# **TP-LINK® User Guide**

# TD-8840T 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**

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.

# CONTENTS

Package C	ontents	1
Chapter 1	Introduction	2
1.1	Product Overview	2
1.2	Main Features	2
1.3	Conventions	3
Chapter 2	Hardware Installation	4
2.1	The Front Panel	4
2.2	The Back Panel	4
2.3	Installation Environment	5
2.4	Connecting the Router	5
Chapter 3	Quick Installation Guide	7
3.1	Configure PC	7
3.2	Login	10
Chapter 4	Software Configuration	13
4.1	Status	13
4.2	Quick Start	14
4.3	Interface Setup	14
	4.3.1 Internet	15
	4.3.2 LAN	19
4.4	Advanced Setup	23
	4.4.1 Routing	23
	4.4.2 NAT	24
	4.4.3 QoS	28
	4.4.4 VLAN	29
	4.4.5 ADSL	31
	4.4.6 Firewall	32
4.5	Access Management	32
	4.5.1 ACL	33
	4.5.2 Filter	33
	4.5.3 SNMP	41
	4.5.4 UPnP	41
	4.5.5 DDNS	42
	4.5.6 CWMP	42
4.6	Maintenance	43
	4.6.1 Administration	43
	4.6.2 Time Zone	44
	4.6.3 Firmware	45

Appendix A: Specification					
4.7	Help		48		
		с С			
	465	Diagnostic	48		
	4.6.4	System Restart	47		
	4.6.4	System Restart			

# **Package Contents**

The following items should be found in your box:

- ADSL2+ Modem Router TD-8840T
- > One Power Adapter for ADSL2+ Modem Router TD-8840T
- > One Quick Installation Guide
- ➢ 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 with your distributor.

# **Chapter 1 Introduction**

Thank you for choosing the TD-8840T ADSL2+ Modem Router.

## 1.1 Product Overview

Thank you for choosing the TD-8840T ADSL2+ Modem Router. The device is designed to provide a simple and cost-effective ADSL Internet connection for a private Ethernet network.

The TD-8840T connects 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 to protect your network from potentially devastating intrusions by malicious agents from the outside of your network.

**Quick Start** of the Web-based Utility is supplied and friendly help 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-8840T 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

- > 4 10/100M RJ45 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 mainstreams 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 Router or TD-8840T, or this device mentioned in this User Guide stands for TD-8840T ADSL2+ Modem Router without any explanations.

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

You can set the parameters according to your demand.

# Chapter 2 Hardware Installation

# 2.1 The Front Panel

TP-LINK <sup>®</sup>								
TD-8840T	Power	ADSL	Internet	1		2	3	4
ADSL2+ Modem Router	U	φ	Ø	G	ļ	Q	Q	ū

Figure 2-1

The Router's LEDs are located on the front panel (View from left to right). For details, please refer to LED Explanation.

Name	Status	Indication
Power	On	Power is on.
i owei	Off	Power is off.
	On	The LINE port is linked up.
ADSL	Flash	The ADSL negotiation is in progress.
	Off	The LINE port is linked down.
	On	A successful PPP connection has been built.
Internet	Flash	Data is being transferred over the Internet.
	Off	There is no successful PPP connection or the Router works on Bridge mode.
	On	There is a successful connection on the corresponding 1~4 (LAN) port but no activity.
1~4 (LAN)	Off	There is no connection on the corresponding 1~4 (LAN) port or the connection is abnormal.
	Flash	Data is being transferred over the 1~4 (LAN) port

#### LED Explanation:

## 2.2 The Back Panel

The following parts are located on the rear panel (View from left to right).

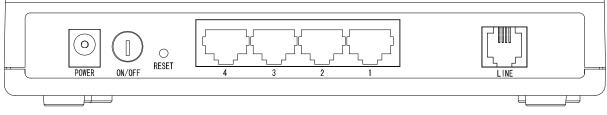


Figure 2-2

> **POWER:** The Power socket is where the power adapter connects to.

- > **ON/OFF:** The switch for the power.
- > **RESET:** There are two ways to reset the Router's factory defaults.

**Method one:** With the Router powered on, use a pin to press and hold the Reset button for at least 5 seconds. And the Router will reboot to its factory default settings.

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

- LAN (1~4): Through the port, you can connect the Router to your PC or the other Ethernet network devices.
- > LINE: Through the port, you can connect the Router to the splitter or to the Internet directly.

#### 2.3 Installation Environment

- > The Product should not be located where it will be exposed to moisture or excessive heat.
- Place the 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 Router can be placed on a shelf or desktop.

