# TP-LINK®

# **User Guide**

# TD-8816 ADSL2+ Modem Router



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# FCC STATEMENT

# FC

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

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

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1) This device may not cause harmful interference.
- 2) This device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

# **CE Mark Warning**

# CE

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



Продукт сертифіковано згідно с правилами системи УкрСЕПРО на відповідність вимогам нормативних документів та вимогам, що передбачені чинними законодавчими актами України.

EHC

# **Safety Information**

- When product has power button, the power button is one of the way to shut off the product; when there is no power button, the only way to completely shut off power is to disconnect the product or the power adapter from the power source.
- Don't disassemble the product, or make repairs yourself. You run the risk of electric shock and voiding the limited warranty. If you need service, please contact us.
- Avoid water and wet locations.

This product can be used in the following countries:

AT	BG	BY	CA	CZ	DE	DK	EE
ES	FI	FR	GB	GR	HU	IE	IT
LT	LV	MT	NL	NO	PL	PT	RO
RU	SE	SK	TR	UA			

# **DECLARATION OF CONFORMITY**

For the following equipment:

Product Description: ADSL2+ Modem Router

Model No.: TD-8816

Trademark: TP-LINK

We declare under our own responsibility that the above products satisfy all the technical regulations applicable to the product within the scope of Council Directives: Directives 2004 / 108 / EC, Directives 2006 / 95 / EC, Directives 2011/65/EU

The above product is in conformity with the following standards or other normative documents

EN 55022:2010 EN 55024:2010 EN 61000-3-2:2006+A1:2009+A2:2009 EN 61000-3-3:2008 EN 60950-1:2006+A11 : 2009+A1:2010+A12:2011 The product carries the CE Mark



Person responsible for marking this declaration:

Yang Hongliang Product Manager of International Business

Date of issue: 2013

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# **Package Contents**

The following items should be found in your package:

- > One TD-8816 ADSL2+ Modem Router
- > One Power Adapter for TD-8816 ADSL2+ Modem Router
- Quick Installation Guide
- One RJ45 cable
- Two RJ11 cables
- > One ADSL splitter
- > One Resource CD , including:
  - This User Guide
  - Other Helpful Information

# P Note:

Make sure that the package contains the above items. If any of the listed items are damaged or missing, please contact your distributor.

# Chapter 1. Introduction

Thank you for choosing the TD-8816 ADSL2+ Modem Router .

# **1.1 Product Overview**

The device is designed to provide a simple and cost-effective ADSL Internet connection for a private Ethernet network.

The Modem Router is easy to use. Connect the TD-8816 to an Ethernet LAN or computers via standard Ethernet ports. The ADSL connection is made using ordinary telephone line with standard connectors. Multiple workstations can be networked and connected to the Internet using a single Wide Area Network (WAN) interface and single global IP address. The advanced security enhancements, **IP/MAC Filter**, **Application Filter** and **URL Filter** can help protect your network from potentially devastating intrusions by malicious agents from the outside of your network.

The Modem Router is easy to install and manage. **Quick Start** of the Web-based Utility is supplied and friendly helpful messages are provided for the configuration. Network and Router management is done through the Web-based Utility which can be accessed through local Ethernet using any web browser.

# ADSL

The TD-8816 supports full-rate ADSL2+ connectivity conforming to the ITU and ANSI specifications. In addition to the basic DMT physical layer functions, the ADSL2+ PHY supports dual latency ADSL2+ framing (fast and interleaved) and the I.432 ATM Physical Layer.

# 1.2 Main Features

- > 1 10/100M RJ-45 LAN ports (Auto MDI/MDIX), 1 RJ11 port
- Downstream data rates up to 24Mbps, upstream data rates up to 3.5Mbps (With Annex M enabled).
- Supports long transfers, the max line length can reach to 6.5Km.
- > Supports remote configuration and management through SNMP and CWMP.
- Supports PPPoE, it allows connecting the internet on demand and disconnecting from the Internet when idle.
- Quick response semi-conductive surge protection circuit, provides reliable ESD and surge-protect function.
- > High speed and asymmetrical data transmit mode, provides safe and exclusive bandwidth.
- Supports All ADSL industrial standards.
- > Compatible with all mainstream DSLAM (CO).
- > Provides integrated access of internet and route function which face to SOHO user.
- > Real-time Configuration and device monitoring.

- > Supports Multiple PVC (Permanent Virtual Circuit).
- Built-in DHCP server.
- > Built-in firewall, supports IP/MAC filter, Application filter and URL filter.
- Supports Virtual Server, DMZ host and IP Address Mapping.
- > Supports Dynamic DNS, UPnP and Static Routing.
- > Supports system log and flow Statistics.
- > Supports firmware upgrade and Web management.

# 1.3 Conventions

The Modem Router or device mentioned in this User Guide stands for TD-8816 without any explanations.

Parameters provided in the pictures are just references for setting up the product, which may differ from the actual situation.

# Chapter 2. Hardware Installation

# 2.1 The Front Panel





The LEDs locate on the front panel, which indicate the device's working status. For details, please refer to LED Explanation.

Name	Status	Indication
	On	The modem router is powered on.
Power	Off	The modem router is off. Please ensure that the power adapter is connected correctly.
	On	There is a device connected to this LAN port.
LAN	Flash	The modem router is sending or receiving data over this LAN port.
	Off	There is no device connected to this LAN port.
	On	ADSL line is synchronized and ready to use.
ADSL	Flash	The ADSL negotiation is in progress.
	Off	ADSL synchronization fails. Please refer to <u>Note 1</u> for troubleshooting.
	On	The network is available with a successful Internet connection.
Internet	Flash	There is data being transmitted or received via the Internet.
	Off	There is no successful Internet connection or the modem router is operating in Bridge mode. Please refer to <u>Note 2</u> for troubleshooting.

# LED Explanation:

# P Note:

- If the ADSL LED is off, please check your Internet connection first. Refer to <u>2.4 Connecting</u> <u>the Router</u> for more information about how to make Internet connection correctly. If you have already made a right connection, please contact your ISP to make sure if your Internet service is available now.
- If the Internet LED is off, please check your ADSL LED first. If your ADSL LED is also off, please refer to Note 1. If your ADSL LED is GREEN ON, please check your Internet configuration. You may need to check this part of information with your ISP and make sure everything have been input correctly. Refer to <u>4.1.1 Device Info</u> and <u>4.3.1 Internet</u> for more information.

# 2.2 The Back Panel



Figure 2-2

- > **ON/OFF**: The switch for the power.
- **POWER**: The Power plug is where you will connect the power adapter.
- > **RESET**: There are two ways to reset the modem router's factory defaults.

**Method one:** With the modem router powered on, use a pin to press and hold the Reset button (about 5 seconds) until all LED is lit. And then release the button and wait the modem router to reboot to its factory default settings.

**Method two:** Restore the default setting from "Maintenance-SysRestart" of the modem router's Web-based Utility.

- LAN: Through the port, you can connect the modem router to your PC or the other Ethernet network devices.
- > **ADSL**: Through the port, you can connect the modem router with the telephone.

# 2.3 Installation Environment

- > The Product should not be located where it will be exposed to moisture or excessive heat.
- Place the modem router in a location where it can be connected to the various devices as well as to a power source.
- Make sure the cables and power cord are placed safely out of the way so they do not create a tripping hazard.
- > The modem router can be placed on a shelf or desktop.

Generally,TD-8816 is placed on a horizontal surface. The device also can be mounted on the wall as shown in Figure 2-4 Wall-mount Install.

### TD-8816 ADSL2+ Modem Router User Guide



Figure 2-4 Wall-mount Install

# Note:

The diameter of the screw, 4mm<D<7.5mm, and the distance of two screws is 111.5mm. The screw that project from the wall need around 4mm based, and the length of the screw need to be at least 20mm to withstand the weight of the product.

# 2.4 Connecting the Router

Before installing the device, please make sure your broadband service provided by your ISP is available. If there is any problem, please contact your ISP. You need to connect the device to the phone jack, the power outlet, and your computer or network. Before cable connection, cut off the power supply and keep your hands dry. You can follow the steps below to install it.

Step 1: Connect the ADSL Line.

**Method one:** Plug one end of the twisted-pair ADSL cable into the ADSL port on the rear panel of TD-8816, and insert the other end into the wall socket.

**Method two:** You can use a separate splitter. External splitter can divide the data and voice, and then you can access the Internet and make calls at the same time. The external splitter has three ports:

- LINE: Connect to the wall jack
- PHONE: Connect to the phone sets
- MODEM: Connect to the ADSL port of TD-8816

Plug one end of the twisted-pair ADSL cable into the ADSL port on the rear panel of

TD-8816. Connect the other end to the MODEM port of the external splitter.

- Step 2: Connect the Ethernet cable. Attach one end of a network cable to your computer's Ethernet port or a regular hub/switch port, and the other end to the LAN port on the TD-8816.
- **Step 3:** Attach the power adapter. Connect the power adapter to the POWER connector on the rear of the device and plug in the adapter to a wall outlet or power extension.
- **Step 4:** Turn on the TD-8816 and power on the computers and LAN devices.



Figure 2-5

# Chapter 3. Quick Installation Guide

# 3.1 TCP/IP Configuration

The default IP address of the TD-8816 ADSL2+ Modem Router is 192.168.1.1. And the default Subnet Mask is 255.255.255.0. These values can be changed as you desire. In this guide, we use all the default values for description.

Connect the local PC to the LAN/WAN port of the Modem Router. And then you can configure the IP address for your PC in the following way.

- > Obtain an IP address automatically
  - Set up the TCP/IP Protocol in "Obtain an IP address automatically" mode on your PC. If you need instructions as to how to do this, please refer to <u>Appendix B: "Configuring the</u> <u>PC"</u>.
  - 2) Then the built-in DHCP server will assign IP address for the PC.

Now, you can run the Ping command in the command prompt to verify the network connection. Please click the **Start** menu on your desktop, select **run** tab, type **cmd or command** in the field and press **Enter**. Type **ping 192.168.1.1** on the next screen, and then press **Enter**.

If the result displayed is similar to the screen below, the connection between your PC and the modem router has been established.

Pinging 192.168.1.1 with 32 bytes of data: Reply from 192.168.1.1: bytes=32 time<1ms TTL=64 Ping statistics for 192.168.1.1: Packets: Sent = 4, Received = 4, Lost = 0 <0% loss), Approximate round trip times in milli-seconds: Minimum = 0ms, Maximum = 0ms, Average = 0ms

# Figure 3-1

If the result displayed is similar to the screen shown below, it means that your PC has not connected to the modem router.

```
Pinging 192.168.1.1 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.
Ping statistics for 192.168.1.1:
Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
```



You can check it following the steps below:

### 1) Is the connection between your PC and the modem router correct?

The LEDs of LAN port which you link to the device and the LEDs on your PC's adapter should be lit.

### 2) Is the TCP/IP configuration for your PC correct?

If the modem router's IP address is 192.168.1.1, your PC's IP address must be within the range of 192.168.1.2 ~ 192.168.1.254.

# 3.2 Login

Once your host PC is properly configured, please proceed as follows to use the Web-based Utility: Start your web browser and type the private IP address of the modem router in the URL field:

	Address	192.168.1.1
192.168.1.1		

After that, you will see the screen shown below, enter the default User Name **admin** and the default Password **admin**, and then click **OK** to access to the **Quick Start** screen. You can follow the steps below to complete the Quick Setup.





Step 1: Select the Quick Start tab, then click RUN WIZARD, and you will see the next screen.

### Click the **NEXT** button.

### **Quick Start**

The Wizard will guide you through these three quick steps. Begin by clicking on NEXT.

- Step 1. Choose your time zone
- Step 2. Set your Internet connection
- Step 3. Save settings of this ADSL Router



	BACK NEXT EXIT				
Figure 3-9					

Step 3: Select the connection type to connect to the ISP (We select **PPPoE/PPPoA** mode for example here), and then click the **NEXT** button.



BACK NEXT EXIT

### Figure 3-10

Step 4: Configure the following options provided by your ISP: Username, Password, VPI, VCI and Connection Type. Then click NEXT.

# **Quick Start - PPPoE/PPPoA**

Enter the PPPoE/PPPoA information provided to you by your ISP. Click **NEXT** to continue.

	Username:		
	Password:		
	VPI:	8 (0~255)	
	VCI:	35 (1~65535)	
	Connection Type:	PPPoE LLC	
			BACK NEXT EXIT
		Figure 3-11	
Step 5:	Click <b>NEXT</b> to finish the Quick	Start.	

# Quick Start Complete !!

The Setup Wizard has completed. Click on  ${\bf BACK}$  to modify changes or mistakes. Click  ${\bf NEXT}$  to save the current settings.

BACK NEXT EXIT

Figure 3-12

# Chapter 4. Software Configuration

This User Guide recommends using the "Quick Installation Guide" for first-time installation. For advanced users, if you want to know more about this device and make use of its functions adequately, maybe you will get help from this chapter to configure the advanced settings through the Web-based Utility.

After your successful login, you can configure and manage the device. There are main menus on the top of the Web-based Utility, submenus will be available after you click one of the main menus. On the center of the Web-based Utility, there are the detailed configurations or status information. To apply any settings you have altered on the page, please click the **SAVE** button.

# 4.1 Status

Choose "**Status**", you can see the next submenus: **Device Info**, **System Log** and **Statistics**. Click any of them, and you will be able to configure the corresponding function.





# 4.1.1 Device Info

Choose "**Status**  $\rightarrow$  **Device Info**" menu, and you will be able to view the device information, including LAN, WAN and ADSL. The information will vary depending on the settings of the modem router configured on the Interface Setup screen.

				TD-881	6 ADS	L2+	Modem Ro	uter Use	r Guide
Status	Quick Start		erface A etup	dvanced Setup	Access Managem		Maintenance	Status	Help
	Devie	ce Info	System	Log	Statistics				
Device Information									
		Fi	rmware Version	: 8.0.0 Build 1	30627 Rel.0593	36			
			MAC Address	: d8:5d:4c:00:	00:01				
LAN									
				: 192.168.1.1 : 255.255.255	0				
			DHCP Server		.0				
			Diloi Gener	. Enabled					
WAN									
	PVC	VPI/VCI	IP Address	Subne	et Gat	eWay	DNS Server	Encapsulation	Status
	PVC0	1/32	N/A	N/A	N	I/A	N/A	Bridge	Down
	PVC1	0/33	N/A	N/A	N	I/A	N/A	Bridge	Down
	PVC2	0/35	N/A	N/A		I/A	N/A	Bridge	Down
	PVC3	0/100	N/A	N/A		I/A	N/A	Bridge	Down
	PVC4	8/35	0.0.0.0	0.0.0.		0.0.0	0.0.0.0	PPP <sub>0</sub> E	Down
	PVC5	8/48	N/A	N/A	N	I/A	N/A	Bridge	Down
	PVC6	0/38	N/A	N/A	N	I/A	N/A	Bridge	Down
ADSL									
		ADSL Fi	rmware Version	: FwVer:3.22.	2.0 A60394 Hw	Ver:T14.F	F7 12.0		
			Line State		-		-		
			Modulation	: N/A					
	Annex Mode : N/A								
				Downstrear	m Upstream				
			SNR Margin		N/A	db			
		L	ine Attenuation		N/A	db			
			Data Rate	: N/A	N/A	kbps			
			Max Rate		N/A	kbps			
			POWER CRC		N/A N/A	dbm			
			URU	. N/A	N/A				

Figure 4-2

# 4.1.2 System Log

Choose "**Status**→**System Log**" menu, and you will be able to query the logs of the Modem Router.

