provided by your ISP.
Netmask	Enter the subnet mask of the local IP address.
Unnumbered	Check this box to enable IP unnumbered function.
Add	After configuring the parameters of this page, select “Add” to add a new PVC into the <b>Current ATM VC Table</b> .
Modify	Select a PVC in the <b>Current ATM VC Table</b> , then modify the parameters of this PVC. When finished, click “Modify” to apply the settings of this PVC.
Current ATM VC Table	This table shows existing PVCs. It shows the interface name, channel mode, VPI/VCI, encapsulation mode, local IP address, remote IP address and other information. The maximum number of items that can be added to this table is eight.
	Click this icon to modify the PVCs' parameters.

After adding a PPPoE ATM VC, and clicking  in **PPPoE** mode, the following page will appear. In this page, you can configure the parameters of this PPPoE PVC.

WAN	Status	Wizard	Network	Service	Advanced	Admin	Diagnostic
	LAN	WAN					
WAN	<b>PPP Interface - Modify</b>						
Auto PVC	Protocol: PPPoE						
ATM Settings	ATM VCC: 8/69						
ADSL Settings	Login Name: <input type="text"/>						
	Password: <input type="text"/>						
	Authentication Method: <input type="button" value="Auto"/>						
	Connection Type: <input type="button" value="Continuous"/>						
	Idle Time (s): <input type="text" value="0"/>						
	Bridge: <input type="radio"/> Bridged Ethernet (Transparent Bridging)						
	<input type="radio"/> Bridged PPPoE (implies Bridged Ethernet)						
	<input checked="" type="radio"/> Disable Bridge						
	AC-Name: <input type="text"/>						
	Service-Name: <input type="text"/>						
	802.1q: <input checked="" type="radio"/> Disable <input type="radio"/> Enable						
	VLAN ID(1-4095): <input type="text" value="0"/>						
	MTU (576-1492): <input type="text" value="1400"/>						
	Static IP: <input type="text"/>						
	Source Mac address: <input type="text" value="00:1F:A4:DD:CC:89"/> (ex:00:E0:86:71:05:02) <input type="button" value="MACCLONE"/>						
	<input type="button" value="Apply Changes"/> <input type="button" value="Return"/> <input type="button" value="Reset"/>						

Field	Description
Protocol	The protocol type used for this WAN connection is displayed here.
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 <b>AUTO</b> , <b>CHAP</b> , or <b>PAP</b> .
Connection Type	You can choose <b>Continuous</b> , <b>Connect on Demand</b> , or <b>Manual</b> .
Idle Time (s)	If you choose <b>Connect on Demand</b> , you need to enter the idle timeout time. if the router does not detect the flow of the user continuously, within the preset idle time, the router automatically disconnects the PPPoE connection.

Field	Description
Bridge	You can select <b>Bridged Ethernet</b> , <b>Bridged PPPoE</b> or <b>Disable Bridge</b> .
AC-Name	The accessed equipment type.
Service-Name	The service name is displayed here.
802.1q	You can select <b>Disable</b> or <b>Enable</b> . If enabled, you need to enter the VLAN ID. The value ranges from 0 to 4095.
Apply Changes	Click to save the settings of this page temporarily.
Return	Click to return to the <b>Channel Configuration</b> page.
Undo	Click to refresh this page.
Source Mac address	The MAC address you want to clone.
MACCLONE	Click it to enable the MAC Clone function with the MAC address that is configured.

### 5.4.2.2. Auto PVC

Selecting **Auto PVC** in the left pane will bring you to the following page. Here, you can configure auto PVC detection by adding or deleting items to the auto PVC search table.

**Auto PVC Configuration**

This page is used to configure pvc auto detect function. Here you can add/delete auto pvc search table.

Probe WAN PVC

VPI:  VCI:

Current Auto-PVC Table:

PVC	VPI	VCI
0	0	35
1	8	35
2	0	43
3	0	51
4	0	59
5	8	43
6	8	51
7	8	59

Field	Description
Probe	After connecting the router to an ADSL outlet using a telephone cable, click “Probe” and the router will perform auto detection of the PVCs the official end supports.
VPI	The virtual path identifier of the ATM PVC. Enter a value between <b>0</b> and <b>255</b> .
VCI	The virtual channel identifier of the ATM PVC. Enter a value between <b>32</b> and <b>65535</b> .

### 5.4.2.3. ATM Settings

Click **ATM Settings** in the left pane, and you will see the following page. Here, you can configure the parameters of the ATM, including QoS, PCR, CDVT, SCR, and MBS.

**ATM Settings**

This page is used to configure the parameters for the ATM of your ADSL Router. Here you may change the setting for QoS, PCR, CDVT, SCR and MBS.

VPI:  VCI:  QoS:

PCR:  CDVT:  SCR:  MBS:

Current ATM VC Table:

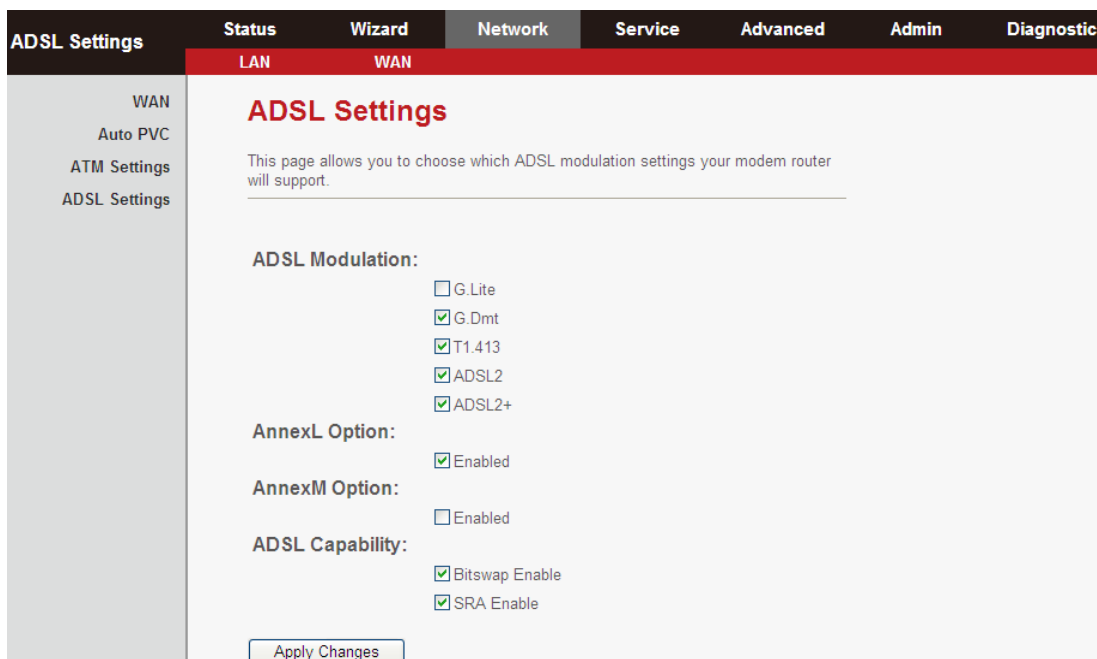
Select	VPI	VCI	QoS	PCR	CDVT	SCR	MBS
<input type="radio"/>	8	35	UBR	6144	0	---	---
<input type="radio"/>	8	69	UBR	6144	0	---	---

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 <b>UBR</b> , <b>CBR</b> , <b>nrt-VBR</b> or <b>rt-VBR</b> .
PCR	Peak cell rate (PCR) is the maximum rate at which cells can be transmitted along a connection in the

Field	Description
	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	Sustain 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.

#### 5.4.2.4. ADSL Settings

Click **ADSL Settings** in the left pane, and you will see the following page. In this page, you can select the DSL modulation. Mostly, it is recommended that you do not alter the default factory default settings. The router supports the following modulations: **G.Lite**, **G.Dmt**, **T1.413**, **ADSL2**, **ADSL2+**, **AnnexL**, and **AnnexM**. The router negotiates the modulation modes with the DSLAM.



## 5.5.Service

In the navigation bar across the top of the screen, click **Service**. The **Service** page which is displayed contains **DNS**, **Firewall**, **UPnP**, **IGMP Proxy**, **TR-069** and **ACL**.

### 5.5.1. 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**.

#### 5.5.1.1. DNS

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

Field	Description
Attain DNS Automatically	When selected, 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	If you select this, enter the IP addresses of the primary and secondary DNS server.



Field	Description
Apply Changes	Click to save the settings of this page.
Reset Selected	Click to restart configuring the parameters in this page.

### 5.5.1.2. DDNS

Click **DDNS** in the left pane, and you will see the following screen. This page is used to configure the dynamic DNS address from DynDNS.org or TZO. You can add or remove DNS configurations.