#### 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 LINE port on the rear panel of TD-8840T, 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 LINE port of TD-8840T

Plug one end of the twisted-pair ADSL cable into the ADSL LINE port on the rear panel of TD-8840T. 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-8840T.
- **Step 3:** Attach the power adapter. Connect the AC 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-8840T and power on the computers and LAN devices.

TD-8840T ADSL2+ Modem Router User Guide

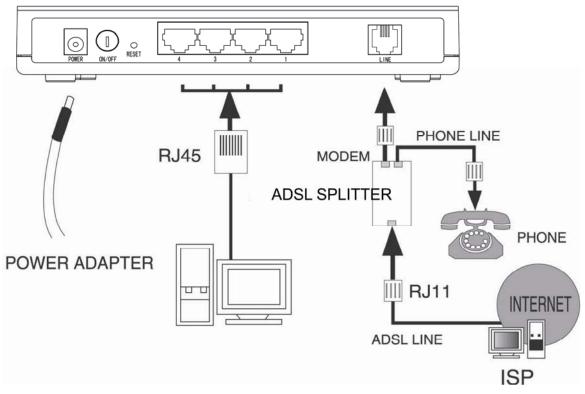


Figure 2-3

# Chapter 3 Quick Installation Guide

# 3.1 Configure PC

After you directly connect your PC to the TD-8840T or connect your adapter to a Hub/Switch which has connected to the Router, you need to configure your PC's IP address. Follow the steps below to configure it.

Step 1: Click the Start menu on your desktop, right click My Network Places, and then select Properties (shown in Figure 3-1).



Figure 3-1

Step 2: Right click Local Area Connection (LAN), and then select Properties.

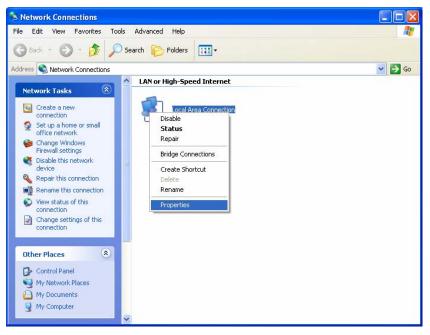


Figure 3-2

Step 3: Select General tab, highlight Internet Protocol (TCP/IP), and then click the Properties button.

🕹 Local Area Connection Properties 🛛 🔹 💽
General Authentication Advanced
Connect using:
Realtek RTL8139 Family PCI Fast Etł
This connection uses the following items:
Client for Microsoft Networks
🗹 🚚 File and Printer Sharing for Microsoft Networks
🗹 🚐 QoS Packet Scheduler
Internet Protocol (TCP/IP)
Install Uninstall Properties
Description
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 me when this connection has limited or no connectivity
OK Cancel



Step 4: Configure the IP address as Figure 3-4 shows. After that, click OK.

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	,							
• 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							
O Dbtain DNS server address automatically								
O Use the following DNS server addresses:								
Preferred DNS server:	Preferred DNS server: 192.168.1.1							
<u>A</u> lternate DNS server:	· · ·							
	Ad <u>v</u> anced							
	OK Cancel							

Figure 3-4

#### Note:

- 1) If the router's LAN IP address is 192.168.1.1, the **IP address** can be specified as 192.168.1.x (x is from 2 to 254), and the **Subnet mask** as 255.255.255.0.
- You can also configure the PC to get an IP address automatically, select "Obtain an IP address automatically" and "Obtain DNS server address automatically" in the screen above.

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** in the field, and then 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 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 3-5