TD-8816 ADSL2+ Modem Router User Guide

Operation       SystemLot	Status	Quick Start	Interface Setup		Access Management	Maintenance	Status	Help
<pre>1/1/2000 0:11:7&gt; No DNS server available 1/1/2000 0:11:7&gt; adjTimeTask fail: no server available 1/1/2000 0:11:7&gt; adjTimeTask fail: no server available 1/1/2000 0:11:7&gt; No DNS server available 1/1/2000 0:11:7&gt; No DNS server available 1/1/2000 0:11:7&gt; No DNS server available 1/1/2000 0:11:7&gt; adjTimeTask fail: wrong domain name 1/1/2000 0:11:7&gt; adjTimeTask fail: no server available 1/1/2000 0:11:7&gt; adjTimeTask fail: no server available 1/1/2000 0:12:7&gt; No DNS server available 1/1/2000 0:12:7&gt; adjTimeTask fail: no server available 1/1/2000 0:12:7&gt; No DNS server available</pre>			rfo 🧧 🌀	ystem Log				
<pre>1/1/2000 0:11:7&gt; No DNS server available 1/1/2000 0:11:7&gt; adjTimeTask fail: no server available 1/1/2000 0:11:7&gt; adjTimeTask fail: no server available 1/1/2000 0:11:7&gt; No DNS server available 1/1/2000 0:11:7&gt; No DNS server available 1/1/2000 0:11:7&gt; No DNS server available 1/1/2000 0:11:7&gt; adjTimeTask fail: wrong domain name 1/1/2000 0:11:7&gt; adjTimeTask fail: no server available 1/1/2000 0:11:7&gt; adjTimeTask fail: no server available 1/1/2000 0:11:7&gt; No DNS server available 1/1/2000 0:11:7&gt; adjTimeTask fail: wrong domain name 1/1/2000 0:12:7&gt; No DNS server available 1/1/2000 0:12:7&gt; No DNS server available 1/1/2000 0:12:7&gt; adjTimeTask fail: no server available 1/1/2000 0:12:7&gt; No DNS server available 1/1/2000 0:12:7&gt; AdjTimeTask fail: no server available 1/1/2000 0:12:7&gt; No DNS server available</pre>								
<pre>1/1/2000 0:11:7&gt; Last errorlog repeat 10 Times 1/1/2000 0:11:7&gt; adjTimeTask fail: no server available 1/1/2000 0:11:7&gt; No DNS server available 1/1/2000 0:11:7&gt; No DNS server available 1/1/2000 0:11:7&gt; Last errorlog repeat 10 Times 1/1/2000 0:11:7&gt; adjTimeTask fail: no server available 1/1/2000 0:11:7&gt; adjTimeTask fail: no server available 1/1/2000 0:11:7&gt; adjTimeTask fail: wrong domain name 1/1/2000 0:11:7&gt; adjTimeTask fail: wrong domain name 1/1/2000 0:12:7&gt; No DNS server available 1/1/2000 0:12:7&gt; adjTimeTask fail: wrong domain name 1/1/2000 0:12:7&gt; adjTimeTask fail: no server available 1/1/2000 0:12:7&gt; adjTimeTask fail: wrong domain name 1/1/2000 0:12:7&gt; Last errorlog repeat 10 Times 1/1/2000 0:12:7&gt; adjTimeTask fail: no server available 1/1/2000 0:12:7&gt; no DNS server available 1/1/2000 0:12:7&gt; no DNS server available</pre>	System Log							
<pre>1/1/2000 0:11:7&gt; Last errorlog repeat 10 Times 1/1/2000 0:11:7&gt; adjTimeTask fail: no server available 1/1/2000 0:11:7&gt; adjTimeTask fail: no server available 1/1/2000 0:11:7&gt; No DNS server available 1/1/2000 0:11:7&gt; No DNS server available 1/1/2000 0:11:7&gt; Last errorlog repeat 10 Times 1/1/2000 0:11:7&gt; adjTimeTask fail: no server available 1/1/2000 0:11:7&gt; adjTimeTask fail: no server available 1/1/2000 0:11:7&gt; adjTimeTask fail: wrong domain name 1/1/2000 0:12:7&gt; No DNS server available 1/1/2000 0:12:7&gt; adjTimeTask fail: no server available 1/1/2000 0:12:7&gt; adjTimeTask fail: no server available 1/1/2000 0:12:7&gt; Last errorlog repeat 10 Times 1/1/2000 0:12:7&gt; adjTimeTask fail: no server available 1/1/2000 0:12:7&gt; Last errorlog repeat 10 Times 1/1/2000 0:12:7&gt; adjTimeTask fail: no server available 1/1/2000 0:12:7&gt; no DNS server available</pre>								
<pre>1/1/2000 0:11:7&gt; adjTimeTask fail: no server available 1/1/2000 0:11:7&gt; adjTime task pause 60 seconds 1/1/2000 0:11:7&gt; No DNS server available 1/1/2000 0:11:7&gt; No DNS server available 1/1/2000 0:11:7&gt; No DNS server available 1/1/2000 0:11:7&gt; adjTimeTask fail: wrong domain name 1/1/2000 0:11:7&gt; adjTimeTask fail: no server available 1/1/2000 0:11:7&gt; adjTimeTask fail: wrong domain name 1/1/2000 0:11:7&gt; adjTimeTask fail: wrong domain name 1/1/2000 0:12:7&gt; No DNS server available 1/1/2000 0:12:7&gt; No DNS server available 1/1/2000 0:12:7&gt; No DNS server available 1/1/2000 0:12:7&gt; adjTimeTask fail: wrong domain name 1/1/2000 0:12:7&gt; adjTimeTask fail: no server available 1/1/2000 0:12:7&gt; adjTimeTask fail: no server available 1/1/2000 0:12:7&gt; adjTimeTask fail: no server available 1/1/2000 0:12:7&gt; No DNS server available</pre>		1/1/2000	0:11:7>	No DNS serv	er available		^	
<pre>1/1/2000 0:11:7&gt; adjtime task pause 60 seconds 1/1/2000 0:11:7&gt; No DNS server available 1/1/2000 0:11:7&gt; No DNS server available 1/1/2000 0:11:7&gt; No DNS server available 1/1/2000 0:11:7&gt; adjTimeTask fail: wrong domain name 1/1/2000 0:11:7&gt; adjTimeTask fail: no server available 1/1/2000 0:12:7&gt; No DNS server available 1/1/2000 0:12:7&gt; adjTimeTask fail: wrong domain name 1/1/2000 0:12:7&gt; adjTimeTask fail: no server available 1/1/2000 0:12:7&gt; adjTimeTask fail: no server available 1/1/2000 0:12:7&gt; adjTimeTask fail: no server available 1/1/2000 0:12:7&gt; adjTimeTask fail: wrong domain name 1/1/2000 0:12:7&gt; adjTimeTask fail: wrong domain name 1/1/2000 0:12:7&gt; adjTimeTask fail: no server available 1/1/2000 0:12:7&gt; No DNS server available</pre>		1/1/2000	0:11:7>	Last errorl	og repeat 10 T.	imes		
<pre>1/1/2000 0:11:7&gt; No DNS server available 1/1/2000 0:11:7&gt; adjTimeTask fail: wrong domain name 1/1/2000 0:11:7&gt; No DNS server available 1/1/2000 0:11:7&gt; adjTimeTask fail: no server available 1/1/2000 0:11:7&gt; adjTimeTask fail: no server available 1/1/2000 0:11:7&gt; adjTimeTask fail: wrong domain name 1/1/2000 0:12:7&gt; No DNS server available 1/1/2000 0:12:7&gt; No DNS server available 1/1/2000 0:12:7&gt; No DNS server available 1/1/2000 0:12:7&gt; adjTimeTask fail: no server available 1/1/2000 0:12:7&gt; No DNS server available 1/1/2000 0:12:7&gt; adjTimeTask fail: no server available 1/1/2000 0:12:7&gt; adjTimeTask fail: no server available 1/1/2000 0:12:7&gt; No DNS server available</pre>				-				
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1/1/2000 0:12:7> adjTimeTask fail: no server available 1/1/2000 0:12:7> adjtime task pause 60 seconds 1/1/2000 0:12:7> No DNS server available 1/1/2000 0:12:7> adjTimeTask fail: wrong domain name 1/1/2000 0:12:7> No DNS server available		1/1/2000	0:12:7>	No DNS serv	er available			
1/1/2000 0:12:7> adjtime task pause 60 seconds 1/1/2000 0:12:7> No DNS server available 1/1/2000 0:12:7> adjTimeTask fail: wrong domain name 1/1/2000 0:12:7> No DNS server available		1/1/2000	0:12:7>	Last errorl	og repeat 10 T	imes		
1/1/2000 0:12:7> No DNS server available 1/1/2000 0:12:7> adjTimeTask fail: wrong domain name 1/1/2000 0:12:7> No DNS server available		1/1/2000	0:12:7>	adjTimeTask	fail: no serv	er available		
1/1/2000 0:12:7> adjTimeTask fail: wrong domain name 1/1/2000 0:12:7> No DNS server available		1/1/2000	0:12:7>	adjtime tas	k pause 60 sec	onds		
1/1/2000 0:12:7> No DNS server available								
				-	-	omain name		
CLEARLOG		1/1/2000	0:12:7>	No DNS serv	er available		✓	
CLEAR LOG SAVE LOG								
				CLEAR L	OG SAVELOG			

Figure 4-3

The modem router can keep logs of all traffic. You can query the logs to find what happened to the modem router.

Click the **CLEAR LOG** button to clear the logs.

Click the **SAVE LOG** button to save the logs.

# 4.1.3 Statistics

Choose "**Status→Statistics**" menu, and you will be able to view the network traffic over Ethernet and ADSL.

Status	Quick Start	Interface Setup	Advanced Setup	Acce: Manage	Maintenance	Status	Help
	Device	Info Sys	tem Log 🤇 🤇	Statistics			
Traffic Statistics							
		Interface	Ethernet C				
		interface	Ellemet C	ADSL			
		Transmit Sta	tistics		Receive Statisti	cs	
	Transmi	t Frames		617	Receive Frames		1199
	Transmi	t Multicast Frames	1	203	Receive Multicast Frames		822
	Transmi	t total Bytes		457984	Receive total Bytes		183816
	Transmi	t Collision		0	Receive CRC Errors		0
	Transmi	t Error Frames		0	Receive Under-size Frames		0
			REFRESH				

Figure 4-4

Interface: You can select Ethernet and ADSL to view the corresponding network traffic over different ports.

# > Select **Ethernet**, and you will see the statistics table as below.

### Interface : Ethernet ADSL

Transmit Statistics		Receive Statistics	
Transmit Frames	617	Receive Frames	1199
Transmit Multicast Frames	203	Receive Multicast Frames	822
Transmit total Bytes	457984	Receive total Bytes	183816
Transmit Collision	0	Receive CRC Errors	0
Transmit Error Frames	0	Receive Under-size Frames	0

### **Statistics Table:**

	Transmit Frames	The frames transmitted over the Ethernet port.
	Transmit Multicast Frames	The multicast frames transmitted over the Ethernet port.
Transmit	Transmit total Bytes	The total bytes transmitted over the Ethernet port.
Statistics	Transmit Collision	The collision occurred over the Ethernet port when data is being transmitted.
	Transmit Error Frames	The error frames over the Ethernet port when data is being transmitted.
	Receive Frames	The frames received over the Ethernet port.
	Receive Multicast Frames	The multicast frames received over the Ethernet port.
Receive	Receive total Bytes	The total bytes received over the Ethernet port.
Statistics	Receive CRC Errors	The CRC errors occurred over the Ethernet port when data is being received.
	Receive Under-size Frames	The Under-size frames received over the Ethernet port.

> Select **ADSL**, and you will see the statistics table as below.

### Interface : O Ethernet ADSL

Transmit Statistics		Receive Statistics	
Transmit total PDUs	0	Receive total PDUs	0
Transmit total Error Counts	0	Receive total Error Counts	0

### Statistics Table:

Transmit Statistics	Transmit total PDUs	The total PDUs transmitted over the ADSL port.
	Transmit total Error Counts	The total errors occurred over the ADSL port when data is being transmitted.
Receive Statistics	Receive total PDUs	The total PDUs transmitted over the ADSL port.
	Receive total Error Counts	The total errors occurred over the ADSL port when dat is being received.

# 4.2 Quick Start

Please refer to <u>3.2 Login</u>.

# 4.3 Interface Setup

Choose "Interface Setup", you can see the next submenus: Internet and LAN.





Click any of them, and you will be able to configure the corresponding function.

# 4.3.1 Internet

Choose "Interface Setup→Internet" menu, you can configure the parameters for WAN ports in the next screen (shown in Figure 4-6).

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Interface	Quick Interface Start Setup	Advanced Setup	Access Management	Maintenance	Status	Help
	Internet LAN					
ATM VC						
	Virtual Circuit		PVCs Summary			
	Virtual Circuit	: O Activated				
	VPI		P Deactivated le: 0~255)			
	VCI	· · ·	je: 1~65535)			
QoS		(rang				
	ATM QoS	UBR 🔽				
	PCR	: 0 cells/	second			
	SCR		second			
	MBS	cells				
IPv4/IPv6						
	IP Version	: 💿 IPv4 🔘 IPv	4/IPv6 O IPv6			
Encapsulation						
	100	•				
	15P	O Dynamic IP				
		Static IP Ad				
		PPPoA/PPP     Pridge Mod				
		Bridge Mod	e			
PPPoE/PPPoA						
	Servicename					
	Username					
	Password Encapsulation					
	Bridge Interface		Departmented			
Connection Setting	bhuge internace		Deactivated			
_	Connection	🗉 💿 Always On (	Recommended)			
			Demand (Close if idle	for 0 minutes)		
		Connect Ma				
	TCP MSS Option		·	5		
IP Common Options						
	Default Route	💿 Yes 🔿 No				
IPv4 Address						
		O Static 💿 D	ynamic			
	Static IP Address					
	IP Subnet Mask Gateway					
	TCP MTU Option		llt:1480)1480 byte:			
	NAT			-		
	Dynamic Route		Direction : None	~		
	Multicast	: IGMP v2 🔽				
Dual Stack Lite						
	Enable	Enable 💿 I	Disable			
	2.10010		DIGUDIC			
		SAVE DELE				



- ATM VC: ATM settings are used to connect to your ISP. Your ISP provides VPI (Virtual Path Identifier), VCI (Virtual Channel Identifier) settings to you. In this Device, you can totally setup 8 VCs on different encapsulations, if you apply 8 different virtual circuits from your ISP. You need to activate the VC (Virtual Circuit) to take effect. For PVCs management, you can use ATM QoS to setup each PVC traffic line's priority.
  - Virtual Circuit: Select the VC number you want to setup, PVC0~PVC7.
  - PVCs Summary: Click the button, you can view the summary information about the PVCs.
  - Status: If you want to use a designed VC, you should activate it.
  - **VPI:** Identifies the virtual path between endpoints in an ATM network. The valid range is from 0 to 255. Please input the value provided by your ISP.

- VCI: Identifies the virtual channel endpoints in an ATM network. The valid range is from 32 to 65535 (1 to 31 is reserved for well-known protocols). Please input the value provided by your ISP.
- QoS: Select the Quality of Service types for this Virtual Circuit, including CBR (Constant Bit Rate), UBR (Unspecified Bit Rate) and VBR (Variable Bit Rate). These QoS types are all controlled by the parameters specified below, including PCR (Peak Cell Rate), SCR (Sustained Cell Rate) and MBS (Maximum Burst Size), please configure them according to your needs.

# 4.3.1.1. IPv4

There are two IP versions: IPv4 and IPv6. If you select **IPv4** as IP version, please follow the configuration below to configure the parameters for WAN ports.

Encapsulation: There are four connection types: Dynamic IP Address, Static IP Address, PPPoA/PPPoE and Bridge Mode. Please choose the designed type that you want to use. After that, you should follow the configuration below to proceed.

# 1. Dynamic IP Address

Select this option if your ISP provides you an IP address automatically. This option is typically used for Cable services. Please enter the Dynamic IP information accordingly.

IPv4/IPv6	
	IP Version :
Encapsulation	
	ISP :      Dynamic IP Address
	Static IP Address
	O PPPoA/PPPoE
	O Bridge Mode
Dynamic IP	
IP Common Options	
ir common options	
	Encapsulation : 1483 Bridged IP LLC
	Bridge Interface : O Activated   Deactivated
	Default Route :      Yes      No
	TCP MTU Option : TCP MTU(default:1500) 1500 bytes
IPv4 Address	
	NAT : Enable 🔽
	Dynamic Route : RIP2-B 🔽 Direction : Both 🔽
	Multicast : IGMP v2 🔽
Dual Stack Lite	
	Enable : 🔘 Enable 💿 Disable

# Figure 4-7

- Encapsulation: Select the encapsulation mode for the Dynamic IP Address, you can leave it default.
- > Bridge Interface: Activate the option, the modem router can also work in Bridge mode.
- Default Route: If enable this function, the current PVC will be considered as the default gateway to Internet from this device.