The screenshot shows the 'Dynamic DNS Configuration' page. The left sidebar has 'DNS' and 'DDNS' options. The main content area has a title 'Dynamic DNS Configuration' and a description: 'This page is used to configure the Dynamic DNS address from DynDNS.org or TZO. Here you can Add/Remove to configure Dynamic DNS.' Below this are several form fields: 'DDNS provider:' with a dropdown menu set to 'DynDNS.org'; 'Hostname:' with an empty text box; 'Interface:' with a dropdown menu set to 'pppoe1'; 'Enable:' with a checked checkbox. There are two sections: 'DynDns Settings:' with 'Username:' and 'Password:' text boxes; and 'TZO Settings:' with 'Email:' and 'Key:' text boxes. At the bottom left are 'Add' and 'Remove' buttons. At the bottom right is a 'Dynamic DDNS Table:' header with columns for 'Select', 'State', 'Service', 'Hostname', 'Username', and 'Interface'.

Field	Description
DDNS provider	Choose the DDNS provider name. You can choose <b>DynDNS.org</b> or <b>TZO</b> .
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.

## 5.5.2. Firewall

Choose **Service > Firewall**. The **Firewall** page that is displayed contains **IP/Port Filter**, **MAC Filter**, **URL Filter**, **Anti-DoS** and **Software Forbidden**.

### 5.5.2.1. IP/Port Filter

Click **IP/Port Filter** in the left pane, and you will see the following screen. Entries in this table are used to restrict certain types of data packets through the gateway. These filters are helpful in securing or restricting your local network.

The screenshot shows a web interface for configuring IP/Port Filtering. The top navigation bar includes tabs for Status, Wizard, Network, Service, Advanced, Admin, and Diagnostic. The 'Service' tab is active, and the 'Firewall' sub-tab is selected. The left sidebar lists 'IP/Port Filter', 'MAC Filter', 'URL Filter', 'Anti-DoS', and 'Software Forbidden'. The main content area is titled 'IP/Port Filtering' and contains the following configuration options:

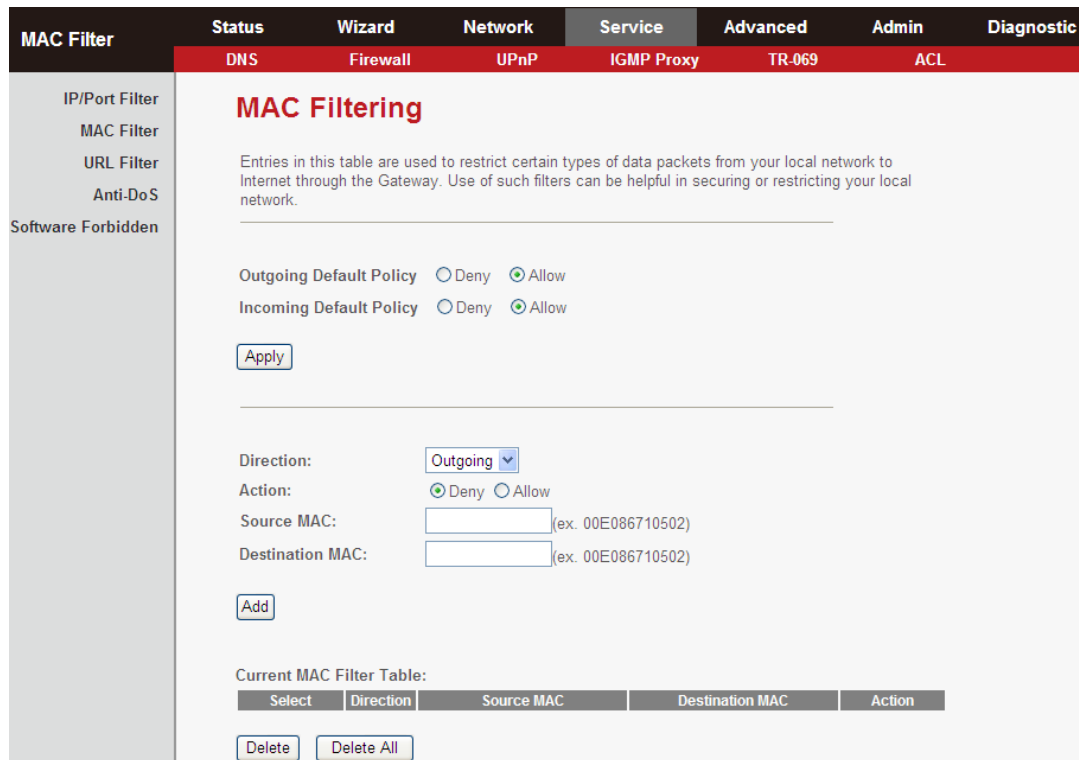
- Outgoing Default Action:  Permit  Deny
- Incoming Default Action:  Permit  Deny
- Rule Action:  Permit  Deny
- Protocol:
- Direction:
- Source IP Address:
- Mask Address:
- Dest IP Address:
- Mask Address:
- SPort:  -
- DPort:  -
- Enable:
- Buttons:

Below the configuration options is a section titled 'Current Filter Table' with a table header:

Rule:	Protocol	Source IP/Mask	SPort	Dest IP/Mask	DPort	State	Direction	Action
-------	----------	----------------	-------	--------------	-------	-------	-----------	--------

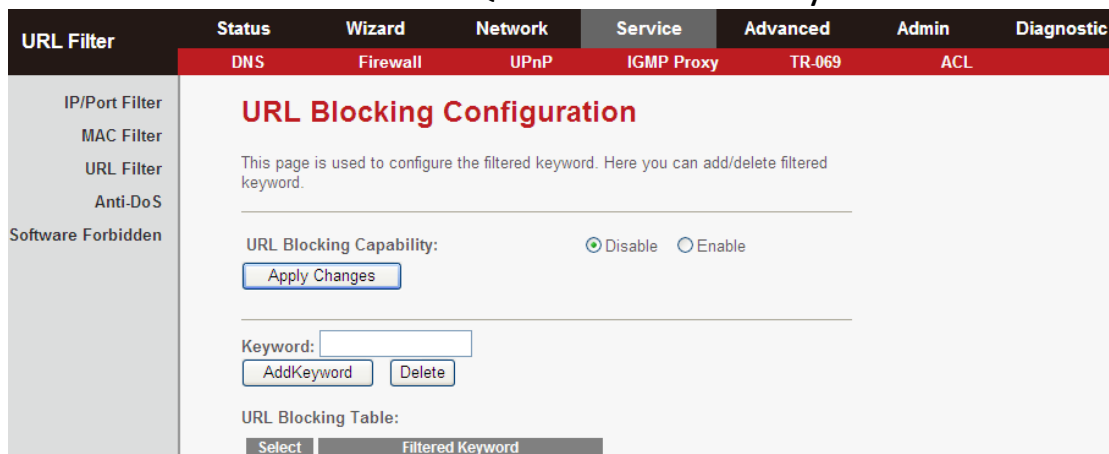
### 5.5.2.2. MAC Filter

Click **MAC Filter** in the left pane, and the following screen will appear. Entries in this 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.



### 5.5.2.3. URL Filter

Click **URL Filter** in the left pane, and you will see the following page. **URL Filter** is a function to block a domain name (such as tw.yahoo.com) or 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	<p>You can choose <b>Disable</b> or <b>Enable</b>.</p> <ul style="list-style-type: none"> <li>● Select <b>Disable</b> to disable URL blocking function and keyword filtering function.</li> <li>● Select <b>Enable</b> to block access to the URLs and keywords specified in the <b>URL Blocking Table</b>.</li> </ul>

Field	Description
Keyword	Enter the keyword to block.
AddKeyword	Click to add a keyword to the <b>URL Blocking Table</b> .
Delete	Select a row in the <b>URL Blocking Table</b> and click to delete the row.
URL Blocking Table	A list of the URL (s) to which access is blocked.

#### 5.5.2.4. Anti-DoS

A Denial-of-Service attack (DoS attack) is a type of attack on a network that is designed to disrupt a network by flooding it with useless traffic. Click **Anti-DoS** in the left pane and the following page will appear. Here, you can configure the settings to prevent DoS attacks.