If the result displayed is similar to the screen shown below, it means that your PC has not connected to the 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),
```

Figure 3-6

You can check it following the steps below:

#### 1) Is the connection between your PC and the 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 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 Router in the URL field: **192.168.1.1**.

Address 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 Setup** screen. You can follow the steps below to complete the Quick Setup.

Connect to 192.1	68.1.1 ? 🔀
TD-8840T	
User name:	🔮 admin 💌
Password:	••••
	Remember my password
	OK Cancel

Figure 3-7

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 <b>NEXT</b> .			
	Step 1. Choose your time zone			
	Step 2. Set your Internet connection			
	Step 3. Save settings of this ADSL Router			
	NEXT			
2:	Figure 3-8 Configure the time for the Router, and then click the <b>NEXT</b> button.			
	Quick Start - Time Zone Select the appropriate time zone for your location and click <b>NEXT</b> to continue.			
	(GMT) Greenwich Mean Time : Dublin, Edinburgh, Lisbon, London			

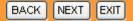


**Step 3:** Select the connection type to connect to the ISP (We select **PPPoE/PPPoA** mode for example here), and then click the **NEXT** button.

#### Quick Start - ISP Connection Type

Select the Internet connection type to connect to your ISP. Click  $\ensuremath{\mathsf{NEXT}}$  to continue.

🔘 Dynamic IP Address	Choose this option to obtain a IP address automatically from your ISP.
🔘 Static IP Address	Choose this option to set static IP information provided to you by your ISP.
PPPOE/PPPOA	Choose this option if your ISP uses PPPoE/PPPoA. (For most DSL users)
O Bridge Mode	Choose this option if your ISP uses Bridge Mode.





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

Quick Start - PPPoE/PPF	PoA
Enter the PPPoE/PPPoA informa	tion provided to you by your ISP. Click <b>NEXT</b> to continue.
Username:	
Password:	
VPI:	0 (0~255)
VCI:	33 (1~65535)
Connection Type:	PPPoE LLC
	BACK NEXT EXIT
	Figure 3-11

Step 5: Click NEXT to finish the Quick Start.

Quick Start Complete !!

The Setup Wizard has completed. Click on **BACK** to modify changes or mistakes. Click **NEXT** to save the current settings.



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.

	terface Setup	Advance Setup	d Access Management	Maintenance	Status	Help
Device Info System		em Log	Statistics			

Figure 4-1

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 Router configured on the Interface Setup screen.

				TD-8	3840T	DSL2	+ Modem R	Router Use	er Guide
	Quick	c Int	erface A	dvanced	Acces	2			
Status	Start		etup	Setup	Managen		Maintenance	Status	Help
	Devi	ce Info	System	Log	Statistics				
Device Information									
		Firr	nware Versior	: 3.0.0 Build 1	01208 Rel.364	27			
			MAC Address	: 00:11:55:44	ad:21				
LAN									
				: 192.168.1.1 : 255.255.255					
			DHCP Server						
WAN									
	PVC	VPI/VCI	IP Address	Subne	t Gati	eWay	DNS Server	Encapsulation	Status
	PVC0	1/32	N/A	N/A		I/A	N/A	Bridge	Down
	PVC1	0/33	N/A	N/A		VA	N/A	Bridge	Down
	PVC2	0/35	N/A	N/A	N	I/A	N/A	Bridge	Down
	PVC3	0/100	N/A	N/A	N	I/A	N/A	Bridge	Down
	PVC4	8/35	N/A	N/A	N	I/A	N/A	Bridge	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 Firr	nware Version	: FwVer:3.11	.2.175_TC3086	6 HwVer:1	T14.F7_6.0		
			Line State	: Down					
			Modulation	:: N/A					
			Annex Mode	: N/A					
				Downstrea	ım Upstream				
			SNR Margin	i: N/A	N/A	db			
		L	ine Attenuation	i: N/A	N/A	db			
			Data Rate		N/A	kbps			
			Max Rate		N/A	kbps			
			POWER		N/A	dbm			
			CRC	:: N/A	N/A				

Figure 4-2

#### PNote:

Click the other submenus **System Log** or **Statistics** in Figure 4-2, you will be able to view the system log and traffic statistics about the Router.

## 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.

Quick Start	Interface Setup	Advanced Setup	Access Management	Maintenance	Status	Help
Internet	t LAN					

Figure 4-3

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 4-4).

Interface	Quick Start	Interface Setup	Advanced Setup	Access Management	Maintenance	Status	Help
		LAN					
ATM VC							
		Virtual Circuit	: PVC0 🔽 🗌	PVCs Summary			
			: 💽 Activated (	Deactivated			
		VPI	V	nge: 0~255)			
		VCI	: 32 (ran	nge: 1~65535)			
QoS		ATM QoS	: UBR 🔽				
		PCR		s/second			
		SCR		s/second s/second			
		MBS					
Encapsulation							
Lineaparation		ISP					
		ior	<ul> <li>Dynamic IP</li> <li>Static IP Ac</li> </ul>				
			O Bridge Mod				
Bridge Mode							
		Encapsulation	: 1483 Bridged	IP LLC 💌			