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- > **TCP MTU Option:** Enter the TCP MTU as your desire. The default value is 1500.
- > IPv4 Address: If you select IPv4 as IP version, you should configure the following.
- NAT: Select this option to Enable/Disable the NAT (Network Address Translation) function for this VC. The NAT function can be activated or deactivated per PVC basis.
- Dynamic Route: Select this option to specify the RIP (Routing Information protocol) version for WAN interface, including RIP1, RIP2-B and RIP2-M. RIP2-B and RIP2-M are both sent in RIP2 format, the difference is that RIP2-M using Multicast, while RIP2-B using Broadcast format.
- Direction: Select this option to specify the RIP direction. None is for disabling the RIP function. Both means the ADSL modem router will periodically send routing information and accept routing information, and then incorporate them into routing table. IN only means the ADSL modem router will only accept but will not send RIP packet. OUT only means the ADSL modem router will only send but will not accept RIP packet.
- Multicast: Select IGMP version, or disable the function. IGMP (Internet Group Multicast Protocol) is a session-layer protocol used to establish membership in a multicast group. The ADSL ATU-R supports IGMP version 1 (IGMP v1), IGMP version 2 (IGMP v2) and IGMP version 3 (IGMP v3). Select "Disabled" to disable it.
- Dual Stack Lite: Enable the Dual Stack Lite (D-S Lite) function if you need. It is disabled by default.

# 2. Static IP Address

Select this option if your ISP provides static IP information for you. You should set static IP address, IP Subnet Mask, and Gateway address in the screen below (shown in Figure 4-8).

IPv4/IPv6		
	IP Version :	
Encapsulation		
	ISP :	O Dynamic IP Address
		Static IP Address
		O PPPoA/PPPoE
		O Bridge Mode
Static IP		
IP Common Options		
	Encapsulation :	1483 Bridged IP LLC
		O Activated   Deactivated
	Default Route :	
		TCP MTU(default:1500) 1500 bytes
IPv4 Options		
in thiopaonio		
	Static IP Address :	
	IP Subnet Mask :	0.0.0.0
	Gateway :	0.0.0.0
	NAT :	Enable 🔽
	Dynamic Route :	RIP2-B 🔽 Direction : Both 🔽
	Multicast :	IGMP v2
Dual Stack Lite		
	Enable -	○ Enable ⓒ Disable
	Lilable .	

Figure 4-8

# P Note:

Each IP address entered in the fields must be in the appropriate IP form, which is four IP octets separated by a dot (x.x.x.x), such as 192.168.1.100. The Modem Router will not accept the IP address if it is not in this format.

### 3. PPPoA/PPPoE

Select this option if your ISP requires you to use a PPPoE connection. This option is typically used for DSL services. Select Dynamic PPPoE to obtain an IP address automatically for your PPPoE connection. Select Static PPPoE to use a static IP address for your PPPoE connection. Please enter the information accordingly.

IPv4/IPv6	
	IP Version : 💿 IPv4 🔿 IPv4/IPv6 🛇 IPv6
Encapsulation	
	ISP: 🔘 Dynamic IP Address
	Static IP Address
	PPPoA/PPPoE
	O Bridge Mode
PPPoE/PPPoA	
	Servicename :
	Username :
	Password :
	Encapsulation : PPPoE LLC
	Bridge Interface : O Activated O Deactivated
Connection Setting	
	Connection : 💿 Always On (Recommended)
	Connect On-Demand (Close if idle for 0 minutes)
	Connect Manually
	TCP MSS Option : TCP MSS(default:1400) 1400 bytes
IP Common Options	
IPv4 Address	Default Route: 💿 Yes 🔿 No
IPv4 Address	Get IP Address : 🔘 Static 💿 Dynamic
	Static IP Address : 0.0.0
	IP Subnet Mask : 0.0.0
	Gateway : 0.0.0
	TCP MTU Option : TCP MTU(default:1480) 1480 bytes
	NAT : Enable
	Dynamic Route: RIP2-B 🔽 Direction: Both
	Multicast : IGMP v2
Dual Stack Lite	
	Enable : 🔘 Enable 🖲 Disable
	Cuapie : O Ellable O Disable

Figure 4-9

- **Service name:** Specify a name for the PPPoA/PPPoE connection for recognition.
- Username: Enter your username for your PPPoA/PPPoE connection to identify and verify your account to the ISP.
- > **Password:** Enter your password for your PPPoA/PPPoE connection.
- Encapsulation: For both PPPoA/PPPoE connection, you need to specify the type of Multiplexing, either LLC or VC Mux.
- > Bridge Interface: Activate the option, the modem router can also work in Bridge mode.
- Connection: For PPPoA/PPPoE connection, you can select Always on or Connect on-Demand or Connect Manually. Connect on demand is dependent on the traffic. If there is no traffic (or Idle) for a pre-specified period of time), the connection will tear down automatically. And once there is traffic send or receive, the connection will be automatically on.
- Default Route: You should select Yes to configure the PVC as the default gateway to Internet from this device.
- Static/Dynamic IP Address: For PPPoA/PPPoE connection, you need to specify the public IP address for this ADSL modem router. The IP address can be either dynamically (via DHCP)

or given by your ISP. For Static IP, you need to specify the IP address, Subnet Mask and Gateway IP address.

Dual Stack Line: Enable the Dual Stack Lite(D-S Lite) function if you need. It is disabled by default.

# 4. Bridge Mode

If you select this type of connection, the modem router can be configured to act as a bridging device between your LAN and your ISP. Bridges are devices that enable two or more networks to communicate as if they are two segments of the same physical LAN.

Dual Stack Lite: Enable the Dual Stack Lite (D-S Lite) function if you need. It is disabled by default.

IPv4/IPv6	
	IP Version :  ◎ IPv4 ○ IPv4/IPv6 ○ IPv6
Encapsulation	
	ISP: O Dynamic IP Address
	Static IP Address
	O PPPoA/PPPoE
	Inidge Mode
Dual Stack Lite	
	Enable : 🔿 Enable 💿 Disable
Bridge Mode	
	Encapsulation : 1483 Bridged IP LLC
	Figure 4-10

# P Note:

After you finish the Internet configuration, please click SAVE to make the settings take effect.

# 4.3.1.2. IPv6

There are two IP versions: IPv4 and IPv6. If you select **IPv6** as IP version, please follow the configuration below to configure the parameters for WAN ports.

Encapsulation: There are four connection types: Dynamic IP Address, Static IP Address, PPPoA/PPPoE and Bridge Mode. Please choose the designed type that you want to use. After that, you should follow the configuration below to proceed.

# 1. Dynamic IP Address

Select this option if your ISP provides you an IP address automatically. This option is typically used for Cable services. Please enter the Dynamic IP information accordingly.

IPv4/IPv6		
	IP Version :	
Encapsulation		
	ISP :	Opnamic IP Address
		O Static IP Address
		O PPPoA/PPPoE
		O Bridge Mode
Dynamic IP		
IP Common Options		
	Encapsulation :	1483 Bridged IP LLC
		O Activated  O Deactivated
		<ul> <li>O Yes ○ No</li> </ul>
		TCP MTU(default:1500) 1500 bytes
IPv6 Address	· · · · · · · ·	
ii to Address	IDuc Manager Faith Turns	Dura antie Marda
	IPv6 Message Fetch Type :	
		O DHCP O SLAAC
	DHCP PD Enable :	🔿 Enable 📀 Disable
	MLD Proxy :	○ Enable ④ Disable
Dual Stack Lite		
	Enable :	○ Enable ④ Disable

Figure 4-11

- > **IP Common Option:** Configure the IP common option here.
- Encapsulation: Select the encapsulation mode for the Dynamic IP Address, you can leave it default.
- **Bridge Interface:** Activate the option, the modem router can also work in Bridge mode.
- Default Route: If enable this function, the current PVC will be considered as the default gateway to Internet from this device.
- **TCP MTU Option:** Enter the TCP MTU as your desire.
- DHCP IPv6: There are two types of assignation for IPv6 address: DHCP (Dynamic Host Configuration Protocol) Server and SLAAC (Stateless address auto-configuration). Select your assignation type accordingly.
- DHCP PD: The DHCP PD(Prefix Delegation) function is disabled by default. If you want to enable the function, please click Enable.
- MLD Proxy: The MLD (Multicast Listener Discovery Protocol) Proxy function is disabled by default. If you want to enable the function, please click Enable.
- Dual Stack Lite: Enable the Dual Stack Lite (D-S Lite) function if you need. It is disabled by default.

# 2. Static IP Address

Select this option if your ISP provides static IP information for you. You should set static IP address, IP Default Gateway and DNS Server address in the screen below (shown in Figure 4-12).

IPv4/IPv6		
	IP Version :	○ IPv4 ○ IPv4/IPv6 ④ IPv6
Encapsulation		
	ISP :	O Dynamic IP Address
		Static IP Address
		O PPPoA/PPPoE
		O Bridge Mode
Static IP		
IP Common Options		
	Encapsulation :	1483 Bridged IP LLC
	L. L	O Activated   Deactivated
	Default Route :	
		TCP MTU(default:1500) 1500 bytes
IDuC Ontinue		
IPv6 Options		
	IPv6 Message Fetch Type : \$	
	IPv6 Address :	
	IPv6 Default Getway :	
	IPv6 DNS Server1 :	••
	IPv6 DNS Server2 :	
	MLD Proxy :	○ Enable ④ Disable
Dual Stack Lite		
	Enable :	C Enable O Disable

Figure 4-12

# P Note:

Each IP address entered in the fields must be in the appropriate IPv6 form, which is eight IP octets separated by a colon (x:x:x:x:x:x). The modem router will not accept the IP address if it is not in this format.

### 3. PPPoA/PPPoE

Select this option if your ISP requires you to use a PPPoE connection. This option is typically used for DSL services. Select Dynamic PPPoE to obtain an IP address automatically for your PPPoE connection. Select Static PPPoE to use a static IP address for your PPPoE connection. Please enter the information accordingly.

IPv4/IPv6		
	IP Version :	
Encapsulation		
	ISP :	O Dynamic IP Address
		O Static IP Address
		PPPoA/PPPoE
		O Bridge Mode
PPPoE/PPPoA		
	Servicename :	
	Username :	
	Password :	
	Encapsulation :	PPPoE LLC
	Bridge Interface :	O Activated   Deactivated
Connection Setting		
	Connection :	Always On (Recommended)
		Connect On-Demand (Close if idle for 0 minutes)
		O Connect Manually
	TCP MSS Option :	TCP MSS(default:1400) 1400 bytes
IP Common Options		
	Default Route :	⊙ Yes ○ No
IPv6 Address		
	DHCP IPv6 Enable :	O DHCP   SLAAC
		C Enable 🖲 Disable
	MLD Proxy :	○ Enable ④ Disable
Dual Stack Lite		
Dual Stack Lite	<b>_</b>	
	Enable :	🔿 Enable 💿 Disable

Figure 4-13

- **Service name:** Specify a name for the PPPoA/PPPoE connection for recognition.
- Username: Enter your username for your PPPoA/PPPoE connection to identify and verify your account to the ISP.
- > **Password:** Enter your password for your PPPoA/PPPoE connection.
- Encapsulation: For both PPPoA/PPPoE connection, you need to specify the type of Multiplexing, either LLC or VC Mux.
- > Bridge Interface: Activate the option, the modem router can also work in Bridge mode.
- Connection: For PPPoA/PPPoE connection, you can select Always on or Connect on-Demand or Connect Manually. Connect on demand is dependent on the traffic. If there is no traffic (or Idle) for a pre-specified period of time), the connection will tear down automatically. And once there is traffic send or receive, the connection will be automatically on.
- **TCP MSS Option:** Enter the TCP MSS as your desire. The default value is 1400.
- Default Route: You should select Yes to configure the PVC as the default gateway to Internet from this device.
- DHCP IPv6: There are two types of assignation for IPv6 address: DHCP (Dynamic Host Configuration Protocol) and Server SLAAC (Stateless address auto-configuration). Select your assignation type accordingly.
- > DHCP PD: The DHCP PD (Prefix Delegation) function is disabled by default. If you want to

enable the function, please click **Enable**.

- MLD Proxy: The MLD (Multicast Listener Discovery Protocol) Proxy function is disabled by default. If you want to enable the function, please click Enable.
- Dual Stack Lite: Enable the Dual Stack Lite (D-S Lite) function if you need. It is disabled by default.

# 4. Bridge Mode

If you select this type of connection, the modem router can be configured to act as a bridging device between your LAN and your ISP. Bridges are devices that enable two or more networks to communicate as if they are two segments of the same physical LAN.

Dual Stack Lite: Enable the Dual Stack Lite (D-S Lite) function if you need. It is disabled by default.

IPv4/IPv6	
	IP Version : O IPv4 O IPv4/IPv6 O IPv6
Encapsulation	
	ISP: 🔘 Dynamic IP Address
	O Static IP Address
	O PPPoA/PPPoE
	OBridge Mode
Dual Stack Lite	
	Enable : 🔿 Enable 💿 Disable
Bridge Mode	
	Encapsulation : 1483 Bridged IP LLC

Figure 4-14

# P Note:

After you finish the Internet configuration, please click SAVE to make the settings take effect.

# 4.3.1.3. IPv4/IPv6

If you select **IPv4/IPv6** as IP version, please follow both the <u>4.3.1.1 IPv4</u> and <u>4.3.1.2 IPv6</u> configuration to configure the parameters for WAN ports.

# 4.3.2 LAN

Choose "Interface Setup  $\rightarrow$  LAN" menu, and you will see the LAN screen (shown in Figure 4-15). Please configure the parameters for LAN ports according to the descriptions below.

			TD-88′	16 ADSL2+	Modem Rou	iter User	Guide
Interface	Quick Start	Interface Setup	Advanced Setup	Access Management	Maintenance	Status	Help
	Internet	LAN	>				
Router Local IP							
		IP Address	: 192.168.1.1				
		IP Subnet Mask	: 255.255.255.0				
		Dynamic Route	: RIP2-B	Direction : Both	~		
			: IGMP v2 🔽				
			Disabled				
		MldSnoop	: 💿 Disabled 🤇	Enabled			
DHCP							
		DHCP	: O Disabled 🤇	🖲 Enabled 🔘 Relay			
DHCP Server							
	Sta	arting IP Address		Current Po	ol Summary		
		IP Pool Count					
		Lease Time		conds (0 sets to defaul	t value of 259200)		
		Physical Ports	: 1				
DHCP Table							
	Hostnar	me IP	Address	MAC Addre	ss Status	Expire Tin	ne
		192.1	68.1.100 🔽	Manual Config	Static	~	
DNS							
		DNS Relay	: Use Auto Disc	covered DNS Server Only	/ 🔽		
	Prir	mary DNS Server	: N/A				
	Secon	dary DNS Server	: N/A				
Radvd							
		Radvd Enable	: 💿 Disable 🔘	Enable			
DHCPv6							
		DHCP6 Server	: 💿 Disable 🔘	Enable			
			SAVE CA	NCEL			



- Router Local IP: These are the IP settings of the LAN interface for the device. These settings may be referred to as Private settings. You may change the LAN IP address if needed. The LAN IP address is private to your internal network and cannot be seen on the Internet.
  - **IP Address:** Enter the modem router's local IP Address, then you can access to the Web-based Utility via the IP Address, the default value is 192.168.1.1.
  - **IP Subnet Mask:** Enter the modem router's Subnet Mask, the default value is 255.255.255.0.
  - Dynamic Route: Select this option to specify the RIP (Routing Information protocol) version for LAN interface, including RIP1, RIP2-B and RIP2-M. RIP2-B and RIP2-M are both sent in RIP2 format, the difference is that RIP2-M using Multicast, while RIP2-B using Broadcast format.
  - **Direction:** Select this option to specify the RIP direction. **None** means disabling the RIP function. **Both** means the ADSL modem router will periodically send routing information and accept routing information, and then incorporate them into routing table. **IN only**

means the ADSL modem router will only accept but will not send RIP packet. **OUT only** means the ADSL modem router will only send but will not accept RIP packet.