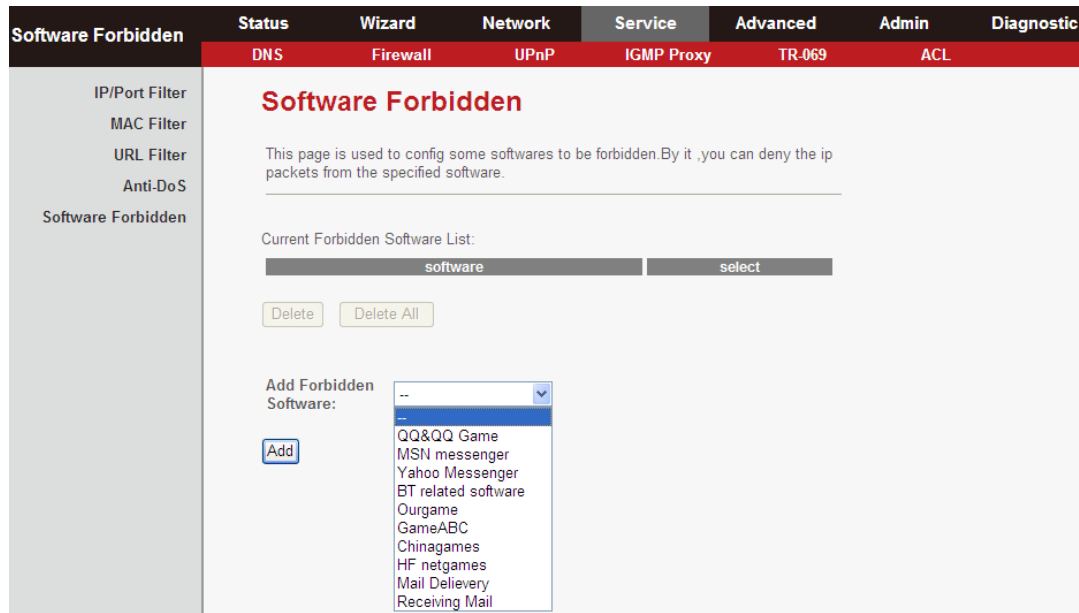
The screenshot shows the 'Anti-DoS' configuration page. The left sidebar contains a menu with 'Anti-DoS' selected. The main content area is titled 'DoS Setting' and includes a descriptive paragraph about DoS attacks. Below this, there are several configuration options:

- Enable DoS Prevention
  - Whole System Flood: SYN (100 Packets/Second)
  - Whole System Flood: FIN (100 Packets/Second)
  - Whole System Flood: UDP (100 Packets/Second)
  - Whole System Flood: ICMP (100 Packets/Second)
  - Per-Source IP Flood: SYN (100 Packets/Second)
  - Per-Source IP Flood: FIN (100 Packets/Second)
  - Per-Source IP Flood: UDP (100 Packets/Second)
  - Per-Source IP Flood: ICMP (100 Packets/Second)
  - TCP/UDP PortScan (Low Sensitivity)
  - ICMP Smurf
  - IP Land
  - IP Spoof
  - IP TearDrop
  - PingOfDeath
  - TCP Scan
  - TCP SynWithData
  - UDP Bomb
  - UDP EchoChargen
- 
- Enable Source IP Blocking (300 Block time (sec))
- 

#### 5.5.2.5. Software Forbidden

Select **Software Forbidden** in the left pane and you will see the following screen. This page allows you to configure application control - select an

application from the drop-down list to prohibit the application from accessing network resources.

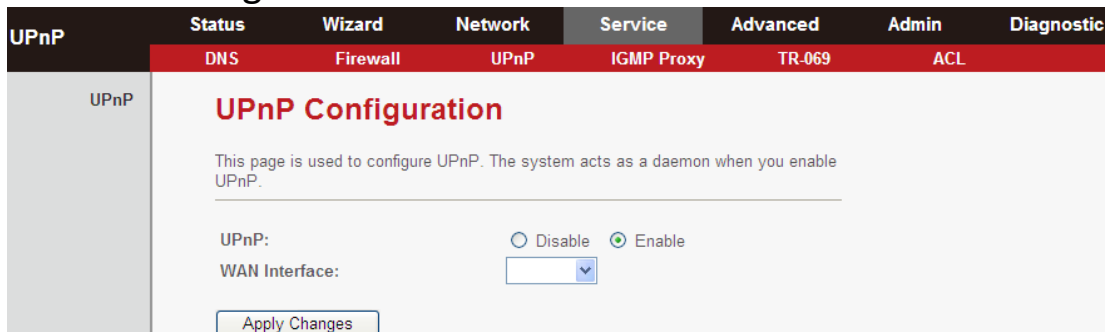


The following table describes the parameters and buttons of this page:

Field	Description
Current Forbidden Software List	A list of applications which are currently forbidden from accessing the network.
Add Forbidden Software	Select an application to be forbidden from accessing the network.

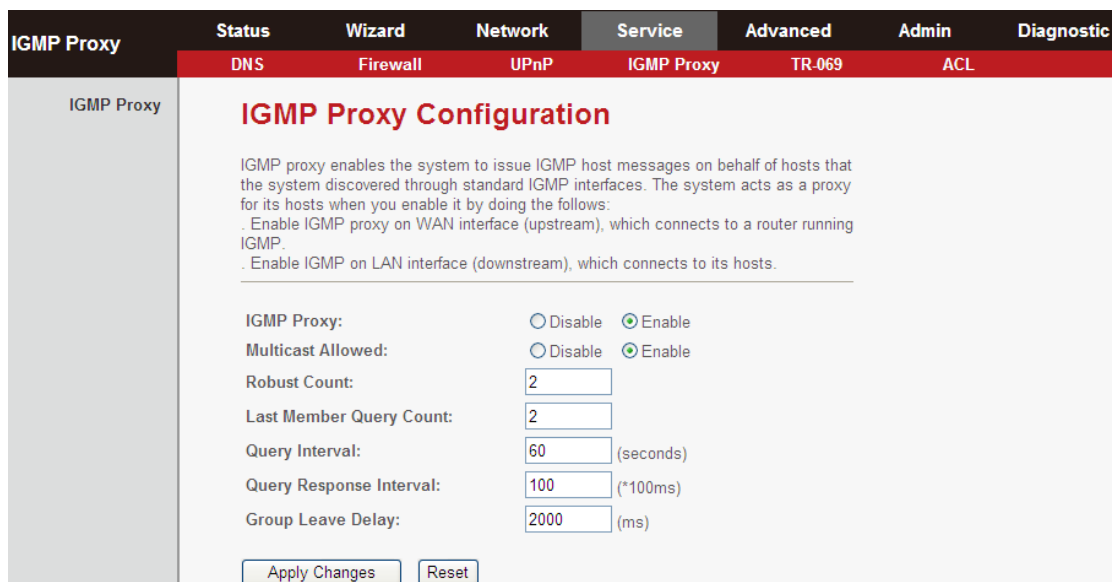
### 5.5.3. UPnP

Choose **Service** > **UPnP**, the page shown in the following figure appears. This page is used to configure UPnP.



#### 5.5.4. IGMP Proxy

Choose **Service > IGMP Proxy**, and you will see the following page. An 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.



The screenshot shows a web-based configuration interface for IGMP Proxy. The top navigation bar includes tabs for Status, Wizard, Network, Service, Advanced, Admin, and Diagnostic. Under the Service tab, there are sub-tabs for DNS, Firewall, UPnP, IGMP Proxy, TR-069, and ACL. The main content area is titled "IGMP Proxy Configuration" and contains the following text:

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 when you enable it by doing the follows:

- Enable IGMP proxy on WAN interface (upstream), which connects to a router running IGMP.
- Enable IGMP on LAN interface (downstream), which connects to its hosts.

Below the text are configuration options:

- IGMP Proxy:  Disable  Enable
- Multicast Allowed:  Disable  Enable
- Robust Count:
- Last Member Query Count:
- Query Interval:  (seconds)
- Query Response Interval:  (\*100ms)
- Group Leave Delay:  (ms)

At the bottom of the configuration area are two buttons: "Apply Changes" and "Reset".

#### 5.5.5. TR-069

Choose **Service > TR-069**, and you will arrive at the following page. Here, you can configure the TR-069 CPE.

TR-069	Status	Wizard	Network	Service	Advanced	Admin	Diagnostic
	DNS	Firewall	UPnP	IGMP Proxy	TR-069	ACL	

TR-069

## TR-069 Configuration

This page is used to configure the TR-069 CPE. Here you may change the setting for the ACS's parameters.

ACS:

Enable:

URL:

User Name:

Password:

Periodic Inform Enable:  Disable  Enable

Periodic Inform Interval:  seconds

---

Connection Request:

User Name:

Password:

Path:

Port:

---

Debug:

ACS Certificates CPE:  No  Yes

Show Message:  Disable  Enable

CPE Sends GetRPC:  Disable  Enable

Skip MReboot:  Disable  Enable

Delay:  Disable  Enable

Auto-Execution:  Disable  Enable

---

Certificate Management:

CPE Certificate:

Password:

CPE Certificate:

CA Certificate:

Field	Description
<b>ACS</b>	
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 <b>Enable</b> to periodically connect to the ACS to check whether the configuration updates.
Periodic Inform Interval	Specify the amount of time between connections to ACS.
<b>Connection Request</b>	
User Name	The connection username provided by TR-069 service.

Field	Description
Password	The connection password provided by TR-069 service.
<b>Debug</b>	
Show Message	Select <b>Enable</b> to display ACS SOAP messages on the serial console.
CPE sends GetRPC	When enabled, 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.

### 5.5.6. ACL

Choose **Service** > **ACL** and you will arrive at the following screen. Here, 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.