			SAVE DELI	ETE			



- 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 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.
  - 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.
  - **PVCs Summary:** Click the button, you can view the summary information about the PVCs.
  - **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 your needs.

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.

ISP :	<ul> <li>Dynamic IP Address</li> <li>Static IP Address</li> <li>PPPoA/PPPoE</li> <li>Bridge Mode</li> </ul>
Encapsulation :	1483 Bridged IP LLC
Bridge Interface :	Activated O Deactivated
NAT :	Enable 💙
Default Route :	Yes ○ No     No
TCP MTU Option :	TCP MTU(default:1500) 1500 bytes
Dynamic Route :	RIP2-B 👻 Direction : None 💌
Multicast :	Disabled 💌
MAC Spoofing :	C Enabled 💿 Disabled
	00:00:00:00:00:00

Figure 4-5

- Encapsulation: Select the encapsulation mode for the Dynamic IP Address, you can leave it default.
- **Bridge Interface:** Activate the option, then the Router can also work in Bridge mode.
- 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.
- 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.
- 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 RIP-2 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 Router will periodically send routing information and accept routing information, and then incorporate them into routing table. IN only means the ADLS router will only accept but will not send RIP packet. OUT only means the ADLS 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.

#### 2. Static IP Address

Select this option if your ISP provides static IP information to you. You should set static IP address, IP subnet mask, and gateway address in the screen below (shown in Figure 4-6).

ISP :	<ul> <li>Dynamic IP Address</li> <li>Static IP Address</li> <li>PPPoA/PPPoE</li> <li>Bridge Mode</li> </ul>
Encapsulation :	1483 Bridged IP LLC
Static IP Address :	0.0.0.0
IP Subnet Mask :	0.0.0.0
Gateway :	0.0.0.0
Bridge Interface :	Activated Ocactivated
NAT :	Enable 💌
Default Route :	Yes ○No
TCP MTU Option :	TCP MTU(default:1500) 1500 bytes
Dynamic Route :	RIP2-B 💙 Direction : None 💙
Multicast :	Disabled 💙
MAC Spoofing :	C Enabled 💿 Disabled
	00:00:00:00:00:00

Figure 4-6

#### 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 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.

TD-8840T ADSL2+ Modem Router User Guide

ISP :	Opnamic IP Address
	◯ Static IP Address
	● PPPoA/PPPoE
	🔘 Bridge Mode
Servicename :	
Username :	
Password :	
Encapsulation :	
Bridge Interface :	Activated O Deactivated
Connection :	
Connection.	Always On (Recommended)
	Connect On-Demand (Close if idle for minutes)
	Connect Manually
TCP MSS Option :	TCP MSS(default:1400) 1400 bytes
	o o
Get IP Address :	O Static O Dynamic
Static IP Address :	0.0.0.0
IP Subnet Mask :	0.0.0.0
Gateway :	0.0.0.0
NAT :	Enable 🔽
Default Route :	Yes ○ No     No
TCP MTU Option :	TCP MTU(default:1480) 1480 bytes
Dynamic Route :	RIP2-B 💙 Direction : None 💙
Multicast :	Disabled 😽
MAC Spoofing :	C Enabled 💿 Disabled
	00:00:00:00:00

Figure 4-7

- Service name: Specify a name for the PPPoE/PPPoA connection for recognition.
- User name: Enter your username for your PPPoE/PPPoA connection to identify and verify your account to the ISP.
- **Username:** Enter your username for your PPPoE/PPPoA connection.
- > **Password:** Enter your password for your PPPoE/PPPoA connection.
- Encapsulation: For both PPPoE/PPPoA connection, you need to specify the type of Multiplexing, either LLC or VC Mux.
- **Bridge Interface:** Activate the option, the Router can also work in Bridge mode.
- Connection: For PPPoE/PPPoA 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.
- Static/Dynamic IP Address: For PPPoE/PPPoA connection, you need to specify the public IP address for this ADSL Router. The IP address can be either dynamically (via DHCP) or

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

- Default Route: You should select Yes to configure the PVC as the default gateway to internet from this device.
- MAC Spoofing: MAC Spoofing feature allows you to change the assigned MAC address of the ADSL Router to a different one, which may allow the bypassing of access control lists on servers either hiding a computer on a network or allowing it to impersonate another computer. You can select Enable and specify a MAC Address for the Router here, or keep the default setting as Disable.

#### 4. Bridge Mode

If you select this type of connection, the modem 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.

ISP : O Dynamic IP Address Static IP Address PPPoA/PPPoE Bridge Mode