- Multicast: Select IGMP version, or disable the function. IGMP (Internet Group Multicast Protocol) is a session-layer protocol used to establish membership in a multicast group. The ADSL ATU-R supports both IGMP version 1 (IGMP v1) and IGMP v2. Select "Disabled" to disable it.
- **IGMP Snoop:** Enable the IGMP Snoop function if you need.
- **MIdSnoop:** Enable the MIdSnoop function if you need.
- DHCP: Select Enabled, then you will see the screen below (shown in Figure 4-16). The modem router will work as a DHCP Server, it becomes the default gateway for DHCP client connected to it. DHCP stands for Dynamic Host Control Protocol. The DHCP Server gives out IP addresses when a device is booting up and request an IP address to be logged on to the network. That device must be set as a DHCP client to obtain the IP address automatically. By default, the DHCP Server is enabled. The DHCP address pool contains the range of the IP address that will automatically be assigned to the clients on the network.

Starting IP Address :	192.168.1.100	Current Pool Summary	
IP Pool Count :	101		
Lease Time :	259200 seconds	(0 sets to default value of 259200	)
Physical Ports :	1		
DNS Relay :	Use Auto Discovere	d DNS Server Only 🔽	
Primary DNS Server :	N/A		
Secondary DNS Server :	N/A		

DHCP6 Server : 
 O Disable 
 Enable

Figure 4-16

- **Starting IP Address:** Enter the starting IP address for the DHCP server's IP assignment. Because the default IP address for the modem router is 192.168.1.1, the default Starting IP Address is **192.168.1.100**, and the Start IP Address must be 192.168.1.2 or greater, but smaller than 192.168.1.254.
- **Current Pool Summary:** Click the button, you can view the IP addresses that the DHCP Server gives out.
- IP Pool Count: The max user pool size.
- Lease Time: The length of time for the IP lease. After the dynamic IP address has expired, the user will be automatically assigned a new dynamic IP address. The default is **259200** seconds.
- DNS Relay: If you want to disable this feature, you just need to set both Primary and

secondary DNS IP to 0.0.0.0. If you want to use DNS relay, you can setup DNS server IP to 192.168.1.1 on their Computer. If not, the device will perform as no DNS relay.

- Primary DNS Server: Type in your preferred DNS server.
- Secondary DNS Server: Type in your preferred DNS server.
- **Radvd Enable:** Enable the Radvd if you need.
- DHCP6 Server: Enable the DHCP6 server if you need.

### P Note:

If **Use Auto Discovered DNS Server Only** is selected in DNS Relay, this modem router will accept the first received DNS assignment from one of the PPPoA, PPPoE or MER/DHCP enabled PVC(s) during the connection establishment. If **Use User Discovered DNS Server Only** is selected in DNS Relay, it is necessary for you to enter the primary and optional secondary DNS server IP addresses. After type in the address, click SAVE button to save it and invoke it.

DHCP Relay: Select Relay, then you will see the next screen (shown in Figure 4-17), the modem router will work as a DHCP Relay. A DHCP relay is a computer that forwards DHCP data between computers that request IP addresses and the DHCP server that assigns the addresses. Each of the device's interfaces can be configured as a DHCP relay. If it is enabled, the DHCP requests from local PCs will forward to the DHCP server runs on WAN side. To have this function working properly, please run on Router mode only, disable the DHCP server on the LAN port, and make sure the routing table has the correct routing entry.

DHCP: O Disabled O Enabled O Relay	
DHCP Server IP for Relay . Agent : 0.0.0	

Figure 4-17

DHCP Server IP for Relay Agent: Enter the DHCP server IP Address runs on WAN side.

# P Note:

If you select **Disabled**, the DHCP function will not take effect.
# 4.4 Advanced Setup

Quicl Star		Advanced Setup	Access Managem	Mau	ntenance	Status	Help
Firewa	all Routing	NAT	QoS	VLAN	ADSL		
			Figure	4-18			

Choose "Advanced Setup", you can see the next submenus:

Click any of them, and you will be able to configure the corresponding function.

# 4.4.1 Firewall

Choose "**Advanced Setup**→**Firewall**" menu, and you will see the next screen (shown in Figure 4-19).

Advanced	Quick Start	Interface Setup	Advanced Setup	Access Management	Mainte	enance	Status	Help
(	Firewall	Routing	NAT	QoS	VLAN	ADSL		
Firewall		Firewall		) Disabled ou enabled Firewall of Death, TearDrop.		n block suc	h attack:Denial of	Service, SYN
		SPI	: O Enabled (WARNING: If Y		raffics initiated f	from WAN 1	would be blocked,	including
			SAVE CAN	CEL				



- Firewall: If you enable Firewall, the modem can automatically detect and block Denial of Service (DoS) attacks, such as Ping of Death, SYN Flood, Port Scan and Land Attack.
- SPI: If you enable SPI, all traffics initiated from WAN would be blocked, including DMZ, Virtual Server, and ACL WAN side.

# 4.4.2 Routing

Choose "Advanced Setup→Routing" menu, and you will see the routing information in the next screen (shown in Figure 4-20).

Advanced	Quick Start	Interface Setup	Advanced Setup	Access Managemen	t Mai	ntenance	Status	;	Help
	Firewall	Routing	NAT	QoS	VLAN	ADSL			
Routing Table List									
	#	Dest IP	Mask	Gateway IP	Metric	Device	Use	Edit	Drop
	1	192.168.1.0	24	192.168.1.1	1	enet0	779		
	2	default	0	Node5	2	ldle	0		

Figure 4-20

Click ADD ROUTE button to add a new route in the next screen (shown in Figure 4-21).

Static Route	Destination IP Address : 0.0.0.0 IP Subnet Mask : 0.0.0.0 Gateway IP Address :  0.0.0.0 PVC0 V Metric : 0 Announced in RIP : Yes
	SAVE DELETE BACK CANCEL



- Destination IP Address: This parameter specifies the IP network address of the final destination.
- > **IP Subnet Mask:** Enter the subnet mask for this destination.
- Gateway IP Address: Enter the IP address of the gateway. The gateway is an immediate neighbor of your ADSL modem router that will forward the packet to the destination. On the LAN, the gateway must be a router on the same segment as your Router; over Internet (WAN), the gateway must be the IP address of one of the remote nodes.
- Metric: Metric represents the "cost" of transmission for routing purposes. IP Routing uses hop count as the measurement of cost, with a minimum of 1 for directly connected networks. Enter a number that approximates the cost for this link. The number need not to be precise, but it must between 1 and 15. In practice, 2 or 3 is usually a good number.
- Announced in RIP: This parameter determines if the ADSL modem router will include the route to this remote node in its RIP broadcasts. If set to Yes, the route to this remote node will be propagated to other hosts through RIP broadcasts. If No, this route is kept private and is not included in RIP broadcasts.

# 4.4.3 NAT

Choose "Advanced Setup  $\rightarrow$  NAT" menu, you can setup the NAT (Network Address Translation) function for the modem router (shown in Figure 4-22).

Advanced	Quick Start	Interface Setup	Advanced Setup	Access Management	Maint	enance	Status	Help
	Firewall	Routing	NAT	QoS	VLAN	ADSL		
NAT								
		Virtual Circuit NAT Status						
			: O Single I N	lultiple				
		0						
		0	Virtual Server	r				
		0	IP Address M	apping (for Multi	ple IP Servic	:e)		

#### Figure 4-22

- > Virtual Circuit: Select the Virtual Circuit Index that you plan to setup for the NAT function.
- NAT Status: This field shows the current status of the NAT function for the current VC. You can go to the previous screen (shown in Figure 4-6) to activate the function.
- Number of IPs; This field is to specify how many IPs are provided by your ISP for current VC. It can be single IP or multiple IPs. We select Multiple to explain.

#### P Note:

For VCs with single IP, they share the same DMZ and Virtual servers; for VCs with multiple IPs, each VC can set DMZ and Virtual servers. Furthermore, for VCs with multiple IPs, they can define the Address Mapping rules; for VCs with single IP, since they have only one IP, there is no need to individually define the Address Mapping rule.

#### 4.4.3.1. DMZ

Choose "Advanced Setup  $\rightarrow$  NAT  $\rightarrow$  DMZ" in Figure 4-22, you can configure the DMZ host in the next screen. A DMZ (demilitarized zone) is a host between a private local network and the outside public network. It prevents outside users from getting direct access to a server that has company data. Users of the public network outside the company can access to the DMZ host.

DMZ	
	DMZ setting for : Single IP Account
	DMZ : O Enabled O Disabled
	DMZ Host IP Address : 0.0.0.0
	SAVE BACK

Figure 4-23

> DMZ Host IP Address: Enter the specified IP Address for DMZ host on the LAN side.

#### 4.4.3.2. Virtual Server

Choose "Advanced Setup $\rightarrow$ NAT $\rightarrow$ Virtual Server" in Figure 4-22, you can configure the Virtual Server in the next screen.

The Virtual Server is the server or server(s) behind NAT (on the LAN), for example, Web server or FTP server, that you can make visible to the outside world even though NAT makes your whole inside network appear as a single machine to the outside world.

		Virtual Server for : : Rule Index : Application : Protocol : Start Port Number :	1 🔽 - ALL 🔽	- ount	~		
		End Port Number : Local IP Address :					
Virtual Server Listing							
	Rule	Applicatio	n	Protocol	Start Port	End Port	Local IP Address
	1	-		-	0	0	0.0.00
	2	-		-	0	0	0.0.0.0
	3	-		-	0	0	0.0.00
	4	-		-	0	0	0.0.00
	5	-		-	0	0	0.0.0
	6	-		-	0	0	0.0.00
	7	-		-	0	0	0.0.0
	8	-		-	0	0	0.0.00
	9	-		-	0	0	0.0.0.0
	10	-		-	0	0	0.0.0
	11	-		-	0	0	0.0.00
	12	-		-	0	0	0.0.0.0

#### Figure 4-24

- Rule Index: The Virtual server rule index for this VC. You can specify 12 rules in maximum. All the VCs with single IP will use the same Virtual Server rules.
- Start & End port number: Enter the specific Start and End Port number you want to forward. If it is one port only, you can enter the End port number the same as Start port number. For example, if you want to set the FTP Virtual server, you can set the start and end port number to 21.
- **Local IP Address:** Enter the IP Address for the Virtual Server in LAN side.
- > Virtual Server Listing: This displays the information about the Virtual Servers you establish.

#### To add a virtual server entry:

Step 1: Select the "Virtual Circuit" and select "Number of IPs". After that, select the tab Virtual Server for the Virtual server (shown in Figure 4-22).

#### P Note:

For VCs with single IP, select **Single**; For VCs with multiple IPs, select **Multiple** for the option.

- **Step 2:** Select the Rule index for the rule as shown in Figure 4-24.
- **Step 3:** Select the application you want from drop-down list, then the protocol and port number will be added to the corresponding field automatically, you only need to configure the IP address for the virtual server; If the application list does not contain the service that you want, please configure the Port number, IP Address and Protocol manually.
- **Step 4:** After that, click **SAVE** to make the entry take effect.

#### Other configurations for the entries as shown in Figure 4-24:

Enter the index of assigned entry, click the **DELETE** button to delete the entry.

Click the **BACK** button to return to the previous screen.

Click the **CANCEL** button to cancel the configuration which is made just now.

#### 4.4.3.3. IP Address Mapping

Choose "Advanced Setup  $\rightarrow$  NAT  $\rightarrow$  IP Address Mapping" in Figure 4-22, you can configure the Address Mapping Rule in the next screen. The IP Address Mapping is for those VCs that configured with multiple IPs. The IP Address Mapping rule is per-VC based (only for Multiple IPs' VCs).