ACL Configuration

You can specify which services are accessible from LAN or WAN side. Entries in this ACL table are used to permit certain types of data packets from your local network or Internet network to the Gateway. Using of such access control can be helpful in securing or restricting the Gateway management.

Direction Select:  LAN  WAN

LAN ACL Switch:  Enable  Disable

IP Address:  -  (The IP 0.0.0.0 represent any IP )

Services Allowed:  
 Any

Current ACL Table

Select	Direction	IP Address/Interface	Service	Port	Action
--------	-----------	----------------------	---------	------	--------

Field	Description
Direction Select	Select the router interface. You can select <b>LAN</b> or <b>WAN</b> . In this example, <b>LAN</b> is selected.
LAN ACL Switch	Choose 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: <b>web</b> , <b>telnet</b> , <b>ssh</b> , <b>ftp</b> , <b>tftp</b> , <b>snmp</b> or <b>ping</b> . You can also choose all of the services.
Add	After setting the parameters, click "Add" to add an entry to the <b>Current ACL Table</b> .
Reset	Click to refresh this page.

If you select **WAN** for **Direction Select**, then you will see the following page:

ACL	Status	Wizard	Network	Service	Advanced	Admin	Diagnostic
	DNS	Firewall	UPnP	IGMP Proxy	TR-069	ACL	

**ACL Configuration**

You can specify which services are accessible from LAN or WAN side. Entries in this ACL table are used to permit certain types of data packets from your local network or Internet network to the Gateway. Using of such access control can be helpful in securing or restricting the Gateway management.

Direction Select:  LAN  WAN

---

WAN Setting:

WAN Interface:

Services Allowed:

web  
 telnet  
 ssh  
 ftp  
 tftp  
 snmp  
 ping

Current ACL Table

Select	Direction	IP Address/Interface	Service	Port	Action
--------	-----------	----------------------	---------	------	--------

Field	Description
Direction Select	Select the router interface. You can select <b>LAN</b> or <b>WAN</b> . In this example, <b>WAN</b> is selected.
WAN Setting	You can choose <b>Interface</b> or <b>IP Address</b> .
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: <b>web</b> , <b>telnet</b> , <b>ssh</b> , <b>ftp</b> , <b>tftp</b> , <b>snmp</b> or <b>ping</b> . You can also choose all of the services.
Add	After setting the parameters, click "Add" to add an entry to the <b>Current ACL Table</b> .
Reset	Click to refresh this page.

## 5.6. Advanced

In the navigation bar across the top of the screen, click **Advanced**. The **Advanced** page which is displayed contains **Routing**, **NAT**, **IP QoS**, **SNMP** and **Others**.

### 5.6.1. Routing

Choose **Advanced > Routing**, and the page which is displayed contains **Static Route** and **RIP**.

#### 5.6.1.1. Static Route

Click **Static Route** in the left pane, and you will see the following screen. This page is used to configure routing information. You can add or delete IP routes.

Field	Description
Enable	Select Enable 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 to add the new static route to the <b>Static Route Table</b> .
Update	Select a row in the <b>Static Route Table</b> and modify the parameters. Then click "Update" to save the settings temporarily.
Delete Selected	Select a row in the <b>Static Route Table</b> and click to

Field	Description
	delete the row.
Show Routes	Clicking "Show Routes" will display the <b>IP Route Table</b> . 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.

Clicking **Show Routes** will display the following page - the table shows a list of destination routes commonly accessed by your network.

**IP Route Table**

This table shows a list of destination routes commonly accessed by your network.

Destination	Subnet Mask	NextHop	Iface
192.168.2.1	255.255.255.255	*	e1

Refresh Close

### 5.6.1.2. RIP

Click **RIP** in the left pane and the page shown in the following figure will appear. If you are using this device as an 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 which use RIP, and the version of the protocol used.

**RIP Configuration**

Enable the RIP if you are using this device as a RIP-enabled router to communicate with others using the Routing Information Protocol.

RIP:  Off  On

Interface:

Receive Version:

Send Version:

Rip Config List:

Select	Interface	Receive Version	Send Version
--------	-----------	-----------------	--------------

Field	Description
RIP	Select <b>On</b> , the router communicates with other RIP-enabled devices.
Apply	Click to save the settings of this page.
Interface	Choose the router interface that uses RIP.
Receive Version	Choose the interface version that receives RIP messages. You can choose <b>RIP1</b> , <b>RIP2</b> or <b>Both</b> . <ul style="list-style-type: none"> <li>● Choosing <b>RIP1</b> indicates that the router receives RIP v1 messages.</li> <li>● Choosing <b>RIP2</b> indicates that the router receives RIP v2 messages.</li> <li>● Choosing <b>Both</b> indicates that the router receives RIP v1 and RIP v2 messages.</li> </ul>
Send Version	The working mode for sending RIP messages. You can choose <b>RIP1</b> or <b>RIP2</b> . <ul style="list-style-type: none"> <li>● Choosing <b>RIP1</b> indicates that the router broadcasts RIP1 messages only.</li> <li>● Choosing <b>RIP2</b> indicates that the router multicasts RIP2 messages only.</li> </ul>
Add	Click to add the RIP interface to the <b>Rip Config List</b> .
Delete	Select a row in the <b>Rip Config List</b> and click to delete the row.

## 5.6.2. NAT

Choose **Advanced > NAT**. The submenu contains **Setup DMZ**, **Virtual Server**, **NAT Forwarding**, **ALG**, **NAT Exclude IP**, **Port Trigger**, **FTP ALG Port** and **NAT IP Mapping**.

### 5.6.2.1. Setup DMZ

A 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. Choose **Setup DMZ** in the left pane, and you will see the following page.

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.

### 5.6.2.2. Virtual Server

Click **Virtual Server** in the left pane to see the following screen:

Field	Description
Service Type	<p>You can select a common service type, for example, <b>AUTH</b>, <b>DNS</b> or <b>FTP</b>. You can also define a service name.</p> <ul style="list-style-type: none"> <li>● If <b>Usual Service Name</b> is selected, the corresponding parameter has the default settings.</li> <li>● If <b>User-defined Service Name</b> is selected, you need to enter the corresponding parameters.</li> </ul>

Field	Description
Protocol	Choose the transport layer protocol that the service type uses. You can choose <b>TCP</b> or <b>UDP</b> .
WAN Setting	You can choose <b>Interface</b> or <b>IP Address</b> .
WAN Interface	Choose the WAN interface that will apply to the 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.

### 5.6.2.3. NAT Forwarding

Click **NAT Forwarding** in the left pane, and the page shown in the following figure will appear. Under 1483MER or 1483Routed mode, if NAPT (Network Address Port Translation) is enabled, the **Local IP Address** is configured as 192.168.1.3 and the **Remote IP Address** is configured as 202.32.0.2 - the PC with the LAN IP 192.168.1.3 will use 202.32.0.2 when it is connected to the Internet via the router without NAPT control.

The screenshot displays the NAT Forwarding configuration page. The top navigation bar includes tabs for Status, Wizard, Network, Service, Advanced, Admin, and Diagnostic. Under the Network tab, sub-tabs for Routing, NAT, IP QoS, SNMP, and Others are visible. The left sidebar lists various configuration options, with 'NAT Forwarding' highlighted. The main content area is titled 'NAT Forwarding' and contains a descriptive paragraph about NAT forwarding. Below this, there are input fields for 'Local IP Address' and 'Remote IP Address', an 'Enable' checkbox (checked), and 'Apply Changes' and 'Reset' buttons. At the bottom, a table header for 'Current NAT Port Forwarding Table' is shown with columns for 'Local IP Address', 'Remote IP Address', 'State', and 'Action'.

Field	Description
Local IP Address	Input a local IP address.
Remote IP Address	Input a remote IP address
Enable	Enable the current configured rule.
Apply Changes	Submit the configurations.
Reset	Cancel the modification and reconfigure the settings.
Current NAT Port Forwarding Table	Current configuration rule list.

#### 5.6.2.4. ALG

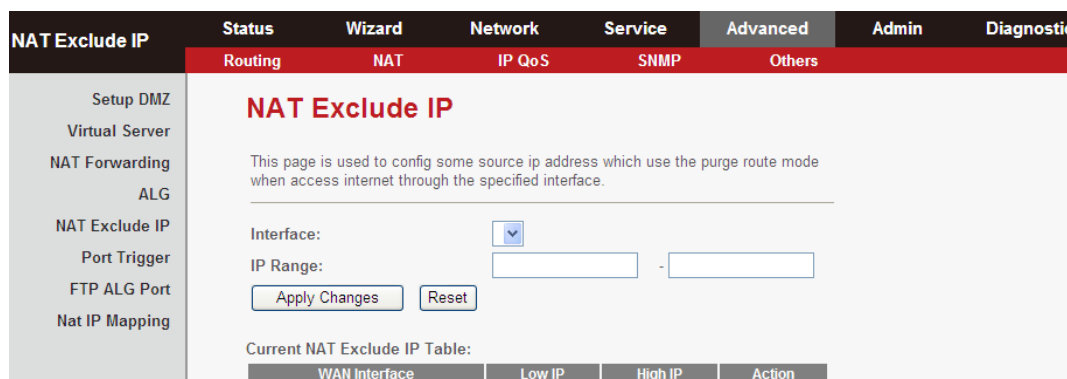
Click **ALG** in the left pane and the following page will be displayed. The NAT ALG (Application Layer Gateways) function enables the router to support various special application protocols with payloads containing IP addresses and port numbers, and tries to establish connection between these imbedded IP addresses and port numbers. Failure of the transformation of such information may results in problems. The NAT ALG function realizes payload detection and transformation to ensure normal operation of payloads under NAT environment, requiring no special configuration of users.