Encapsulation : 1483 Bridged IP LLC 🛛 👻

Figure 4-8

#### P Note:

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

#### 4.3.2 LAN

Choose "Interface Setup $\rightarrow$ LAN" menu, and you will see the LAN screen (shown in Figure 4-9). Please configure the parameters for LAN ports according to the descriptions below.

		TD-	8840T ADSL2	2+ Modem Rou	ter User Guide
Interface	Quick Inter Start Set		Access Management	Maintenance	Status Helj
Router Local IP					
		Address : 192.168.1.1			
		net Mask : 255.255.255.			
		ic Route : RIP2-B 💙 Multicast : Disabled 💙	Direction : None	~	
		P Snoop : 💿 Disabled			
DHCP					
		DHCP: ODisabled	💿 Enabled 🔘 Relay		
DHCP Server	Chartiers ID	1 ddwarau - 100 100 1 10	0		
	-	Address : 192.168.1.10 ool Count : 101			
			econds (Osets to defau	# using of 250200	
DHCP Table	20.	se nine . 200200 s	econds (o seis to denai	at value of 259200)	
	Hostname	IP Address	MAC Addres	s Status	Expire Time
		192.168.1.101 💌	Manual Config	Static V	]
	tplink19621	192.168.1.100	40:61:86:FC:72	:80 Auto	2days, 23:37:44
	tplink19621	192.168.1.111	40:61:86:FC:72	:80 Auto	2days, 22:31:58
DNS					
			covered DNS Server On	ly 🚩	
		S Server : N/A			
	Secondary DN	S Server : N/A			
		SAVE CA	INCEL		



- 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 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 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 is for disabling the RIP function. Both means the ADSL Router will periodically send routing information and accept routing information, and then incorporate them into routing table. IN only means the ADLS router will only accept but will not send RIP packet. OUT only means the ADLS 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.
- DHCP Server: Select Enabled, then you will see the screen below (shown in Figure 4-10). The 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.

DHCP -						
DHCP Server		DHCP : 🔘 Disabled 🧕	Enabled ORelay			
DUCh Server	-	P Address : 192.168.1.100 Pool Count : 101				
DHCP Table	Le	ease Time : 259200 ser	conds (Osets to default va	lue of 259200)		
	Hostname	IP Address	MAC /	Address	Status	
		192.168.1.100 💌		Manual Config 🔽	Static 💌	
DNS						
	D	NS Relay : Use Auto Disc	overed DNS Server Only 🔻			
	Primary DN	NS Server : N/A				
	Secondary DN	NS Server : N/A				

Figure 4-10

- **Starting IP Address:** Enter the starting IP address for the DHCP server's IP assignment. The default Start IP Address is **192.168.1.100**, and the Start IP Address must be 192.168.1.100 or greater, but smaller than 192.168.1.254.
- **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.
- > **DHCP Table:** The information of the DHCP clients will be displayed here.

Hostname	IP Address	MAC Address	Status
	192.168.1.102 🔽	Manual Config 🛛 👻	Static 💌
	192.168.1.101	00:19:66:19:40:7B	Static
an	192.168.1.100	00:19:66:19:40:7F	Auto

- Hostname: Display the name of the DHCP client.
- IP Address: Display the IP Address of the DHCP client.
- MAC Address: Display the MAC Address of the DHCP client.
- Status: Display the status of the assigned IP Address, either Static or Auto. Static indicates that the IP Address is bounded to the MAC Address, while Auto indicates that the IP Address is assigned to the MAC Address automatically.

How to assign a static IP address to the client?

- 1). Select an IP Address from the drop-down list.
- 2). Enter the **MAC Address** of the client in the table.
- 3). Select **Static** as the status.
- 4). Click **Save** button.
- > DNS
  - **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.
  - **Current Pool Summary:** Click the button, you can view the IP addresses that the DHCP Server gives out.

#### Solution Note:

If **Use Auto Discovered DNS Server Only** is selected in DNS Relay, this 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 4-11), the 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.

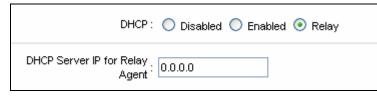


Figure 4-11

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

#### Note:

If you select **Disabled**, the DHCP function will not take effect.

## 4.4 Advanced Setup

Quick Start	Interface Setup	Advanced Setup	Access Manageme	nt Main	tenance	Status	Help
Routing	NAT	QoS	VLAN	ADSL	Firewall		
			Figure 4	-12			

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 Routing

Choose "Advanced Setup→Routing" menu, and you will see the routing information in the next screen (shown in Figure 4-13).

Advanced	Quick Interface Advanced Start Setup Setup		Access Maintenance			Status		Help	
	Routing	NAT	QoS	VLAN	ADSL	Firewall			
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	333		