Frewall       Ruding       NAT       QS       VLAU       ADSL         NAT       Aut       Aut       Aut       Aut       Aut         NAT       Virtual Circuit       PVC#       Image: Status       Autore Status	Advanced	Quick li Start	nterface Setup	Advanced Setup	Access Management	Maintenance	Status	Help
Withue Circuit: PVCd   Natistatis: Activated   Natistatis: Activated   National Properties Single & Multiple   Pill Vithuel Server   Image: Properties Proderess Mapping (for Multiple IP Service)   Provide Statistic:   Properties Proderess Mapping (for Multiple IP Service)   Provide Statistic:   Properties Provide Statistic:   Provide Statistic: Provide Statistic:		Firewall		NAT	QoS	VLAN ADSL		
Withia Circuit: PVC4   National Status: Activated   National Status: Activated   National Status: National Status:   National Status: National Status: <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>								
Withia Circuit: PUCL   Altratus: Activated   Activated Pull   Pull Pull   Public Start IP Public   Public End IP Pollon   Public End IP Pollon   Public Start IP Public   Public End IP Pollon   Public End IP Pollon   Public Start IP Public Start IP   Public End IP Pollon   Public Start IP Public Start IP   Public End IP Pollon   Public End IP Pollon   Public End IP Public Start IP   Public End IP Public End IP	NAT							
Ard Taku::: Artwared   Mumber of Br::: Orgo Brown   Dr DZ   Virtual Server   Proddress Mapping (for Multiple IP Service)   Proddress Mapping Rull::: PYCH   Rule Type::: Many-to-Many Overload   Rule Type::: Many-to-Many Overload   Coal Start IP::: Ooloo   Coal Start IP::: Ooloo   Public End IP::: Ooloo   Address Mapping List   Rule Type::: Many-to-Many Overload   Public End IP::: Ooloo   Coal Start IP::: Ooloo   Public End IP::: Ooloo   Address Mapping List	NAT		Vistual Oise					
Mutter of Pirs <ul> <li>Single</li> <li>Mutter</li> <li>DKZ</li> <li>Virtual Server</li> <li>P Address Mapping (for Multiple IP Service)</li> </ul> <b>Figure 4-25</b> P Address Mapping Ruff <ul> <li>P Cadress Mapping Ruff</li> <li>P Ruff</li> <li>Ruff Pire</li> <li>Ruff</li></ul>								
<ul> <li>DMZ</li> <li>Virtual Server</li> <li>P Address Mapping (for Multiple IP Service)</li> </ul> PAddress Mapping Rule: : VC4: Rule index: : 1 Rule Type: Many-to-Many Overloat Rule Type: : [0000] Rule Type: : [0000] Rule Type: : [0000] Public Start IP: : 0000 Public Start IP: : : 0000 Public Start IP: : : : : : : : : : : : : : : : : : :					Multiple			
<ul> <li>♦ Virtual Server</li> <li>▶ P Address Mapping (for Multiple IP Service)</li> </ul> P Address Mapping          P Address Mapping       E         P Bite				-	Manipic			
P ddress Mapping (for Multiple IP Service) Figure 4-26 P ddress Mapping Meddress Mapping Meddr				DMZ				
Figure 4-25         P Address Mapping Rule: PVC4 Rule inde: 1         Rule inde: 1       1         Rule Type: Many-to-Many Overload I       Image: Rule Type:				Virtual Serve	er			
Figure 4-25         P Address Mapping Rule: PVC4 Rule inde: 1         Rule inde: 1       1         Rule Type: Many-to-Many Overload I       Image: Rule Type:								
IP Address Mapping       Address Mapping Rule: PVC4.         Rule Index:       Image: Many-to-Many Overload         Rule Type:       Many-to-Many Overload         Local Start IP:       0.0.0         Local Start IP:       0.0.0         Local Start IP:       0.0.0         Public Start IP:       0.0.0         Public Start IP:       0.0.0         Public End IP:       0.0.0         Public End IP:       0.0.0         Public Start IP:       0.0.0         Public Start IP:       0.0.0         Public End IP:       0.0.0         Start IP:       0.0.0         Public Start IP:       0.0.0         Start IP:       0.0.0         255.255.255       0.0.0         Start IP:       0.0.0         Start IP: <td< th=""><th></th><th></th><th></th><th>IP Address I</th><th>napping (for Multip</th><th>ie IP Service)</th><th></th><th></th></td<>				IP Address I	napping (for Multip	ie IP Service)		
IP Address Mapping       Address Mapping Rule: PVC4.         Rule Index:       Image: Many-to-Many Overload         Rule Type:       Many-to-Many Overload         Local Start IP:       0.0.0         Local Start IP:       0.0.0         Local Start IP:       0.0.0         Public Start IP:       0.0.0         Public Start IP:       0.0.0         Public End IP:       0.0.0         Public End IP:       0.0.0         Public Start IP:       0.0.0         Public Start IP:       0.0.0         Public End IP:       0.0.0         Start IP:       0.0.0         Public Start IP:       0.0.0         Start IP:       0.0.0         255.255.255       0.0.0         Start IP:       0.0.0         Start IP: <td< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></td<>								
IP Address Mapping       Address Mapping Rule: PVC4.         Rule Index:       Image: Many-to-Many Overload         Rule Type:       Many-to-Many Overload         Local Start IP:       0.0.0         Local Start IP:       0.0.0         Local Start IP:       0.0.0         Public Start IP:       0.0.0         Public Start IP:       0.0.0         Public End IP:       0.0.0         Public End IP:       0.0.0         Public Start IP:       0.0.0         Public Start IP:       0.0.0         Public End IP:       0.0.0         Start IP:       0.0.0         Public Start IP:       0.0.0         Start IP:       0.0.0         255.255.255       0.0.0         Start IP:       0.0.0         Start IP: <td< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></td<>								
IP Address Mapping       Address Mapping Rule: PVC4.         Rule Index:       Image: Many-to-Many Overload         Rule Type:       Many-to-Many Overload         Local Start IP:       0.0.0         Local Start IP:       0.0.0         Local Start IP:       0.0.0         Public Start IP:       0.0.0         Public Start IP:       0.0.0         Public End IP:       0.0.0         Public End IP:       0.0.0         Public Start IP:       0.0.0         Public Start IP:       0.0.0         Public End IP:       0.0.0         Start IP:       0.0.0         Public Start IP:       0.0.0         Start IP:       0.0.0         255.255.255       0.0.0         Start IP:       0.0.0         Start IP: <td< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></td<>								
IP Address Mapping       Address Mapping Rule: PVC4.         Rule Index:       Image: Many-to-Many Overload         Rule Type:       Many-to-Many Overload         Local Start IP:       0.0.0         Local Start IP:       0.0.0         Local Start IP:       0.0.0         Public Start IP:       0.0.0         Public Start IP:       0.0.0         Public End IP:       0.0.0         Public End IP:       0.0.0         Public Start IP:       0.0.0         Public Start IP:       0.0.0         Public End IP:       0.0.0         Start IP:       0.0.0         Public Start IP:       0.0.0         Start IP:       0.0.0         255.255.255       0.0.0         Start IP:       0.0.0         Start IP: <td< th=""><th></th><th></th><th></th><th>Figure</th><th>4-25</th><th></th><th></th><th></th></td<>				Figure	4-25			
Address Mapping Rule: PVC4         Rule Type:         Many-to-Many Overload         Local Start IP         0.0.0         (for all local IPs, enter 0.0.0 for Start IP)         Local End IP:         252552555         (for all local IPs, enter 255.255.255 for End IP)         Public Start IP:         0.0.0.0         Yetlic End IP:         0.0.0.0         Network         Address Mapping List				0				
Address Mapping Rule: PVC4         Rule Type:         Many-to-Many Overload         Local Start IP         0.0.0         (for all local IPs, enter 0.0.0 for Start IP)         Local End IP:         252552555         (for all local IPs, enter 255.255.255 for End IP)         Public Start IP:         0.0.0.0         Yetlic End IP:         0.0.0.0         Network         Address Mapping List	IP Address Mapping							
Rule Index:       1         Rule Type:       Many-to-Many Overload         Local Start IP:       0.0.0         Local Start IP:       0.0.0         Cotal End IP:       255.255.255         (for all local IPs, enter 255.255.255 for End IP)         Public Start IP:       0.0.0         Public End IP:       0.0.0         Address Mapping List       Image: Cotal Start IP image		Address	Mapping Ru	le : PVC4				
Rule         Type         Local Start IP         Local Start IP         Local IPs, enter 0.0.0 or Start IP)           Public Start IP         0.0.0         (for all local IPs, enter 255.255.255 for End IP)         Public Start IP         0.0.0           Public End IP         0.0.0         0         0.0.0         0         0           Address Mapping List         Image: Comparison of the start IP         Local Start IP         Local End IP         Public Start IP         Public End IP           1         M-1         0.0.0.0         255.255.255         0.0.0.0         0         0.0.0           2         -            0.0.0         0         0.0.0         0         0.0.0								
Local End IP       255 255 255 255 255 255 255 255 255 255			Rule Typ	e : Many-to-Many	/ Overload 🛛 🔽			
Rule       Type       Local Start IP       Local End IP       Public Start IP       Public End IP         1       M-1       0.0.0.0       255 255 255       0.0.0.0          2       -             3       -             4       -             6       -             8       -			Local Start	IP: 0.0.0.0	(for all local IPs	enter 0.0.0.0 for Start	P)	
Rule         Type         Local Start IP         Local End IP         Public Start IP         Start IP         IP </th <th></th> <th></th> <th>Local End</th> <th>IP: 255.255.255.2</th> <th>55 (for all local IPs</th> <th>enter 255.255.255.255</th> <th>o for End IP)</th> <th></th>			Local End	IP: 255.255.255.2	55 (for all local IPs	enter 255.255.255.255	o for End IP)	
Address Mapping List         Rule         Type         Local Start IP         Local End IP         Public Start IP         Public End IP           1         M-1         0.0.0.0         255 255 255         0.0.0.0            2         -               3         -               4         -               5         -               6         -               7         -		F	Public Start	IP: 0.0.0.0				
Rule         Type         Local Start IP         Local End IP         Public Start IP         Public End IP           1         M-1         0.0.0.0         255.255.255         0.0.0.0            2         -               3         -               4         -               5         -               6         -               7         -               8         -			Public End	IP: 0.0.0.0				
1       M-1       0.000       255.255.255       0.000          2       -             3       -             4       -             5       -             6       -             7       -             8       -	Address Mapping List							
1       M-1       0.000       255.255.255       0.000          2       -             3       -             4       -             5       -             6       -             7       -             8       -								
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		Rule	Туре	Local Start IP	Local End IP	Public Start IP	Public End IP	
3       -             4       -             5       -             6       -             7       -             8       -						1		
4       -            5       -            6       -            7       -            8       -								
5       -             6       -             7       -             8       -								
6       -            7       -            8       -								
8			-					
		8	-					
SAVE DELETE BACK CANCEL						CEL .		
SAVE DELETE BACK CANCEL				SAVE DEL	ETE BACK CAN			

#### Figure 4-26

- Rule Index: Select the Virtual server rule index for this VC. You can specify 10 rules in maximum. All the VCs with single IP will use the same Virtual Server rules.
- Rule Type: There are four types of One-to-One, Many-to-One, Many-to-Many Overload and Many-to-Many No-overload.
- Local Start & End IP: Enter the local IP Address you plan to mapped to. Local Start IP is the starting local IP address and Local End IP is the ending local IP address. If the rule is for all local IPs, then the Start IP is 0.0.0.0 and the End IP is 255.255.255.255.

- Public Start & End IP: Enter the public IP Address you want to do NAT. Public Start IP is the starting public IP address and Public End IP is the ending public IP address. If you have a dynamic IP, enter 0.0.0.0 as the Public Start IP.
- > Address Mapping List: This displays the information about the Mapping addresses.

#### To add a mapping rule:

Step 1: Select the "Virtual Circuit" and Multiple for the "Number of IPs". Then select the tab IPAddress Mapping for the Virtual server (shown in Figure 4-22).

#### P Note:

#### IP Address Mapping is only available for VCs with Multiple IPs.

- Step 2: Select the Rule index for the rule as shown in Figure 4-26.
- Step 3: Select the rule type you want from the drop-down list.
- **Step 4:** Enter the local and public IP addresses in the corresponding fields.
- Step 5: After that, click SAVE to make the entry take effect.

#### Other configurations for the entries as shown in Figure 4-26:

Enter the index of assigned entry, click the **DELETE** button to delete the entry.

Click the **BACK** button to return to the previous screen.

Click the **CANCEL** button to cancel the configuration which is made just now.

# 4.4.4 QoS

Choose "Advanced Setup→QoS", you can configure the QoS in the next screen. QoS helps to prioritize data as it enters your modem router. By attaching special identification marks or headers to incoming packets, QoS determines which queue the packets enter, based priority. This is useful when there are certain types of data you want to give higher priority, such as voice data packets give higher priority than Web data packets. This option will provide better service of selected network traffic over various technologies.

There are two IP versions: IPv4 and IPv6. If you select **IPv4** as IP version, please follow the configuration below to configure the QoS information (shown in Figure 4-27).

Advanced	Quick Start	Interface Setup	Advanced Setup	Access Management	Maint	enance	Status	Help
		Routing	NAT	QoS	VLAN	ADSL		
Quality of Service								
		IP Version	: 💿 IPv4 🔘 IPv	6				
		QoS	: O Activated @	Deactivated				
		Summary	QoS Settir	ngs Summary				
Rule		Rule Index	: 1 🗸					
		Active		Deactivated				
		Application						
		Physical Ports						
		-	Enet1					
		Destination MAC						
		IP						
		Mask Port Range						
		Source MAC						
		IP						
		Mask	:					
		Port Range	: ~					
		Protocol ID	:					
		Vlan ID Range	:~					
		IPP/DS Field		DSCP				
	IP P	recedence Range						
		Type of Service		~				
		DSCP Range		(Value Range:	0 ~ 63)			
Action		802.1p						
		IPP/DS Field		• DSCP				
	IP Prece	edence Remarking						
	Type of S	Service Remarking	:	~				
		DSCP Remarking	: (Value	Range: 0 ~ 63)				
	8	802.1p Remarking			~			
		Queue #	:					
			ADD DELET	E CANCEL				

#### Figure 4-27

- > **QoS:** Select this option to Activate/Deactivate the QoS.
- > **Summary:** Click the button to view the configurations of QoS.
- Rule: Configure the rules for QoS. If the traffic complies with the rule, then the modem router will take the corresponding action to deal with it.
  - **Rule Index:** Select the index for the rule you want to configure.
  - Active: Activate the rule. The rule can take effect only when it is activated.
  - Application: Select the application that the rule aimed at.
  - **Physical Ports:** Select the port whose traffic flow are controlled by the rule.
  - **Destination MAC & IP & Mask & Port Range:** Enter the IP information about the Destination host for the rule.
  - Source MAC & IP & Mask & Port Range: Enter the IP information about the Source host for the rule.
  - **Protocol ID:** Select one among TCP/UDP, TCP, UDP and ICMP protocols for the application.
  - Vian ID Range: Enter the Vian range, then the rule will be effective to the selected

Vlans.

• **IPP/DS Field:** Select the type of the action to assign the priority.

When you select IPP/TOS, you can assign the priority via IP information. IP QoS function is intended to deliver guaranteed as well as differentiated Internet services by giving network resource and usage control to the Network operator.

- **IP Precedence Range:** Enter the IP precedence range that the modem router takes to differentiate the traffic.
- **Type of Service:** Select the type of service that the modem router takes to deal with the traffic.

When you select DSCP, you can assign the priority via DHCP (the header of IP group). It maps the IP group into corresponding service class.

- **DSCP Range:** Enter the DSCP range to differentiate the traffic.
- **802.1p:** Select the priority range for the rule.
- Action: Configure the action that the modem router takes to deal with the traffic which accord with the rule.
  - **IPP/DS Field:** Select the type for the action.
  - **IP Precedence Remarking:** Select the number to remark the priority for IP precedence.
  - **Type of Service Remarking:** Select the type to remark the service.
  - **DSCP Remarking:** Enter the number to remark the DSCP priority.
  - **802.1p Remarking:** Select the type to remark the 802.1p priority.
  - **Queue#:** Select the priority type for the action.

There are two IP versions: IPv4 and IPv6. If you select **IPv6** as IP version, please follow the configuration below to configure the QoS information (shown in Figure 4-28).

Quality of Service		
		<ul> <li>IPv4 IPv6</li> <li>Activated Deactivated</li> <li>QoS Settings Summary</li> </ul>
Rule	Rule Index : Active : Destination IPv6 :	1 V O Activated
Action	Source IPv6 : DSCP Range :	/ ////////////////////////////////////
	DSCP Remarking : Queue # :	(Value Range: 0 ~ 63)
		ADD DELETE CANCEL

Figure 4-28

- > **QoS:** Select this option to Activate/Deactivate the IP QoS on different types.
- Summary: Click the button to view the configurations of QoS.
- **Rule:** Configure the rules for QoS. If the traffic complies with the rule, then the modem router

will take the corresponding action to deal with it.

- **Rule Index:** Select the index for the rule you want to configure.
- Active: Activate the rule. The rule can take effect only when it is activated.
- **Destination IPv6:** Enter the IP information about the Destination host for the rule.
- Source IPv6: Enter the IP information about the Source host for the rule.
- **DSCP Range:** Enter the DSCP range to differentiate the traffic.

When you select DSCP, you can assign the priority via DHCP (the header of IP group). It maps the IP group into corresponding service class.

- Action: Configure the action that the modem router takes to deal with the traffic which accord with the rule.
  - **DSCP Remarking:** Enter the number to remark the DSCP priority.
  - **Queue #:** Select the priority type for the action.

# 4.4.5 VLAN

Choose "Advanced Setup→VLAN", you can activate the VLAN function in the next screen.

Virtual LAN (VLAN) is a group of devices on one or more LANs that are configured so that they can communicate as if they were attached to the same wire, when in fact they are located on a number of different LAN segments. Because VLANs are based on logical instead of physical connections, it is very flexible for user/host management, bandwidth allocation and resource optimization. There are two types of VLAN as follows:

Port-Based VLAN: Each physical switch port is configured with an access list specifying membership in a set of VLANs.

ATM VLAN: Using LAN Emulation (LANE) protocol to map Ethernet packets into ATM cells and deliver them to their destination by converting an Ethernet MAC address into an ATM address.



Figure 4-29

# 5. Define VLAN Group

Click **Define VLAN Group** in Figure 4-29, you can define VLAN groups in the next screen (shown in Figure 4-30).

VLAN Group Setting					
			Act	dex : 1 ♥ tive : ● Yes ○ No I ID : 1 (Decimal)	
			ATM \	Tagged       Image: Image	
			Ether	net : Port # V	
VLAN Group Summary					
	Group	Active	ID	VLAN Group Ports	VLAN Tagged Ports
	1	Yes	1	e1,p0,p1,p2,p3,p4,p5,p6,p7	
	p:pvc, e	ethernet			
				SAVE DELETE CANCEL NEXT	

Figure 4-30

- > VLAN Index: Select the VLAN index for this VC. You can specify 8 groups in maximum.
- > VLAN ID: This indicates the VLAN group.
- ATM VCs: Select the ATM VCs as members of VLAN, and if you leave the Tagged blank, the tag in frames will be deleted when transmitted from the VC.
- Ethernet: Select the Ethernet port as a member of VLAN, and if you leave the Tagged blank, the tag in frames will be deleted when transmitted from the port.
- > VLAN Group Summary: This displays the information about the VLAN Groups.

#### 6. Assign VLAN PVID for each Interface

Click **Assign VLAN PVID for each Interface** in Figure 4-29, you can assign the PVID for each interface in the next screen (shown in Figure 4-31).

PVID Assign	
	ATM VC #0 : PVID 1
	VC #1 : PVID 1
	VC #2 : PVID 1
	VC #3 : PVID 1
	VC #4 : PVID 1
	VC #5 : PVID 1
	VC #6 : PVID 1
	VC #7 : PVID 1
	Ethernet Port #1 : PVID 1
	SAVE CANCEL

Figure 4-31

PVID: Each physical port has a default VID called PVID (Port VID). PVID is assigned to untagged frames or priority tagged frames (frames with null (0) VID) received on this port.

# 4.4.6 ADSL

Choose "Advanced Setup→ADSL", you can select the ADSL Type and ADSL Mode in the next screen. The ADSL feature can be selected when you meet the physical connection problem. Please check the proper settings with your Internet service provider.

Advanced	Quick Start	Interface Setup	Advanced Setup	Access Management	Maintenand	ce Status	Help
	Firewall	Routing	NAT	QoS	VLAN AD	SL	
	I						
ADSL							
		ADSL Mode ADSL Type					
			🗹 Bitswap E	nable			
			🗹 SRA Enab	le			
			SAVE				



- > ADSL Mode: Select the ADSL operation mode which your ADSL connection uses.
- > **ADSL Type:** Select the ADSL operation type which your ADSL connection uses.