The screenshot shows the configuration page for NAT ALG and Pass-Through. The page has a navigation menu on the left with options like Setup DMZ, Virtual Server, NAT Forwarding, ALG, NAT Exclude IP, Port Trigger, FTP ALG Port, and Nat IP Mapping. The main content area is titled "NAT ALG and Pass-Through" and includes a sub-header "Setup NAT ALG and Pass-Through configuration." Below this, there is a list of protocols with checkboxes for enabling them: IPsec Pass-Through, L2TP Pass-Through, PPTP Pass-Through, FTP, H.323, SIP, RTSP, ICQ, and MSN. All checkboxes are checked. At the bottom, there are buttons for "Apply Changes" and "Reset".



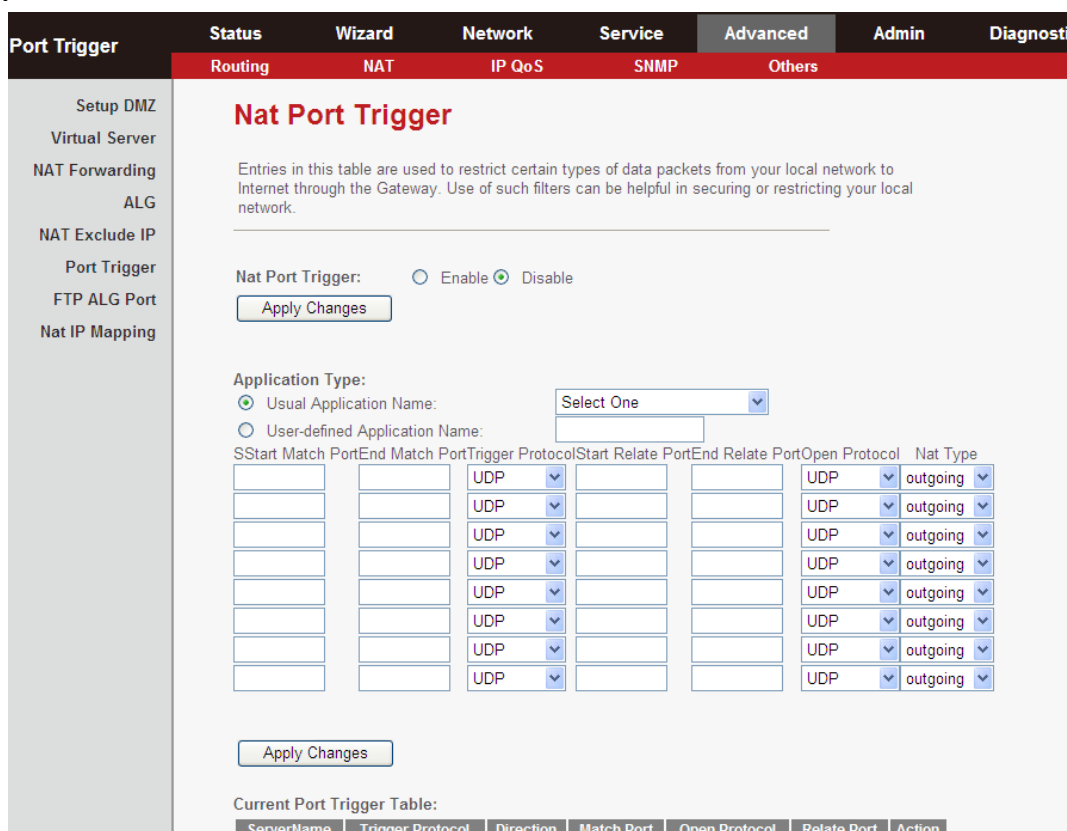
### 5.6.2.5. NAT Exclude IP

Click **NAT Exclude IP** in the left pane, the following screen will be displayed. Here, you can configure some source IP addresses which use the purge route mode when accessing internet through the specified interface.



### 5.6.2.6. Port Trigger

Click **Port Trigger** in the left pane, the page shown in the following figure will appear:



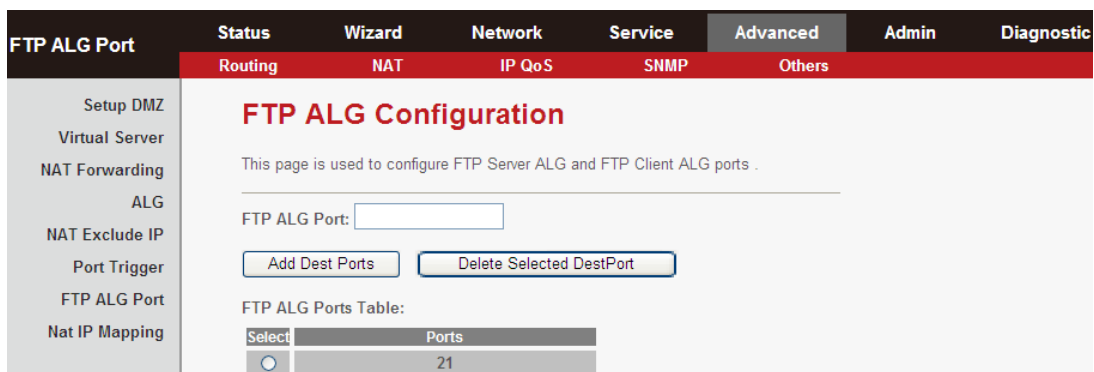
Click the Usual Application Name drop-down menu to choose the application you want to set up for port triggering. When you have chosen an application, the default Trigger settings will populate the table underneath.

If the application you want to set up is not listed, click the User-defined Application Name radio button and type in a name for the trigger in the Custom application field. Configure the Start Match Port, End Match Port, Trigger Protocol, Start Relate Port, End Relate Port, Open Protocol and Nat type settings for the port trigger you want to configure.

Click the Apply changes button to finish the setting.

### 5.6.2.7. FTP ALG Port

Click **FTP ALG Port** in the left pane to display the following screen. The common port for FTP connection is port 21, and a common ALG monitors the TCP port 21 to ensure NAT pass-through of FTP. By enabling this function, when the FTPserver connection port is not a port 21, the FTP ALG module will be informed to monitor other TCP ports to ensure NAT pass-through of FTP.



Field	Description
FTP ALG port	Set an FTP ALG port.
Add Dest Ports	Add a port configuration.
Delete Selected DestPort	Delete a selected port configuration from the list.

### 5.6.2.8. NAT IP Mapping

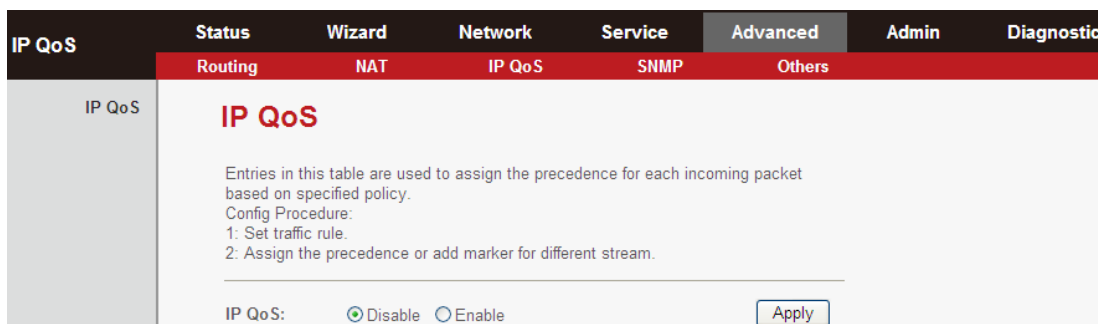
NAT is short for Network Address Translation. The Network Address Translation Settings window allows you to share one WAN IP address for multiple computers on your LAN. Click **NAT IP Mapping** in the left pane, the page shown in the following figure will appear.

Entries in this table allow you to configure one IP pool for a specified source IP address from LAN, so one packet whose source IP is in the range of the specified address will select one IP address from the pool for NAT.



### 5.6.3. IP QoS

Choose **Advanced > IP QoS**, and the page shown in the following figure appears.



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

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.