	1	192.168.1.0	24	192.168.1.1	1	enet0	333		

Figure 4-13

Click ADD ROUTE button to add a new route in the next screen (shown in Figure 4-14).

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

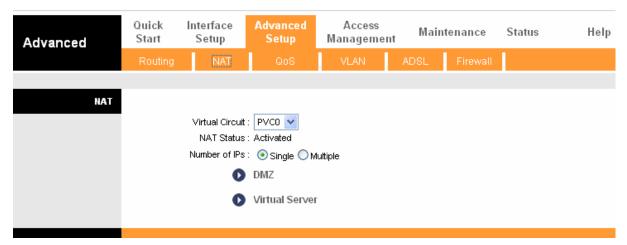
Figure 4-14

- 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 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 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.

## 4.4.2 NAT

Choose "Advanced Setup $\rightarrow$ NAT" menu, you can setup the NAT (Network Address Translation) function for the Router (shown in Figure 4-15).





- > Virtual Circuit: Enter 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 4-5) 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.

#### 4.4.2.1. DMZ

Choose "Advanced Setup $\rightarrow$ NAT $\rightarrow$ DMZ" in Figure 4-15, 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 allows outside users to access to a server that has company data directly. Users of the public network outside the company can access to the DMZ host.



Figure 4-16

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

#### 4.4.2.2. Virtual Server

Choose "Advanced Setup $\rightarrow$ NAT $\rightarrow$ Virtual Server" in Figure 4-15, 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						
	Virtual 9	Server for : PVC0 - Mul	tiple IP Account			
	F	Rule Index : 🚺 🔽				
	م	pplication : FTP		HTTP_Server	~	
		Protocol : 🛛 ALL 💌				
	Start Po	rt Number : 21	]			
	End Po	rt Number : 21	1			
	Local IF	Address : 192.168.1	.100			
Virtual Server Listing						
	Rule	Application	Protocol	Start Port	End Port	Local IP Address
	1	FTP	ALL	21	21	192.168.1.100
	2	HTTP	ALL	80	80	192.168.1.101



- Rule Index: 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.
- 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, 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 Virtual Server.

#### 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 4-17.

- **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 operations for the entries as shown in Figure 4-17:

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.

#### 4.4.2.3. IP Address Mapping

Choose "Advanced Setup $\rightarrow$ NAT", select Multiple in Number of IPs. Click IP Address Mapping, then 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).

Advanced	Quick Start	Interface Setup	Advanced Setup	Access Managemen	t Main	tenance	Status	Help
	Routing		QoS	VLAN	ADSL	Firewall		
NAT		0	: Activated : Single I M DMZ Virtual Server	·	ple IP Servi	ce)		

Figure 4-18

#### TD-8840T ADSL2+ Modem Router User Guide

IP Address Mapping						
	Address Ma	apping R	ule : PVC0			
		Rule Ind	iex : 1 💌			
		Rule Ty	/pe : One-to-One	*		
	Lo	ocal Star	t IP : 0.0.0.0			
	L	.ocal End	HP: N/A			
	Pu	ıblic Star	t IP : 0.0.0.0	(0.0.0.0 for m	odem's WAN IP)	
	P	ublic End	HP: N/A			
Address Mapping List						
	Rule	Туре	Local Start IP	Local End IP	Public Start IP	Public End IP
	1	-				
	2	-				
	3	-				

Figure 4-19
-------------

- Rule Index: Select the Address Mapping Rule index for this VC. You can specify 8 rules in maximum.
- Rule Type: There are four types, 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 IP Address Mapping (shown in Figure 4-18).

#### Note:

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

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- Step 2: Select the Rule index for the rule as shown in Figure 4-19.
- **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 operations for the entries as shown in Figure 4-19:

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 QoS

Choose "Advanced Setup $\rightarrow$ QoS", you can configure the QoS in the next screen. QoS helps to prioritize data as it enters your 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.

Advanced		iterface Setup	Advanced Setup	Access Management	Maintenance	Status Help
	Routing	NAT	QoS	VLAN	ADSL Firewall	
Quality of Service						
			CActivated			
		Summary	QoS Settin	gs Summary		
Rule		Rule Index	1 🗸			
		Active		Deactivated		
		Application	0.000	Deactivated		
	Pł	hysical Ports :	Enet1 Enet2	Enet3 Enet4		
	Dest	tination MAC:				
		IP	:			
		Mask	:			
		Port Range	:			
	5	Source MAC	:			
		IP	:			
		Mask	:			
		Port Range				
		Protocol ID				
	V	lan ID Range :	:			
		IPP/DS Field	: О ІРР/ТОЗ (	DSCP		
	IP Preced	lence Range :				
	Тур	e of Service	:	~		
	ſ	DSCP Range	:	(Value Range: 0	~ 63)	
		802.1p				
Action		IPP/DS Field	О ПРРИТОВ (	DSCP		
	IP Precedenc			DSCP		
	Type of Servic			~		
		P Remarking:		Range: 0 ~ 63)		
	802.1	p Remarking:		-	~	
		Queue # :	~			
			ADD DELETE	CANCEL		

Figure 4-20