# 4.5 Access Management

Choose "Access Management", you can see the next submenus:

Quick Start	Interface Setup	Advanced Setup	Access Management	Maintena	ance	Status	Help
ACL	Filter	SNMP	UPnP	DDNS	CW	MP	
			Figure 4-33	3			

Click any of them, and you will be able to configure the corresponding function.

# 4.5.1 ACL

Choose "Access Management  $\rightarrow$  ACL", you can see the next screen (shown in Figure 4-34). You can specify the client to access the ADSL modem router once setting his IP as a Secure IP Address through selected applications.

			1D-88'	16 ADSL2+	Modem	Router Use	Guide
Access	Quick Start	Interface Setup	Advanced Setup	Access Management	Maintenance	e Status	Help
Management	ACL	Filter	SNMP	UPnP	DDNS		
	$\bigcirc$						
Access Control Setup							
		ACL	: <ul> <li>Activated</li> </ul>	Deactivated			
Access Control Editing							
		ACL Rule Index	: 1 🔽				
			: 💿 Yes 🛇 No				
	Secure IP Address : 0.0.0.0 ~ 0.0.0.0 (0.0.0.0 ~ 0.0.0.0 means all IPs)						
		Application Interface					
Access Control Listing							
		Index Act	tive S	ecure IP Address	Applicatio	n Interface	
		1 Y	es	0.0.0.0-0.0.0.0	ALL	LAN	
			SAVE DEL	ETE CANCEL			

Figure 4-34

- ACL: If Activated, the IP addresses which are contained in the Access Control List can access to the modem router. If Deactivated, all IP addresses can access to the modem router.
- > ACL Rule Index: Select the ACL rule index for the entry.
- > Active: Enable the ACL rule.
- Secure IP Address: Select the IP addresses which are permitted to access to the modem router remotely. With the default IP 0.0.0.0, any client would be allowed to remotely access the ADSL modem router.
- Application: Select the application for the ACL rule, and then you can access the modem router through it.
- > Interface: Select the interface for access: LAN, WAN or Both.
- > Access Control Listing: This displays the information about the ACL Rules.

# 4.5.2 Filter

Choose "Access Management→Filter", you can see the Filter screen (the default is IP/MAC Filter screen shown in Figure 4-35). The filtering feature includes IP/MAC Filter, Application Filter and URL Filter. The feature makes it possible for administrators to control user's access to the Internet and protect the networks.

# 4.5.2.1. IP Filter

Select **IP/MAC Filter** as the Filter type, and select **IP** as the Rule type (shown in Figure 4-35), then you can configure the filter rules based on IP address. The filtering includes **Outgoing** and **Incoming**, the detailed descriptions are provided below.

Management       ACL       Filter       SMMP       UPAP       DDNS       CWMP         Filter       Filter Type       Filter Type Selection       P/MAC Filter       Filter       Filter Type Selection       P/MAC Filter       Filter <t< th=""><th>Access</th><th>Quick Start</th><th>Interface Setup</th><th>Advanced Setup</th><th>Access Managemer</th><th>nt Maint</th><th>tenance</th><th>Status</th><th>Help</th></t<>	Access	Quick Start	Interface Setup	Advanced Setup	Access Managemer	nt Maint	tenance	Status	Help
Filter Type         IP / MAC Filter Set Editing         IP / MAC Filter Set Editing         IP / MAC Filter Rule Editing         IP / MAC Filter Rule Index:         IP / MAC Filter Stine:         IP / IN IP / IP / IP / IP / IP / I	Management	ACL	Filter	SNMP	UPnP	DDNS	CW	(MP	
IP / MAC Filter Set Editing         Filter Type Selection P/MC Filter           IP / MAC Filter Set Index:         I           IP / MAC Filter Rule Editing         IP / MAC Filter Rule Index:         IP           Source IP Address:         IO         O	Filter								
IP / MAC Filter Set Editing         Filter Type Selection P/MC Filter           IP / MAC Filter Set Index:         I           IP / MAC Filter Rule Editing         IP / MAC Filter Rule Index:         IP           Source IP Address:         IO         O	Eilter Type								
IP / MAC Filter Set Editing       IP / MAC Filter Set Index:       I I I I I I I I I I I I I I I I I I I	ritter type	Fi	Iter Type Selection	IP / MAC Filte	r				
IP / MAC Filter Set Index:       1 < PVC0 < DVC 0	IP / MAC Filter Set Editing								
IP / MAC Filter Rule Editing       IP / MAC Filter Rule Index: 1 IR         IP / MAC Filter Rule Index: 1 IR       Rule Type P         Rule Type P       Rule Type P         Active: Yes O No       Source IP Address: 0.0.0.0 means Don't care)         Subnet Mask: 0.0.0 means Don't care)       Subnet Mask: 0.0.0 means Don't care)         Destination IP Address: 0.0.0 means Don't care)       Subnet Mask: 0.0.0 means Don't care)         Subnet Mask: 0.0.0 means Don't care)       Port Number: 0.0.0 means Don't care)         Protocol: TCP Rule Umatched: Forward O       Protocol: TCP Rule Umatched: Forward O         IP / MAC Filter Listing       Immatched: Forward O         IP / MAC Filter Set Index: 1 Immatched: 1.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0	-	IP / M							
IP / MAC Filter Rule Index :       I Rule Type P         Active :       Yes O No         Source IP Address :       0.0.0.0 means Don't care)         Subnet Mask :       0.0.0.0 means Don't care)         Port Number :       0.0.0.0 means Don't care)         Subnet Mask :       0.0.0.0 means Don't care)         Subnet Mask :       0.0.0.0 means Don't care)         Port Number :       0.0.0 means Don't care)         Subnet Mask :       0.0.0 means Don't care)         Port Number :       0.0.0 means Don't care)         Port Number :       0.0 means Don't care)         Port Number :       0.0 means Don't care)         Rule Unmatched :       Forward P         Port Number :       1         IP / MAC Filter Set Index 1       Interface - Direction -         If Active Src Address/Mask Dest IP/Mask Src Port Port Port or in the interface in the			Direction	: Both					
IP / MAC Filter Listing         Image: Control of Contro	P / MAC Filter Rule Editing								
Active:       Yes © No         Source IP Address:       0.0.0.0 means Don't care)         Subnet Mask:       Destination IP Address:         Port Number:       0.0.0.0 means Don't care)         Subnet Mask:       Destination IP Address:         Port Number:       0.0.0.0 means Don't care)         Subnet Mask:       Destination IP Address:         Port Number:       0.0.0.0 means Don't care)         Subnet Mask:       Destination IP Address:         Port Number:       0.0.0 means Don't care)         Subnet Mask:       Destination IP Address:         Port Number:       0.0.0 means Don't care)         Protocol:       TCP V         Rule Unmatched:       Forward V         Rule Unmatched:       Forward V         Y       Active Src Address/Mask       Dest IP/Mask       Src Port       Dest         Y       Active Src Address/Mask       Dest IP/Mask       Src Port       Dest       Immatched         Y       I       I       I       Immatched       Immatched       Immatched         Y       I       I       Immatched       Immatched       Immatched       Immatched         Y       I       Immatched       Immatched       Immatched       Immatched		IP / MA							
Image: Source IP Address:       (0.0.0.0 means Don't care)         Subnet Mask:					, ,				
IP / MAC Filter Listing       Image: Subnet Mask image: Omeans Don't care)         Subnet Mask image: Omeans Don't care)       Subnet Mask image: Omeans Don't care)         Subnet Mask image: Omeans Don't care)       Subnet Mask image: Omeans Don't care)         Subnet Mask image: Omeans Don't care)       Subnet Mask image: Omeans Don't care)         Port Number: Omeans Don't care)       Subnet Mask image: Omeans Don't care)         Protocol :       TCP voice         Rule Unmatched :       Forward voice         IP / MAC Filter Set Index image: Omeans Don't care)       Image: Omeans Don't care)         Image: Protocol :       TCP voice         Image: Protocol :       Ter voice			, 101110	· • 163 • 140					
Port Number:       0 <t< td=""><td></td><td></td><td>Source IP Address</td><td>:</td><td>(0.0.0.0 mear</td><td>is Don't care)</td><td></td><td></td><td></td></t<>			Source IP Address	:	(0.0.0.0 mear	is Don't care)			
Image: Section 10 P Address:       (0.0.0.0 means Don't care)         Subnet Mask:       Port Number:         Port Number:       0         (0.0.0 means Don't care)         Protocol:       TCP ▼         Rule Unmatched:       Forward ▼         IP / MAC Filter Listing       Image: Section 1         IP / MAC Filter Set Index       Image: Section 2         IP / MAC Filter Set Index       Image: Section 2         Image: Section 2       -         Image									
Subnet Mask :       O       O       O       Dest       Port Number :       O       O       O       Dest       Port Number :       O       O       O       O       Dest       Port Number :       O </td <td></td> <td></td> <td>Port Number</td> <td>: 0 (</td> <td>o means Don't care</td> <td>)</td> <td></td> <td></td> <td></td>			Port Number	: 0 (	o means Don't care	)			
Port Number : 0 0 means Don't care)         Protocol : TCP V         Rule Unmatched : Forward V         IP / MAC Filter Set Index 1 V       Interface - Direction -         # Active       Src Address/Mask       Dest IP/Mask       Src Port       Dest Port       Interface -       -         1       -       -       -       -       -       -       -       -         2       -		Des	tination IP Address	:	(0.0.0.0 mear	ns Don't care)			
IP / MAC Filter Listing         IP / MAC Filter Listing       Image: Protocol is forward in the forward is forward is forward in the forward is forward in the forward is forward is forward in the forward in the forward is forward in the forward in									
Rule Unmatched : Forward Y         IP / MAC Filter Set Index       I Y       Interface       -       Direction       -         #       Active       Src Address/Mask       Dest IP/Mask       Src Port       Dest Port       Protocol       Unmatched         1       - <td></td> <td></td> <td>Port Number</td> <td>: 0 (</td> <td>0 means Don't care</td> <td>)</td> <td></td> <td></td> <td></td>			Port Number	: 0 (	0 means Don't care	)			
IP / MAC Filter Listing         IP / MAC Filter Set Index       I       Interface       -       Direction       -         #       Active       Src Address/Mask       Dest IP/Mask       Src Port       Dest Port       Protocol       Unmatche         1       - <td></td> <td></td> <td>Protocol</td> <td>TCP 🔽</td> <td></td> <td></td> <td></td> <td></td> <td></td>			Protocol	TCP 🔽					
Image:			Rule Unmatched	: Forward					
#         Active         Src Address/Mask         Dest IP/Mask         Src Port         Port         Protocol         Onmatche           1 <t< th=""><th>IP / MAC Filter Listing</th><th>IP / MAC</th><th>Filter Set Index</th><th>1 🗸</th><th>Interface</th><th>-</th><th></th><th>Direction</th><th>-</th></t<>	IP / MAC Filter Listing	IP / MAC	Filter Set Index	1 🗸	Interface	-		Direction	-
1       -		# Active	e Src Address	/Mask	Dest IP/Mask	Src Port		Protocol	Unmatched
3     -     -     -     -     -     -       4     -     -     -     -     -     -       5     -     -     -     -     -     -								-	-
4     -     -     -     -     -       5     -     -     -     -     -     -									
5						-			
			-		-	-	-	-	-

# Figure 4-35

- > Filter Type Selection: Select the filter type for the next configuration.
- IP/MAC Filter Set Index: Select the Set index for the IP Filter entry. This index can match with six IP / MAC Filter Rule Indexes.
- > Interface: Select the interface for the entry.
- Direction: Select the direction for this IP Filter rule. There are three filtering directions: Both, Incoming, Outgoing.

#### P Note:

Selecting **Outgoing**, the filtering feature only allows some IP traffic from LAN to access to some specifically addresses. Selecting **Incoming**, the filtering feature only allows some IP traffic from WAN to access to some specifically addresses; Selecting **Both**, the IP traffic from LAN and WAN are both blocked. By default, all outgoing IP traffic from LAN is blocked, but some IP traffic can be allowed by setting up filters.

> IP/MAC Filter Rule Index: Select the Rule index for the IP Filter entry.

### P Note:

You should set the IP/MAC Filter Set Index and IP/MAC Filter Rule Index together to appoint the address (shown in the Filter List) for the IP Filter rule. For example, (1, 2), it means the rule will be shown in the row 2 for the matching with 1.

- > Rule Type: For IP Filter, please select IP here.
- > Active: Select "Yes" to make the rule to take effect.
- Source IP Address: Enter the source IP address for the rule. You can enter 0.0.0.0; it means that all IP addresses are controlled by the rule.
- Subnet Mask: Enter the Subnet Mask for the rule.
- Port Number: Enter the Port Number for the rule. You can enter 0, it means that all ports are controlled by the rule.
- > Protocol: Select the protocol: TCP, UDP or ICMP for the filter rule.
- Rule Unmatched: If the current rule can not match, and you select Forward, the modem router will skip the rule and transmit directly. If you select Next, the modem router will find the next filter rule (show in Filter list) to match.
- > **IP/MAC Filter Listing:** This displays the information about the IP Filter rules.

#### To add an IP Address filtering entry:

**For example:** If you desire to block E-mail received and sent by the IP address 192.168.1.107 on your local network; And wish to make the PCs with IP address 192.168.1.108 unable to visit the website of IP address 202.96.134.12, while other PCs have no limit. You can configure the rules as follows. Presume the rules are both aimed at the interface PVC0, and their indexes are (1, 1), (1, 2) and (1, 3).

Step 1: Select the "IP/MAC Filter" as the Filer Type Selection (show in Figure 4-35).

Filter Type Selection : IP / MAC Filter

Select the "IP" as the Rule Type on the Filter screen, then you can configure the specific rule for the example.



Step 2: Select the IP/MAC Filter Set Index and IP/MAC Filter Rule Index for the rule, then select the Interface "PVC0", and select the Direction "Both" for the first rule.

IP / MAC Filter Set Index : Interface : Direction :	PVC0
IP / MAC Filter Rule Index : Rule Type : Active :	

#### P Note:

If you want to make the rule take effect, please select **Yes** to active the rule.

**Step 3:** Enter the "Source IP Address", "Destination IP Address", "Subnet Mask" and "Port Number" in the corresponding field.

Source IP Address :	192.168.1.107		(0.0.0.0 means Don't care)
Subnet Mask :	255.255.255.2	55	
Port Number :	0	(0 mea	ins Don't care)
Destination IP Address :	0.0.0.0		(0.0.0.0 means Don't care)
Subnet Mask :	0.0.0.0		
Port Number :	25	(0 mea	ins Don't care)
Protocol :	TCP 💌		
Rule Unmatched :	Next 🛛 👻		

- Step 4: Select the Protocol as "TCP" and select the Unmatched rule as "Next".
- **Step 5:** Finally, click the **SAVE** to save the entry.
- Step 6: Go to Step 2 to configure the next two rules: Block E-mail received by the IP address 192.168.1.107 on your local network; Make the PC with IP address 192.168.1.108 unable to visit the website of IP address 202.96.134.12.

#### Note:

After you complete the IP filter rules for the example, the Filter list will show as follows. You can enter the **IP** / **MAC Filter Set Index** to view the information about the rule.

#	Active	Src Address/Mask	Dest IP/Mask	Src Port	Dest Port	Protocol	Unmatched
1	Yes	192.168.1.107/ 255.255.255.255	0.0.0.0/ 0.0.0.0	0	25	TCP	Next
2	Yes	192.168.1.107/ 255.255.255.255	0.0.0.0/ 0.0.0.0	0	110	TCP	Forward
3	Yes	192.168.1.108/ 255.255.255.255	202.96.134.12/ 255.255.255.255	0	0	TCP	Forward
4	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-

Other configurations for the entries as shown in Figure 4-35:

Enter the IP / MAC Filter Set Index and IP/MAC Filter Rule Index to view or modify the entry.

Enter the **IP** / **MAC Filter Set Index** and **IP/MAC Filter Rule Index** to locate the specific rule, and then click the **DELETE** button to delete the entry.

#### 4.5.2.2. MAC Filter

Select **IP/MAC Filter** as the Filter type, and select **MAC** as the Rule type (shown in Figure 4-36), then you can configure the filter rules based on MAC address.