IP QoS

Status Wizard Network Service Advanced Admin Diagnostic

Routing NAT IP QoS SNMP Others

IP QoS

IP QoS

Entries in this table are used to assign the precedence for each incoming packet based on specified policy.  
 Config Procedure:  
 1: Set traffic rule.  
 2: Assign the precedence or add marker for different stream.

IP QoS:  Disable  Enable

QoS Policy:

Schedule Mode:

QoS Rule List:

Stream Rule						Behavior					
Source IP	Source Port	Destination IP	Destination Port	Protocol	Phy port	Prior	IP Preced	IP ToS	802.1p	Wan iff	Select
<input type="button" value="Add Rule"/> <input type="button" value="Delete"/> <input type="button" value="Delete All"/>											

Add QoS Rule

Source IP:  Source Mask:

Destination IP:  Destination Mask:

Source Port:  Destination Port:

Protocol:  Phy Port:

Set Priority:

Insert or Modify QoS mark

IP Precedence:

IP ToS:

802.1p:

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 <b>stream based</b> , <b>802.1p based</b> or <b>DSCP based</b> .
Schedule Mode	You can choose <b>strict prior</b> or <b>WFQ (4:3:2:1)</b> .
Source IP	The IP address of the source data packet.
Source Mask	The subnet mask of the source IP address.
Destination IP	The IP address of the destination data packet.
Destination Mask	The subnet mask of the destination IP address.
Source Port	The port of the source data packet.
Destination Port	The port of the destination data packet.
Protocol	The protocol responds to the IP QoS rules. You can choose <b>TCP</b> , <b>UDP</b> , or <b>ICMP</b> .
Phy Port	The LAN interface responds to the IP QoS rules.
Set priority	The priority of the IP QoS rules. P0 is the highest

Field	Description
	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 <b>Normal Service</b> , <b>Minimize Cost</b> , <b>Maximize Reliability</b> , <b>Maximize Throughput</b> , or <b>Minimize Delay</b> .
802.1p	You can choose from 0 to 7.
delete	Select a row in the <b>QoS rule list</b> and click it to delete the row.
delete all	Select all the rows in the <b>QoS rule list</b> and click it to delete the rows.

#### 5.6.4. SNMP

Choose **Advanced > SNMP**, the page shown in the following figure will appear. Here, you can configure the SNMP parameters.

Field	Description
Enable SNMP	Select Enable to enable SNMP function. You need to enable SNMP in order to configure the parameters of this page.
Trap IP Address	Enter the trap IP address. The trap information is sent to the corresponding host.

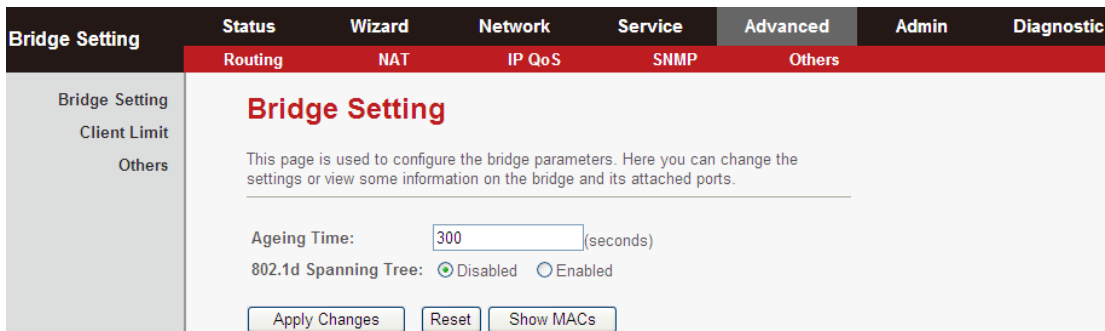
Community name (read-only)	The network administrators must use this password to read the information of this router.
Community name (read-write)	The network administrators must use this password to configure the information of the router.

## 5.6.5. Others

Select **Advanced > Others**. The submenu contains **Bridge Setting**, **Client Limit** and **Others**.

### 5.6.5.1. Bridge Setting

Click **Bridge Setting** in the left pane and you will arrive at the following page. 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.



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 <b>Disabled</b> or <b>Enabled</b> . Select <b>Enabled</b> to provide path redundancy while preventing undesirable loops in your network.
Show MACs	Click to show a list of the learned MAC addresses for the bridge.

Click **Show MACs** and the following page will appear. This table shows a list of learned MAC addresses for this bridge.

## Forwarding Table

MAC Address	Port	Type	Aging Time
01:80:c2:00:00:00	0	Static	300
01:00:5e:00:00:09	0	Static	300
00:22:b0:69:0d:64	1	Dynamic	300
00:1f:a4:dd:cc:89	0	Static	300
ff:ff:ff:ff:ff:ff	0	Static	300

Refresh

Close

### 5.6.5.2. Client Limit

Click **Client Limit** in the left pane, the page shown in the following figure will appear. This page is used to configure the capability of force how many devices can access to Internet.

The screenshot shows the 'Client Limit Configuration' page. The left sidebar has 'Client Limit' selected. The main content area has a title 'Client Limit Configuration' and a description: 'This page is used to configure the capability of force how many device can access to Internet!'. Below this, there is a 'Client Limit Capability' section with two radio buttons: 'Disable' (selected) and 'Enable'. An 'Apply Changes' button is at the bottom.

### 5.6.5.3. Others

Click **Others** in the left pane, and you will see the following page. You can enable half bridge so that the PPPoE or PPPoA connection will set to Continuous.

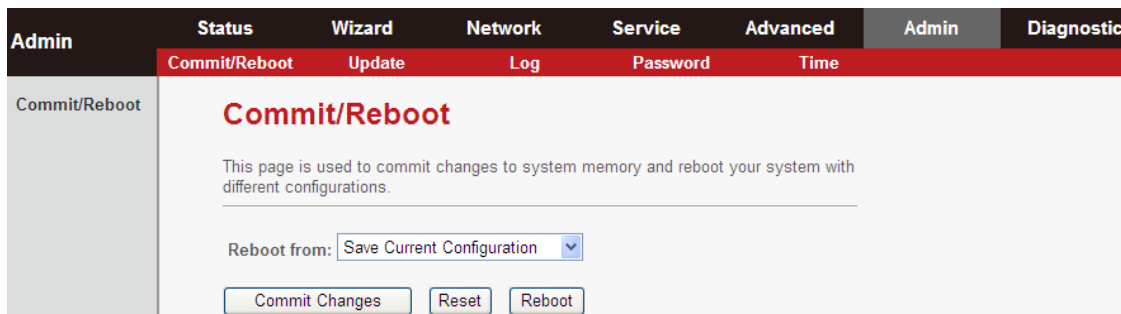
The screenshot shows the 'Other Advanced Configuration' page. The left sidebar has 'Others' selected. The main content area has a title 'Other Advanced Configuration' and a description: 'Here you can set other miscellaneous advanced settings.' Below this, there is a 'Half Bridge' section with a text description: 'Half Bridge: When enable Half Bridge, that PPPoE(PPPoA)'s connection type will set to Continuous.' There are two radio buttons: 'Disable' (selected) and 'Enable'. Below the radio buttons is an 'Interface' dropdown menu. At the bottom, there are 'Apply Changes' and 'Reset' buttons.

## 5.7.Admin

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

### 5.7.1. Commit/Reboot

Choose **Admin > Commit/Reboot**. From here you can set the router reset to the default settings or set the router to commit the current settings to system memory.



Field	Description
Reboot from	You can choose <b>Save the current configuration</b> or <b>Restore to the factory default configuration</b> . <ul style="list-style-type: none"><li>● <b>Save the current configuration:</b> Saves the current settings, and then reboots the router.</li><li>● <b>Restore to the factory default configuration:</b> Resets to factory default settings, and then reboots the router.</li></ul>
Reboot	Click to reboot the router.