- QoS: Select this option to Activate/Deactivate the IP QoS on different types (IP ToS and DiffServ).
- **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 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 or ICMP protocols for the application.
  - VLAN ID Range: Enter the VLAN 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 Router takes to differentiate the traffic.
- **Type of Service:** Select the type of service that the Router takes to deal with the traffic.
- **802.1p:** Select the priority range for the rule.

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 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.

#### 4.4.4 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 LAN, 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.

Advanced	Quick Start	Interface Setup	Advanced Setup	Access Management	Maintenan	ice Status	Help		
	Routing	NAT	QoS	VLAN	ADSL Fire	wall			
VLAN									
	VLAN Function : 🔘 Activated 💿 Deactivated								
	Assign VLAN PVID for each Interface								
		0	Define VLAN	Group					

Figure 4-21

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

Click **Assign VLAN PVID for each Interface** in Figure 4-21, you can assign the PVID for each interface in the next screen (shown in Figure 4-22).

Advanced	Quick Start	Interface Setup	Advanced Setup	Access Management	Maint	enance	Status	Help
	Routing	NAT	QoS	VLAN	ADSL	Firewall		
PVID Assign								
		ATM VC #0	: PVID1					
		VC #1	: PVID1					
		VC #2	: PVID1					
			: PVID 1					
			: PVID 1					
			: PVID 1					
			: PVID 1					
		VC #7	: PVID <mark>1</mark>					
	E	thernet Port #1	: PVID1					
		Port #2	: PVID1					
		Port #3	: PVID1					
		Port #4	: P∨ID <mark>1</mark>					
			SAVE CAN	CEL NEXT				

Figure 4-22

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.

#### 2. Define VLAN Group

Click **Define VLAN Group** in Figure 4-21, you can define VLAN groups in the next screen (shown in Figure 4-23).

VLAN Group Setting									
		\	/LAN Ind	ex : 1 💌					
			Acti	ve: 💽 Yes 🔘 No					
			VLAN	ID : 1 (Decimal)					
			ATM V	Tagged       Image       Image <t< th=""><th></th></t<>					
			Etherr	net : Port # V V V V 1 2 3 4					
VLAN Group Summary									
	Group	Active	ID	VLAN Group Ports	VLAN Tagged Ports				
	1	Yes	1	e1,e2,e3,e4,u,p0,p1,p2,p3,p4,p5,p6,p7					
	p:pvc,e	ethernet							
	SAVE DELETE CANCEL								



- > 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.

#### 4.4.5 ADSL

Choose "**Advanced Setup** $\rightarrow$ **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.

TD-8840T ADSL2+ Modem Router User Guide

Advanced	Quick Start	Interface Setup	Advanced Setup	Access Management	t Mainte	enance	Status	Help		
	Firewall	Routing	NAT	QoS	VLAN	ADSL				
ADSL										
	ADSL Mode : Auto Sync-Up V ADSL Type : ANNEX A/J/J/M V									
		<ul> <li>✓ Bitswap Enable</li> <li>✓ SRA Enable</li> </ul>								
			SAVE							

Figure 4-24

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

# 4.4.6 Firewall

Choose "Advanced Setup $\rightarrow$ Firewall" menu, and you will see the next screen (shown in Figure 4-25).

Advanced	Quick Start	Interface Setup	Advanced Setup	Access Management	t Main	itenance	Status	Help	
	Routing	NAT	QoS	VLAN	ADSL	Firewall			
Firewall									
Firewall: O Enabled O Disabled									
SPI : ○ Enabled (WARNING: If You enabled SPI, all traffics initiated from WAN would be blocked, including									
DMZ, Virtual Server, and ACL WAN side.)									
	SAVE CANCEL								

Figure 4-25

- Firewall: Select this option 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.

# 4.5 Access Management

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

Quick Start	Interface Setup	Advanced Setup	Advanced Access Setup Management Maintenance		Status	Help	
ACL	Filter	SNMP		UPnP	DDNS	CWMP	

Figure 4-26

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 4-27). You can specify the client to access the ADSL Router once setting his IP as a Secure IP Address through selected applications.

Access	Quick Start	Interface Setup	Advanced Setup	Access Management	Maintenance	Status	Help				
Management	ACL	Filter	SNMF	UPnP	DDNS	CWMP					
Access Control Setup											
		ACL	: 💿 Activated	O Deactivated							
Access Control Editing											
		ACL Rule Index : 1									
		Active: 💿 Yes 🔘 No									
	Sec		: 192.168.1.20	~ 192.168.1.20	0.0.0~0.0.	0.0 means all IPs)					
		Application Interface									
Access Control Listing		Internace									
		Index Ac	tive Se	cure IP Address	Application	Interface					
		1 Y	es 192.1	68.1.20-192.168.1.200	Web	Both					
		SAVE DELETE CANCEL									



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