Access	Quick Start	Interface Setup	Advanced Setup	Access Managemer	nt Main	tenance	Status	Help
Management	ACL	Filter	SNMP	UPnP	DDNS	C V	WMP	
Filter								
Filter Type								
	Filte	er Type Selection	IP / MAC Filter					
IP / MAC Filter Set Editing	IP / MA	Interface :	1 V PVC0 V Both V					
IP / MAC Filter Rule Editing	IP / MAC		MAC Ves  No					
		MAC Address : 0 Rule Unmatched :	Forward	00				
IP / MAC Filter Listing	IP / MAC F	ilter Set Index	1 🔽	Interface	-		Direction	-
	# Active	Src Address/Ma	ask D	est IP/Mask	Src Port	Dest Port	Protocol	Unmatched
	1 -	-		-	-	-	-	-
	2 -	-		-	-	-	-	-
	3 -	-		-	-	-	-	-
	4 -	-		-	-	-	-	-
	5 -	-		-	-	-	-	-
			SAVE DELE		)		1	1

#### Figure 4-36

- > Rule Type: Select MAC for the MAC Filter rule.
- > Active: Select "Yes" to make the rule to take effect.
- > **MAC Address:** Enter the MAC address for the rule.
- Rule Unmatched: If the current rule can not match, and you select Forward, the modem router will skip the rule and transmit directly. If you select Next, the modem router will find the next filter rule (show in Filter list) to match.
- > **IP/MAC Filter Listing:** This displays the information about the MAC Filter rules.

#### To add a MAC Address filtering entry:

**For example:** If you want to block the PCs with MAC addresses 00-0A-EB-00-07-BE and 00-0A-EB-00-07-5F to access the Internet, you can configure as follows. Presume the rules are both aimed at the interface PVC0, and their indexes are (1, 1) and (1, 2).

**Step 1:** Select the "IP/MAC Filter" as the Filer Type Selection:



Select the "MAC" as the Rule Type on the Filter screen (show in Figure 4-36)., Then you can configure the specific rule for the example.

Rule Type : MAC 🔽
-------------------

Step 2: Select the IP/MAC Filter Set Index and IP/MAC Filter Rule Index for the rule, then select the Interface "PVC0", and select the Direction "Outgoing" for the first rule.

IP / MAC Filter Set Index : Interface : Direction :	
IP / MAC Filter Rule Index : Rule Type : Active :	

#### P Note:

If you want to make the rule take effect, please select **Yes** to active the rule. **Step 3:** Enter the "MAC Address" and select the Unmatched rule as "Next".

MAC Address :	00:0A:EB:00:07:BE
Rule Unmatched :	Next 🔽

Step 4: Finally, click the SAVE to save the entry.

Step 5: Go to Step 2 to configure the next rule: Block the PC with MAC address 00-0A-EB-00-07-5F to access the Internet.

#### P Note:

After you complete the MAC filter rules for the example, the Filter list will show as follows. You can enter the **IP / MAC Filter Set Index** to view the information about the rule.

#	Active	Src Address/Mask	Dest IP/Mask	Src Port	Dest Port	Protocol	Unmatched
1	Yes	00:0a:eb:00:07:be	-	-	-	-	Next
2	Yes	00:0a:eb:00:07:5f	-	-	-	-	Forward
3	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-

Other configurations for the entries as shown in Figure 4-36:

Enter the IP / MAC Filter Set Index and IP/MAC Filter Rule Index to view or modify the entry.

Enter the **IP** / **MAC Filter Set Index** and **IP/MAC Filter Rule Index** to locate the specific rule, and then click the **DELETE** button to delete the entry.

#### 4.5.2.3. Application Filter

Select **Application Filter** as the Filter type (shown in Figure 4-37), then you can configure the filter rules based on application.

Access Management	Quick Start	Interface Setup	Advanced Setup	Access Management	Maintenand		Help
	ACL	Filter	SNMP	UPnP	DDNS	CWMP	
Filter							
Filter Type							
	Filt	ter Type Selection	Application Filte	er 🕑			
Application Filter Editing							
		Application Filter :	Activated •	Deactivated			
		ICQ :	● Allow ○ De	eny			
		MSN :	⊙ Allow ○ De	eny			
		YMSG :	💿 Allow 🔘 De	eny			
		Real Audio/Video :	Allow O De	eny			
			SAVE CANC	EL			

Figure 4-37

- **Filter Type Selection:** Select the Application Filter for the next configuration.
- > **Application Filter:** Activate or deactivate the function.
- ICQ & MSN & YMSG & Real Audio/Video: Select Allow or Deny for these applications. If you select Allow, the modem router will accept the application; if you select Deny, the modem router will forbid the application.

## 4.5.2.4. URL Filter

Select **URL Filter** as the Filter type (shown in Figure 4-38), then you can configure the filter rules based on URL.

Access	Quick Start	Interface Setup	Advanced Setup	Access Management	Maintena	nce Status	Help
Management	ACL	Filter	SNMP	UPnP	DDNS	CWMP	
Filter							
Filter Type							
	Filt	er Type Selection	URL Filter				
URL Filter Editing							
oner mer zuning		Activo	: O Yes 💿 No				
		Active	Ves Vo				
		URL Index	: 1 🔽				
		URL					
URL Filter Listing							
	Index	URI	_				
	1						
	2						
	3						
	4						
	5						
	6						
	7						
	8						
	9						
	1						
	1						
	1						
	1						
	1						
	1						
		<u> </u>					
			SAVE DELE	TECANCEL			

#### Figure 4-38

- > Filter Type Selection: Select the URL Filter for the next configuration.
- > Active: Select "Yes" to make the rule take effect.
- **URL Index:** Select the index for the URL Filter entry.
- > URL: Enter the URL for this URL Filter.
- > URL Filter Listing: This displays the information about the URL Filter rules.

#### To add a URL filter entry:

**For example:** If you want to forbid the user to access the website: <u>www.yahoo.com</u>. Presume the rule is aimed at the interface PVC0, and its index is "1".

Step 1: Select the "URL Filter" as the Filter Type Selection (show in Figure 4-38).

Step 2: Select the Index for the rule, and then enter the website in the URL field.

Step 3: Finally, Select Yes to active the rule, and then click the SAVE button to save the entry.

#### Other configurations for the entries as shown in Figure 4-36:

Enter the URL Index to view or modify the entry.

Enter the **URL Index** to locate the specific rule, and then click the **DELETE** button to delete the entry.

#### 4.5.3 SNMP

Choose "Access Management→SNMP", you can see the SNMP screen( shown in Figure 4-39). The Simple Network Management Protocol (SNMP) is used for exchanging information between network devices.

Access	Quick Start	Interface Setup	Advanced Setup	Access Management	Maintenan	ce Status	Help
Management	ACL	Filter	SNMP	<b>UPnP</b>	DDNS	CWMP	
SNMP							
		SNMP	: 🔘 Activated 🤇	Deactivated			
		Get Community	: public				
		Set Community	: public				
		Trap Host	: 0.0.0.0				
			SAVE				

Figure 4-39

- > **SNMP:** Activate or deactivate the function.
- Get Community: Select to set the password for the incoming Get requests from the management station.
- Set Community: Select to set the password for incoming Set requests from the management station.
- **Trap Host:** Enter the trap host here.

#### 4.5.4 UPnP

Choose "Access Management  $\rightarrow$  UPnP", you can configure the UPnP in the screen (shown in Figure 4-40).

UPnP (Universal Plug and Play) is a distributed, open networking standard that uses TCP/IP for simple peer-to-peer network connectivity between devices. An UPnP device can dynamically join a network, obtain an IP address, convey its capabilities and learn about other devices on the network. In turn, a device can leave a network smoothly and automatically when it is no longer in use. UPnP broadcasts are only allowed on the LAN.

Access	Quick Start	Interface Setup	Advanced Setup	Access Management	Maintenance	Status	Help
Management	ACL	Filter	SNMP	UPnP	DDNS C	WMP	
Universal Plug & Play							
oniversal Flug & Flay		UPnP	.      Activated	Deactivated			
				Deactivated (by UPn	P-enabled Applicatior	)	
			SAVE				
			Eiguro	1 10			

Figure 4-40

- UPnP: Activate or deactivate the UPnP function. Only when the function is activated can the UPnP take effect.
- Auto-configured: If you activate the function, then the UPnP network devices can automatically configure network addressing, announce their presence in the network to other UPnP devices and enable exchange of simple product and service descriptions.

# 4.5.5 DDNS

Choose "Access Management→DDNS", you can configure the DDNS function in the screen (shown in Figure 4-41).

The modem router offers a Dynamic Domain Name System (**DDNS**) feature. The feature lets you use a static host name with a dynamic IP address. Users should type the host name, user name and password assigned to your ADSL modem router by your Dynamic DNS provider.

Access	Quick Start	Interface Setup	Advanced Setup	Access Management	Maintenanc	e Status	Help
Management	ACL	Filter	SNMP	UPnP	DDNS	CWMP	
Dynamic DNS							
		Dynamic DNS :	Activated •	Deactivated			
		Service Provider :	http://www.no-ip	o.com/ 🗸			
		My Host Name					
		Username	:				
		Password	:				
			SAVE				

Figure 4-41

- > **Dynamic DNS:** Activate or deactivate the DDNS function.
- > Service Provider: This field displays the service provider of DDNS.
- > My Host Name: Enter your host name here.
- **Username & Password:** Type the "User Name" and "Password" for your DDNS account.

# 4.5.6 CWMP

Choose "Access Management→CWMP", you can configure the CWMP function in the screen (shown in Figure 4-42).

The modem router offers CWMP feature. The function supports TR-069 protocol which collects information, diagnoses the devices and configures the devices automatically via ACS (Auto-Configuration Server).

Access	Quick Start	Interface Setup	Advanced Setup	Access Management	Maintenance	Status	Help
Management	ACL	Filter	SNMP	UPnP	DDNS CV	VMP	
CWMP Setup							
		CWMP	O Activated 💿	Deactivated			
Login ACS							
		URL	:				
		User Name :					
		Password					
Connection Request							
		Path	/tr069				
		Port :	7547				
		UserName					
		Password					
Periodic Inform							
		Periodic Inform	Activated O	Deactivated			
		Interval(s)	86400				
			SAVE CANC	EL			

Figure 4-42

- **CWMP:** Select to activate the CWMP function.
- > **URL:** Enter the website of ACS which is provided by your ISP.
- > User Name/Password: Enter the user name and password to login the ACS server.
- > **Path:** Enter the path that connects to the ACS server.
- > **Port:** Enter the port that connects to the ACS server.
- UserName/Password: Enter the username and password provided by the ACS server to login the modem router.
- Periodic Inform: Activate or deactivate the function. If activated, the information will be informed to ACS server periodically.
- > Interval(s): Enter the interval time here.

# 4.6 Maintenance

Choose "Maintenance", you can see the next submenus:





Click any of them, and you will be able to configure the corresponding function.

#### 4.6.1 Administration

Choose "**Maintenance→Administration**", you can set new password for admin in the screen (shown in Figure 4-44).

Maintenance	Quick Start	Interface Setup	Advanced Setup	Access Manageme		Maintena	ince	Status	Help
	Administra	ation Tim	ne Zone	Firmware	Sys	Restart	Diag	nostics	
Administrator									
		Username	admin						
	C	New Password							
			L						
			SAVE CA	NCEL					



#### P Note:

- 1) There is only one account that can access Web-Management interface. The default account is "admin", and the default password is "admin". Admin has read/write access privilege.
- 2) When you change the password, you should enter the new password twice, and then click **SAVE** to make the new password take effect.

### 4.6.2 Time Zone

Choose "**Maintenance**  $\rightarrow$  **Time Zone**", you can configure the system time in the screen (shown in Figure 4-44).

The system time is the time used by the device for scheduling services. There are three methods to configure the time. You can manually set the time or connect to a NTP (Network Time Protocol) server. If a NTP server is set, you will only need to set the time zone. If you manually set the time, you may also set Daylight Saving dates and the system time will automatically adjust on those dates.

#### 1. NTP Server automatically

Select NTP Server automatically as the Synchronize time, you only need to set the time zone.

Maintenance	Quick Start	Interface Setup	Advanced Setup	Access Management	Maintenance	Status	Help
	Administrati	ion Tim	le Zone	Firmware Sy	/sRestart Diag	nostics	
Time Zone	Cur	ront Dato/Timo	: 05/13/2013 15	-51-50			
Time Synchronization	Cu	Tent Date/Time	. 00/10/2010 10	.01.00			
	Synch	ronize time with	: 💿 NTP Serve	er automatically			
			O PC's Clock				
			Manually				
		Time Zone	: (GMT) Green	wich Mean Time : Dublir	n, Edinburgh, Lisbon, Lo	ndon 🔽	
	ſ	Daylight Saving	🗄 🔘 Enabled 🤅	Disabled			
	NTP	Server Address	0.0.0.0	(0.0.0.0:	Default Value)		
			SAVECAN	ICEL			

Figure 4-45

#### P Note:

The ADSL modem router builds in some NTP Servers, when the modem router connects to the Internet, the modem router will get the system time automatically from the NTP Server. You can also configure the NTP Server address automatically, and then the modem router will get the time from the specific Server firstly.

#### 2. PC's Clock

Select **PC's Clock** as the Synchronize time, you don't need to set any items.

Maintenance	Quick Start	Interface Setup	Advanced Setup	Access Management	Maintena	nce	Status	Help
	Administ	ration Tim	e Zone	Firmware	SysRestart	Diag	nostics	
Time Zone								
		Current Date/Time	: 05/13/2013 15	6:51:26				
Time Synchronization	SVI	nchronize time with		a automatically				
	Syr	ienionize une wur	<ul> <li>NTP Serve</li> <li>PC's Cloci</li> </ul>					
		Date			th/Date/Year)			
		Time	: 15 : 51	: 26 (hour:n	nin:sec)			
			SAVE CAN	NCEL				

Figure 4-46

#### 3. Manually

Select **Manually** as the Synchronize time, you need to set the date and time corresponding to the current time.

Maintenance	Quick I Start	nterface Setup	Advanced Setup	Access Management	Maintenance	Status	Help
	Administratio	on Time	e Zone	Firmware Sy	sRestart Dia	gnostics	
Time Zone							
	Curre	ent Date/Time	: 05/13/2013 15	5:52:09			
Time Synchronization							
	Synchro	onize time with	: O NTP Serve	er automatically			
			PC's Clock	k			
			Manually				
		Date Time			Date/Year)		
		Time	. 15 . 52	: 09 (hour:min	.sec)		
			SAVE CAN	NCEL			

Figure 4-47

#### 4.6.3 Firmware

Choose "**Maintenance**  $\rightarrow$  **Firmware**", you can upgrade the firmware of the modem router in the screen (shown in Figure 4-48). Make sure the firmware or romfile you want to use is on the local

hard drive of the computer. Click **Browse** to find the local hard drive and locate the firmware or romfile to be used for upgrade.

Maintenance	Quick I Start	Interface Setup	Advanced Setup	Access Management	Maintenance	Status	Help
	Administratio	on Tim	e Zone	-irmware s	SysRestart Dia	gnostics	
Firmware/Romfile Upgrade	New Firm New Ro	mware Version ware Location omfile Location comfile Backup			irowse Irowse		
		Status	lå minhå ånlen og	veral minutes, don't p	ower off it during upgradi	ng. Device will rest	art after the
			UPGRADE	]			



#### To upgrade the modem router's firmware, follow these instructions below:

- Step 1: Download a more recent firmware upgrade file from the TP-LINK website (<u>www.tp-link.com</u>).
- **Step 2:** Type the path and file name of the update file into the "New Firmware Location" field. Or click the **Browse** button to locate the update file.
- Step 3: Click the UPGRADE button.

#### P Note:

- New firmware versions are posted at <u>www.tp-link.com</u> and can be downloaded for free. If the modem router is not experiencing difficulties, there is no need to download a more recent firmware version, unless the version has a new feature that you want to use.
- 2) When you upgrade the modem router's firmware, you may lose its current configurations, so please back up the modem router's current settings before you upgrade its firmware.
- 3) Do not turn off the modem router or press the Reset button while the firmware is being upgraded.
- 4) The modem router will reboot after the upgrading has been finished.

#### To back up the Router's current settings:

Step 1: Click the **ROMFILE SAVE** button (shown in Figure 4-48), click **Save** in the next screen (shown in Figure 4-49) to proceed.