### 5.7.2. Update

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



#### Caution:

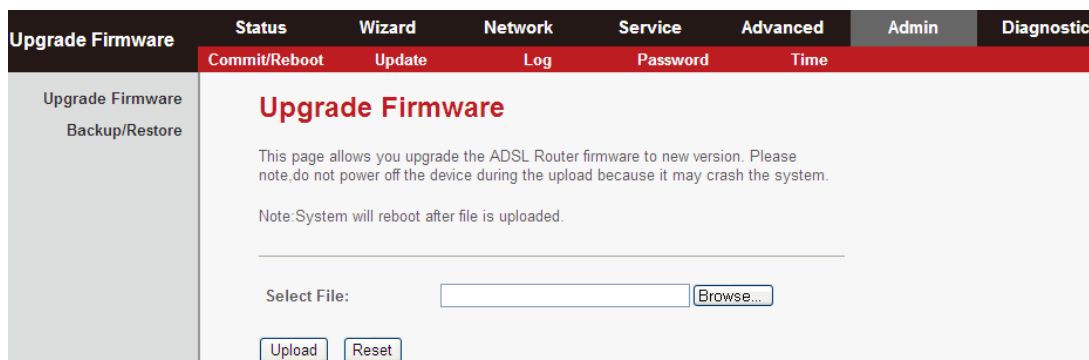
**Do not turn off the router or press the Reset button while these procedures are in progress.**

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### 5.7.2.1. Upgrade Firmware

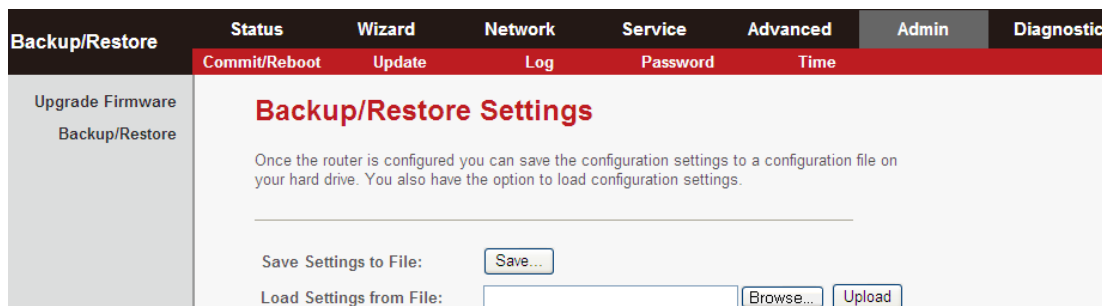
Click **Upgrade Firmware** in the left pane, and you will see the following page. Here, you can upgrade the firmware of the router.



Field	Description
Select File	Click <b>Browse</b> to select the firmware file.
Upload	After selecting the firmware file, click <b>Upload</b> to starting upgrading the firmware file.
Reset	Click to starting selecting the firmware file.

### 5.7.2.2. Backup/Restore

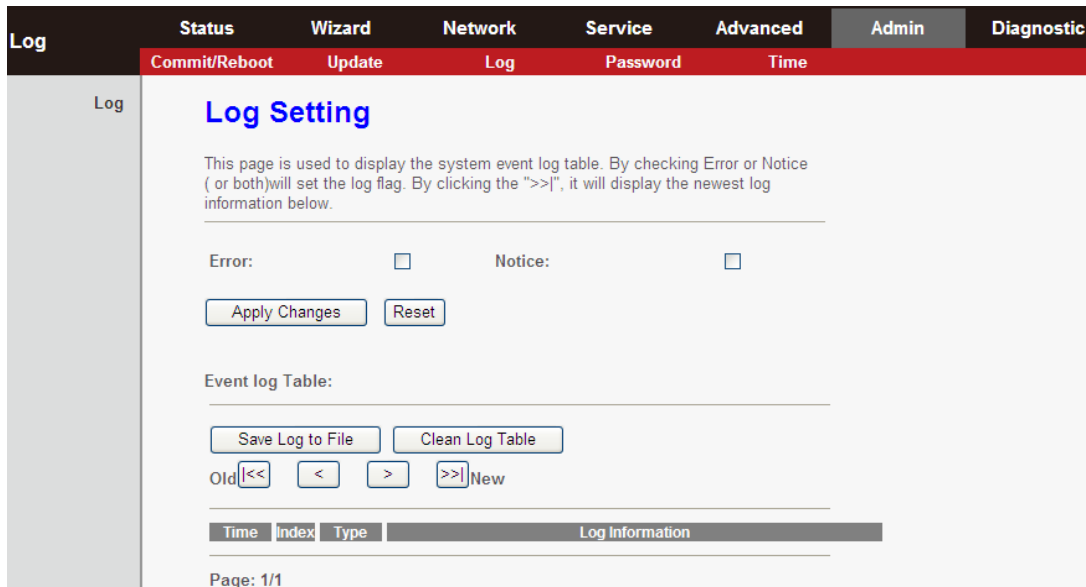
Click **Backup/Restore** in the left pane, and you will see the following page. You can backup the current settings to a file or restore the settings to a previously saved file.



Field	Description
Save Settings to File	Click here and select the location to save the configuration file of the router.
Load Settings from File	Click <b>Browse</b> to select the configuration file.
Upload	After selecting the configuration file, click <b>Upload</b> to start uploading the configuration file of the router.

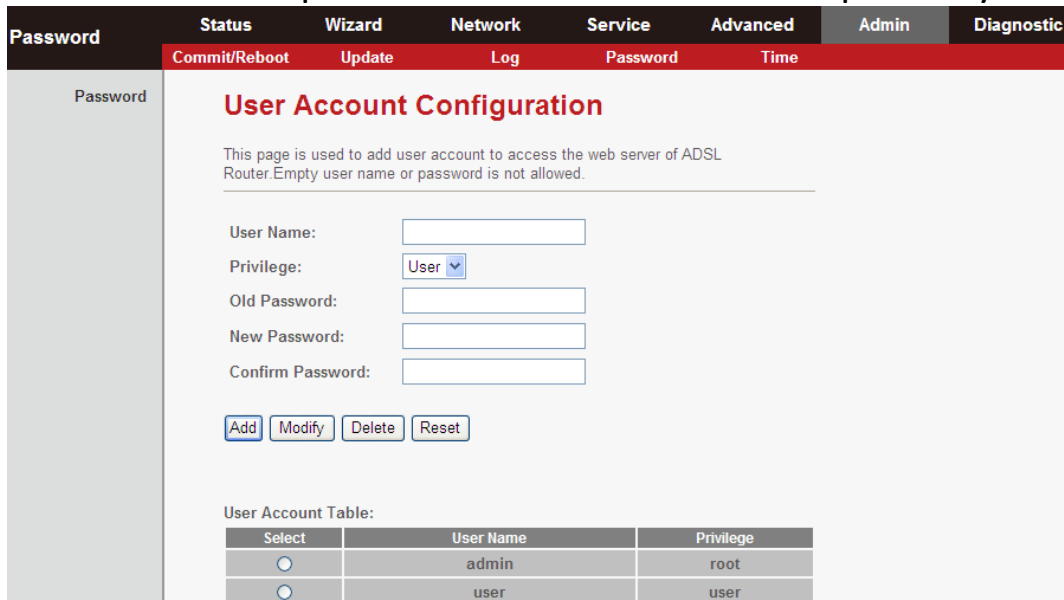
### 5.7.3. Log

Choose **Admin > Log**, from here you can enable or disable system log function and view the system log.



### 5.7.4. Password

Choose **Admin > Password**, and you will see the following page. By default, the super user name and password are **admin** and **1234** respectively. The common user name and password are **user** and **user** respectively.



Field	Description
User Name	Choose the user name for accessing the

Field	Description
	router. You can choose <b>admin</b> or <b>user</b> .
Privilege	Choose the privilege for the account.
Old Password	Enter the old password
New Password	Enter the password to which you want to change the old password.
Confirm Password	Enter the new password again.

### 5.7.5. Time

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

**System Time Configuration**

This page is used to configure the system time and Network Time Protocol(NTP) server. Here you can change the settings or view some information on the system time and NTP parameters.

System Time: 1970 Year Jan Month 1 Day 1 Hour 45 min 33 sec  
DayLight: LocalTIME

Apply Changes Reset

NTP Configuration:

State:  Disable  Enable  
Server:   
Server2:   
Interval: Every 1 hours  
Time Zone: (GMT) Gambia, Liberia, Morocco, England  
GMT time: Thu Jan 1 1:45:33 1970

Apply Changes Reset

NTP Start:

Field	Description
System Time	Set the system time manually.
<b>NTP Configuration</b>	
State	Select enable or disable NTP function. You need to

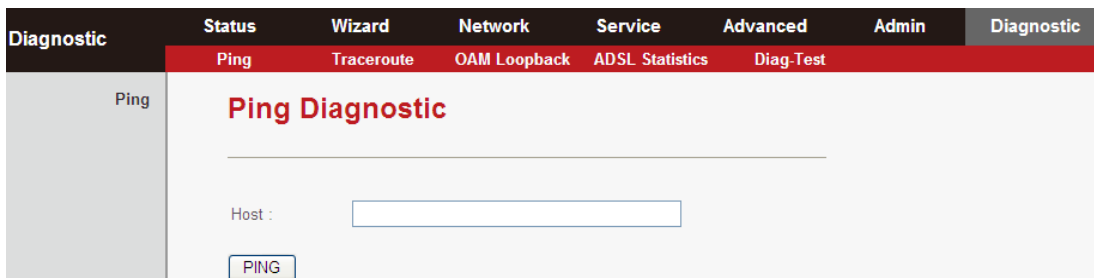
Field	Description
	enable NTP if you want to configure the parameters of NTP.
Server	Set the primary NTP server manually.
Server2	Set the secondary NTP server manually.
Time Zone	Choose the time zone in which area you are from the drop down list.

## 5.8.Diagnostic

In the navigation bar, click **Diagnostic**. The **Diagnostic** page that is displayed contains **Ping**, **Traceroute**, **OAM Loopback**, **ADSL Statistics** and **Diag-Test**.

### 5.8.1. Ping

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



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

### 5.8.2. Traceroute

Choose **Diagnostic > Traceroute**. Using this route diagnosis you can see the route your PC data takes to another PC on the Internet.

Traceroute	Status	Wizard	Network	Service	Advanced	Admin	Diagnostic
	Ping	Traceroute	OAM Loopback	ADSL Statistics	Diag-Test		

**Traceroute Diagnostic**

Host :  NumberOfTries :

Timeout :  ms Datasize :  Bytes

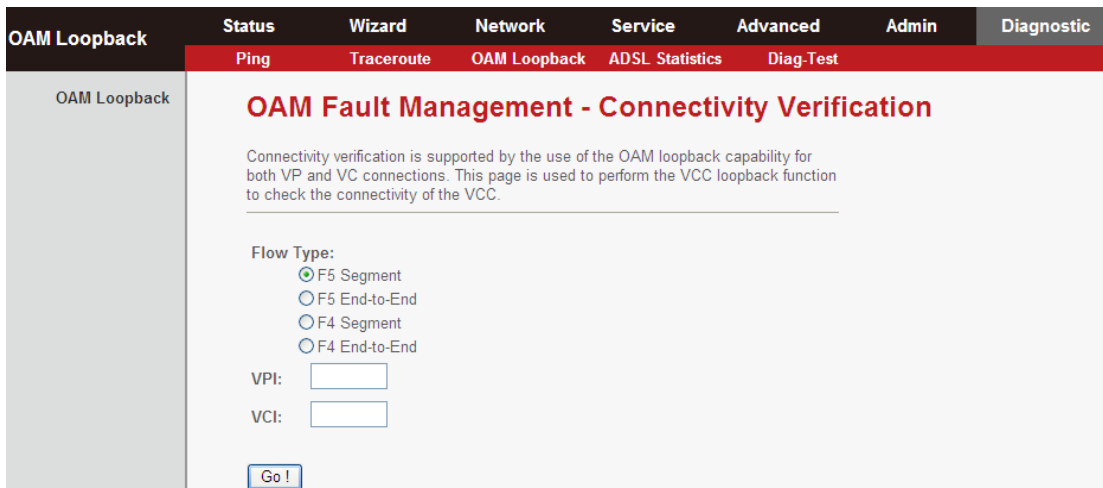
DSCP :  MaxHopCount :

Interface :

Field	Description
Host	The address of a destination host to be diagnosed.
NumberOfTries	Repeat times.
Timeout	Timeout duration.
Datasize	Data packet size.
DSCP	A differentiated services code point in the TOS identification byte for service categories in the IP header of every data packet. A DSCP prioritizes by coding values using the used 6-bit bytes and unused 2-bit bytes.
MaxHopCount	Maximum number of routes.
Interface	Select an interface.
Traceroute	Click to start tracing the route.
Show Result	Click to display the result.

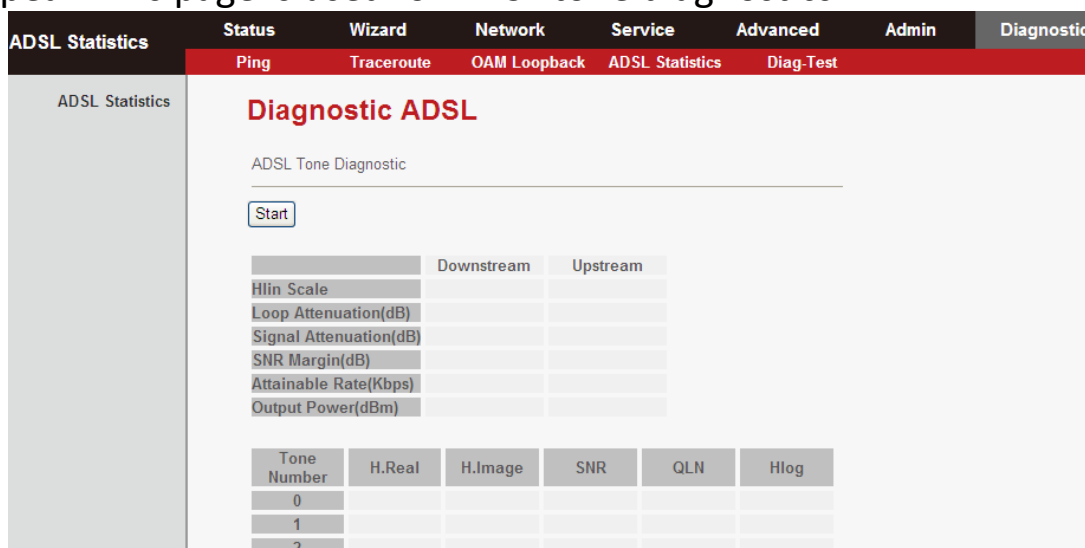
### 5.8.3. OAM Loopback

Choose **Diagnostic > OAM Loopback**, and you will see the following page. Connectivity verification is supported by the use of the OAM loopback capability for both VP and VC connections. This page is used to perform the VCC loopback function to check the connectivity of the VCC.



#### 5.8.4. ADSL Statistics

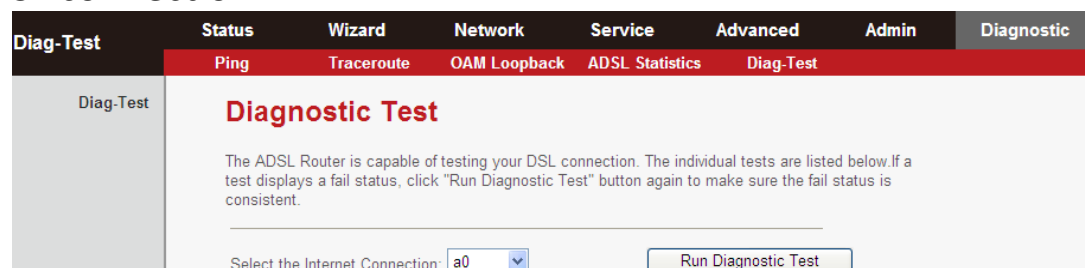
Choose **Diagnostic > ADSL Statistics**. The page shown in the following figure will appear. This page is used for ADSL tone diagnostics.



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

#### 5.8.5. Diag-Test

Choose **Diagnostic > Diag-Test**, and you will arrive at the following page. Here, you can test the DSL connection. You can also view the LAN status connection and ADSL connection.



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

## 5.9.Trouble Shooting

Question	Answer
Why are all the indicators off?	<ul style="list-style-type: none"> <li>• Check the connection between the power adapter and the power socket.</li> <li>• Check whether the power switch is turned on.</li> </ul>
Why is the <b>LAN</b> indicator off?	<p>Check the following:</p> <ul style="list-style-type: none"> <li>• The connection between the device and your PC, hub or switch.</li> <li>• The running status of the computer, hub, or switch.</li> </ul>
Why is the <b>ADSL</b> indicator off?	Check the connection between the <b>Line</b> port of the device and the wall jack.
Why Internet access fails while the ADSL indicator is on?	Check whether the VPI, VCI, user name and password are correctly entered.
Why I fail to access the web configuration page of the DSL router?	Choose <b>Start &gt; Run</b> from the desktop, and ping <b>192.168.2.1</b> (IP address of the DSL router). If the DSL router is not reachable, check the type of network cable, the connection between the DSL router and the PC, and the TCP/IP configuration of the PC.
How to load the default settings after incorrect configuration?	<p>To restore the factory default settings, turn on the device, and press the reset button for about 3 seconds, and then release it. The default IP address and the subnet mask of the DSL router are <b>192.168.2.1</b> and <b>255.255.255.0</b>, respectively.</p> <ul style="list-style-type: none"> <li>• User/password of super user: <b>admin/1234</b></li> <li>• User/password of common user: <b>user/user</b></li> </ul>



# Declaration of Conformity

We, Edimax Technology Co., LTD., declare under our sole responsibility, that the equipment described below complies with the requirements of the European Council directive (2004/108/EC, 92/31/EEC, 2006/95/EC).

**Equipment** : **Fast Ethernet ADSL2/2+ Modem Router**  
**Model No.** : **AR-7211A V2 / AR-7211B V2**

The following European standards for essential requirements have been followed:

**EMI:EN 55022:2010**

EN 61000-3-2:2006+A1:2009+A2:2009

EN 61000-3-3:2008

**EMS:EN 55024:2010**

EN 61000-4-2:2009

EN 61000-4-3:2006+A1:2008+A2:2010

EN 61000-4-4:2004+A1:2010

EN 61000-4-5:2006

EN 61000-4-6:2009

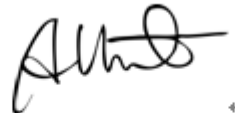
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