File Dow	File Download - Security Warning 🛛 🛛 🔀					
Do you want to save this file?						
	Name: rom-0 Type: Unknown File Type, 16.0 KB From: 192.168.1.1					
	<u>Save</u> Cancel					
١	While files from the Internet can be useful, this file type can potentially harm your computer. If you do not trust the source, do not save this software. <u>What's the risk?</u>					

Figure 4-49



Save As						? 🗙
Save jn:	🚞 TD-8816		~	3 🕫	<del>ب 🔝</del> 👏	
My Recent Documents						
Desktop						
My Documents						
My Computer						
	File <u>n</u> ame:	rom-Q			~	<u>S</u> ave
My Network	Save as <u>t</u> ype:	Document			*	Cancel
		<b>F</b> '				

Figure 4-50

## To restore the modem router's settings:

- Step 1: Click the Browse button to locate the update file for the device, or enter the exact path in "New Romfile Location" field.
- Step 2: Click the UPGRADE button to complete.

# 4.6.4 SysRestart

Choose "Maintenance  $\rightarrow$  SysRestart", you can select to restart the device with current settings or restoring to its factory default settings in the screen (shown in Figure 4-51).

Maintenance	Quick Start	Interface Setup	Advanced Setup	Access Management	Maintenance	Status	Help
	Administr	ation Tin	ne Zone I	Firmware	SysRestart Diag	nostics	
System Restart System Restart with :  Current Settings Factory Default Settings							
			RESTART	]			

Figure 4-51

# 4.6.5 Diagnostics

Choose "**Maintenance→Diagnostics**", you can view the test results for the connectivity of the physical layer and protocol layer for both LAN and WAN sides in the screen (shown in Figure 4-52).

Maintenance	Quick Start	Interface Setup	Advanced Setup	Acces Manage		laintenance	Status	Help
	Administr	ration Ti	me Zone	Firmware	SysRest	art Diag	nostics	
Diagnostic Test								
	Virt	ual Circuit: PVC	0 🗸					
	>>	Testing Ethern	et LAN connectio	n	PASS			
	>>	Testing ADSL \$	Synchronization .		FAIL			
	>>	Testing ATM O	AM segment ping	g	SKIPPE	D		
	>>	Testing ATM O	AM end to end p	ing	SKIPPE	D		
		-	AM F4 segment	-	SKIPPE	D		
		-	AM F4 end to en		SKIPPE			
			omain Name Ser	ver.	SKIPPE			
	>>	Ping www.yaho	o.com		SKIPPE	D		
Ping Tool								
	IP Address/Domain Name:				Ping			
	- Info -					~		
						~		
	(							
				4 50				

Figure 4-52

# 4.7 Help

Choose "Help", you can view the help information for configuration of any function.

Help	Quick Start	Interface Setup	Advanced Setup	Access Management	Maintenance	Status	Help
Quick Start							
		0	Quick Start				
Interface Setup		•	Internet Cetti				
			Internet Settin LAN Settings	195			
Advanced Setup							
			Firewall Routing				
		8	NAT				
		ŏ	QoS				
		Ŏ	VLAN				
		0	ADSL				
Access Management							
		0	ACL				
		Ŏ	IP Filter				
		0	SNMP				
		0	UPnP				
		00	DDNS CWMP				
		v	CWINF				
Maintenance		•					
		0	Administratior Time Zone	1			
		8	Firmware				
		ŏ	SysRestart				
		Ŏ	Diagnostics				
Status							
		0	Device Info				
		ŏ	System Log				
		Ŏ	Statistics				

Figure 4-53

P Note:

Click the tab, and you will be able to get the corresponding information.

# AppendixA: Specifications

General				
	ANSI T1.413, ITU G.992.1, ITU G.992.2, ITU G.992.3, ITU G.992.5			
Standards and Protocols	IEEE 802.3, IEEE 802.3u, TCP/IP, PPPoA , PPPoE, SNTP, HTTP,			
	DHCP, ICMP, NAT,CWMP			
Safety & Emission	FCC, CE			
Ports	1 10/100M Auto-Negotiation RJ45 port (Auto MDI/MDIX)			
1 0113	1 RJ11 port			
LEDs	Power, LAN, ADSL, Internet			
	10Base-T: UTP category 3, 4, 5 cable			
Network Medium	100Base-TX: UTP category-5			
	Max line length: 6.5Km			
Data Rates	Downstream: Up to 24Mbps			
	Upstream: Up to 3.5Mbps (With Annex M enabled)			
System Requirement	Internet Explorer 5.0 or later, Netscape Navigator 6.0 or later			
	Win 9x/ME/2000/XP/Vista/7, MAC OS			
	Physical and Environment			
Working Temperature	0°C ~40°C			
Working Humidity	10% ~ 90% RH (non-condensing)			
Storage Temperature	-40°C ~70°C			
Storage Humidity	5% ~ 90% RH (non-condensing)			

# **Appendix B: Configuring the PC**

In this section, we'll introduce how to install and configure the TCP/IP correctly in Windows XP. First make sure your Ethernet Adapter is working, refer to the adapter's manual if necessary.

#### 1. Configure TCP/IP component

- 1) On the Windows taskbar, click the **Start** button, and then click **Control Panel**.
- 2) Click the **Network and Internet Connections** icon, and then click on the **Network Connections** tab in the appearing window.
- 3) Right click the icon that showed below, select Properties on the prompt page.



Figure B-1

4) In the prompt page that showed below, double click on the Internet Protocol (TCP/IP).

🕹 Local Area Connection Properties 🛛 🔹 💽					
General Authentication Advanced					
Connect using:					
Realtek RTL8139 Family PCI Fast Etł <u>Configure</u>					
This connection uses the following items:					
<ul> <li>Client for Microsoft Networks</li> <li>Grad Printer Sharing for Microsoft Networks</li> <li>QoS Packet Scheduler</li> <li>Internet Protocol (TCP/IP)</li> </ul>					
□ <u>In</u> stall <u>Uninstall</u> <u>Properties</u>					
Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.					
Show icon in notification area when connected  Notify <u>m</u> e when this connection has limited or no connectivity					
OK Cancel					



5) The following **TCP/IP Properties** window will display and the **IP Address** tab is open on this window by default.

Now you have two ways to configure the **TCP/IP** protocol below:

#### > Setting IP address automatically

Select **Obtain an IP address automatically**, Choose **Obtain DNS server automatically**, as shown in the Figure below:

h	nternet	t Protocol (TCP/IP) Properties	? 🗙					
٢	General	Alternate Configuration						
	You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.							
	Obtain an IP address automatically							
	- <b>O</b> U <u>s</u>	Jse the following IP address:						
	IP ad	address:						
	S <u>u</u> br	onet mask:						
	<u>D</u> efa	ault gateway:						
	<u>⊙</u> 0 <u>⊦</u>	) <u>b</u> tain DNS server address automatically						
	_OUs	Ise the following DNS server addresses:						
	Prefe	ferred DNS server:						
	Alterr	mate DNS server:						
		Advance	d					
		ОК Са	ancel					

Figure B-3

#### P Note:

For Windows 98 OS or before, the PC and Modem Router may need to be restarted.

#### Setting IP address manually

- 1 Select Use the following IP address radio button. And the following items available
- 2 If the modem router's LAN IP address is 192.168.1.1, specify the **IP address** as 192.168.1.x (x is from 2 to 254), and the **Subnet mask** as 255.255.255.0.
- 3 Type the modem router's LAN IP address (the default IP is 192.168.1.1) into the **Default** gateway field.
- 4 Select **Use the following DNS server addresses**. In the **Preferred DNS Server** field you can enter the same value as the **Default gateway** or type the local DNS server IP address.

Internet Protocol (TCP/IP) Properties							
General							
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.							
O <u>O</u> btain an IP address automatically	,						
O Use the following IP address: ──							
IP address:	192.168.1.2						
S <u>u</u> bnet mask:	255.255.255.0						
Default gateway:	192.168.1.1						
○ D <u>b</u> tain DNS server address automatically							
─⊙ Use the following DNS server add	resses:						
Preferred DNS server:	192.168.1.1						
<u>A</u> lternate DNS server:	· · ·						
Ad <u>v</u> anced							
OK Cancel							

Figure B-4

# Now:

Click **OK** to keep your settings.

# **Appendix C: Troubleshooting**

# T1. How do I restore my modem router's configuration to its factory default settings?

With the modem router powered on, press and hold the **RESET** button on the rear panel for 8 to 10 seconds before releasing it.

#### P Note:

Once the modem router is reset, the current configuration settings will be lost and you will need to re-configure the modem router.

#### T2. What can I do if I don't know or forgot my password?

- 1) Restore the modem router's configuration to its factory default settings. If you don't know how to do that, please refer to section **T1**.
- 2) Use the default user name and password: admin, admin.
- 3) Try to configure your modem router once again by following the instructions in <u>3.2 Login</u>.

### T3. What can I do if I cannot access the web-based configuration page?

1) Configure your computer's IP Address.

#### For Mac OS X

- a) Click the Apple icon on the upper left corner of the screen.
- b) Go to "System Preferences -> Network".
- c) Select Ethernet on the left menu bar. In the Configure IPv4 box, select Using DHCP.
- d) Click Apply to save the settings.

#### For Windows 7

- a) Click "Start -> Control Panel -> Network and Internet -> View network status -> Change adapter settings".
- b) Right-click Local Area Connection and then click Properties.
- c) Select Internet Protocol Version 4 (TCP/IPv4), and then click Properties.
- d) Select Obtain an IP address automatically and Obtain DNS server address automatically. Then click OK.

#### For Windows XP

- a) Click "Start -> Control Panel -> Network and Internet Connections -> Network Connections".
- b) Right-click Local Area Connection and then click Properties.
- c) Select Internet Protocol (TCP/IP), and then click Properties.

d) Select Obtain an IP address automatically and Obtain DNS server address automatically. Then click OK.

#### For Windows 8

- a) Move your mouse to the lower right corner and you will see **Search** icon **a** in the Popups. Go to **a** -> **Apps**<sup>a</sup>. Type **Control Panel** in the search box and press **Enter**, then you will go to **Control Panel**.
- b) Click "View network status and tasks > Change adapter settings".
- c) Right-click "Ethernet" and then select Properties.
- d) Double-click Internet Protocol Version 4 (TCP/IPv4). Select Obtain an IP address automatically, choose Obtain DNS server address automatically and then click OK.
- 2) Configure your IE browser

	🚰 about:blank - Microsoft Internet Explorer			
Open your IE browser, click <b>Tools</b> tab and you will see the following screen.	File       Edit       View       Favorites       Tools       Help         Image: Back       Image: Second Se			
Click Internet Options	Windows Messenger Diagnose Connection Problems Internet Options			

	Internet Options
	General Security Privacy Content Connections Programs Advanced
	To set up an Internet connection, click Setup
	Dial-up and Virtual Private Network settings
	Add
	Remove
	Choose Settings if you need to configure a proxy Settings
Select Never dial a connection	C Never dial a connection
	Dial whenever a network connection is not present     Always dial my default connection
	Current None Set Default
	Local Area Network (LAN) settings LAN Settings do not apply to dial-up connections. Choose Settings above for dial-up settings.
Click OK	OK Cancel Apply

Now, try to log on to the Web-based configuration page again after the above settings have been configured. If you still cannot access the configuration page, please restore your modem router's factory default settings and reconfigure your modem router following the instructions in <u>3.2 Login</u>. Please feel free to contact our Technical Support if the problem still exists.

# T4. What can I do if I cannot access the Internet?

- 1) Check your cables and make sure they are all plugged in securely, including the telephone line, Ethernet cables and power adapter.
- 2) Check to see if you can log on to the web management page of the Modem Router. If you can, try the following steps.( If you cannot, please refer to T3 then try to see if you can access the Internet again after following those steps.)
- 3) Consult your ISP and make sure all the VPI/VCI, Connection Type, account username and password are correct. If there are any mistakes, please correct the settings and try again.
- 4) If you still cannot access the Internet, please restore your modem touter to its factory default settings and reconfigure your modem router by following the instructions in <u>3.2 Login</u>.
- 5) Please feel free to contact our Technical Support if the problem still exists.

#### P Note:

For more details about Troubleshooting and Technical Support contact information, please log on to our Technical Support Website: http://www.tp-link.com/en/support.

# **Appendix D: Technical Support**

Technic	al Support
For more troubleshooting help, go to: www.tp-link.com/support/faq	
To download the latest Firmware, Drive www.tp-link.com/support/download	
■ For all other technical support, please	contact us by using the following details:
GlobalTel: +86 755 2650 4400Fee: Depending on rate of different carriers, IDD.E-mail: support@tp-link.comService time: 24hrs, 7 days a weekUSA/CanadaToll Free: +1 866 225 8139E-mail: support.usa@tp-link.comService time: 24hrs, 7 days a weekTel: 0850 7244 488 (Turkish Service)Fee: Depending on rate of different carriers.E-mail: support.tr@tp-link.comService time: 09:00 to 21:00, 7 days a weekUkraineTel: 0800 505 508Fee: Free for Landline; Mobile: Depending on rate of different carriersE-mail: support.ua@tp-link.comService time: Monday to Friday, 10:00 to 22:00BrazilToll Free: 0800 608 9799 (Portuguese Service)E-mail: support.ua@tp-link.comService time: Monday to Friday, 09:00 to 20:00;Saturday, 09:00 to 15:00IndonesiaTel: (+62) 021 6386 1936Fee: Depending on rate of different carriers.E-mail: support.id@tp-link.comService time: Monday to Friday, 09:00 to 18:00*Except public holidaysAustralia/New ZealandTel: NZ 0800 87 5465 (Toll Free)AU 1300 87 5465 (Depending on 1300 policy.)E-mail: support.nz@tp-link.com (New Zealand)support.nz@tp-link.com (New Zealand)Service time: 24hrs, 7 days a weekGermany/AustriaTel: +49 1805 875 465 (German Service)+49 1805 TPLINK+43 820 820 360Fee: Landline from Germany: 0.14EUR/min.Landline from Germany: 0.14EUR/min.Landline from Germany: 0.14EUR	Singapore Tel: +65 6284 0493 Fee: Depending on rate of different carriers. E-mail: support.sg@tp-link.com Service time: 24hrs, 7 days a week UK Tel: +44 (0) 845 147 0017 Fee: Landline: 1p-10.5p/min, depending on the time of day. Mobile: 15p-40p/min, depending on your mobile network. E-mail: support.uk@tp-link.com Service time: 24hrs, 7 days a week Italy Tel: +39 023 051 9020 Fee: Depending on rate of different carriers. E-mail: support.it@tp-link.com Service time: Monday to Friday, 09:00 to 13:00; 14:00 to 18:00 Malaysia Toll Free: 1300 88 875 465 Email: support.my@tp-link.com Service time: 24hrs, 7 days a week Poland Tel: +48 (0) 801 080 618 +48 223 606 363 (if calls from mobile phone) Fee: Depending on rate of different carriers. E-mail: support.pl@tp-link.com Service time: Monday to Friday, 09:00 to 17:00. GMT+1 or GMT+2 (DST) France Tel: 0820 800 860 (French service) Fee: 0.118 EUR/min from France Email: support.fr@tp-link.com Service time: Monday to Friday, 09:00 to 18:00 *Except French Bank holidays Switzerland Tel: +41 (0) 848 800 998 (German Service) Fee: 4.8 Rp/min, depending on rate of different time. E-mail: support.ch@tp-link.com Service time: Monday to Friday, 09:00 to 18:00 *Except French Bank holidays Switzerland Tel: +41 (0) 848 800 998 (German Service) Fee: 4.8 Rp/min, depending on rate of different time. E-mail: support.ch@tp-link.com Service time: Monday to Friday, 09:00 to 12:30 and 13:30 to 17:30. GMT+1 or GMT+2 (DST) <b>Russian Federation</b> Tel: 8 (499) 754 5560 (Moscow NO.) 8 (800) 250 5560 (Toll-free within RF)
and 13:30 to 17:30. GMT+1 or GMT+2 (DST in Germany) *Except bank holidays in Hesse	E-mail: support.ru@tp-link.com Service time: From 9:00 to 21:00 (Moscow time) *Except weekends and holidays in RF