## 4.5.2 Filter

Choose "Access Management  $\rightarrow$  Filter", you can see the Filter screen (the default is IP/MAC Filter screen shown in ). The filtering feature includes IP/MAC Filter, Application Filter, URL Filter. The feature makes it possible for administrators to control user's access to the Internet, 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 4-28), then you can configure the filter rules based on IP address. The filtering includes **Outgoing** and **Incoming**, the detailed descriptions are provided below.

Access		uick tart	Interface Setup	Adva Set		Access Managem		Mainte	enance	Status	Help
Management		ACL	Filter	$\geq$	SNMP	UP	nP	DD	NS	CWMP	
Filter											
Filter Type											
		Filter	<sup>r</sup> Type Selection	: P/MA	AC Filter	*					
IP / MAC Filter Set Editing					-						
		IP / MAC	Filter Set Index								
			Interface Direction	: PVC0	Y						
IP / MAC Filter Rule Editing			Direction	. Dour							
in 7 million neor raito Lanang		IP / MAC	Filter Rule Index	: 1 🗸							
			Rule Type		*						
			Active	: 💽 Ye	es 🔘 No	0					
		_									
		So	urce IP Address			· ·	neans D	on't care)			
			Subnet Mask Port Number			o Dimeans Don't c					
			T OF TRAINDER			o nieans Dont c	care)				
		Destina	ation IP Address	: 0.0.0.0	I	(0.0.0.0 n	neans D	on't care)			
			Subnet Mask	: 0.0.0.0	I						
			Port Number	: 25	(	0 means Don't c	care)				
			Protocol	: TCP	~						
		I	Rule Unmatched		4						
IP / MAC Filter Listing											
	IP	/ MAC Fi	iter Set Index	1 🌱	1	Interface		PVC0		Direction	Both
	#	Active	Src Address	/Mask	De	st IP/Mask	Src	Port	Dest Port	Protocol	Unmatched
	1	Yes	192.168.1 255.255.25			0.0.0.0/ 0.0.0.0		0	25	TCP	Next
	2	Yes	192.168.1	.77		0.0.0.0/		0	110	ТСР	Next
	Н		255.255.25		20	0.0.0.0		-			
	3	Yes	255.255.25			.255.255.255	_	0	0	TCP	Forward
	4 5	-	-			-		-	-	-	-
	6	-	-			-		-	-	-	-
				SAVE	DELE		L				

Figure 4-28

- > Filter Type Selection: Select the filter type for the next configuration below.
- 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.

## P Note:

If select PVC0~PVC7 as a interface, the filter will match the IP traffic of WAN port with specified IPs (Source IP Address and Destination IP Address). If select LAN as an interface, the filter will match the IP traffic of LAN port with specified IPs.

Direction: Select the direction for this IP Filter rule. There are three filtering directions: Both, Incoming, Outgoing.

#### Solution Note:

Incoming means that IP traffic which is coming into the router, and the Outgoing means that IP traffic which is going out the router.

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

#### 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 IP/MAC Filter Set Index 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.
- Destination IP Address: Enter the destination IP address for the rule. You can enter 0.0.0.0, it means that all IP addresses are controlled by the rule. The set of Subnet Mask and Port Number are same as Source IP Address.
- 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 router will skip the rule and transmit directly. If you select Next, the 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 192.168.1.7 on your local network; And wish to make the PCs with IP address 192.168.1.8 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 4-28).

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.

Rule Type :	IP	*	
-------------	----	---	--

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 :	1 💙
Interface :	PVC0 🔽
Direction :	Both 🔽
IP / MAC Filter Rule Index :	1 💙
Rule Type :	IP 🔽
Active :	💿 Yes 🔘 No

#### 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 :	192.168.1.7	(0.0.0.0 means Don't care)
Subnet Mask :	255.255.255.255	
Port Number :	0 (0 me	eans 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 me	eans Don't care)
Protocol :	тср 💌	
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 192.168.1.7 on your local network; Make the PC with IP address 192.168.1.8 unable to visit the website of IP address 202.96.134.12.

## P 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.

TD-8840T ADSL2+ Modem Router User Guide

#	Active	Src Address/Mask	Dest IP/Mask	Src Port	Dest Port	Protocol	Unmatched
1	Yes	192.168.1.7/ 255.255.255.255	0.0.0.0/ 0.0.0.0	0	25	TCP	Next
2	Yes	192.168.1.7/ 255.255.255.255	0.0.0.0/ 0.0.0.0	0	110	TCP	Next
3	Yes	192.168.1.8/ 255.255.255.255	202.96.134.12/ 255.255.255.255	0	0	TCP	Forward

Other operations for the entries as shown in Figure 4-28:

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

Select 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 4-29), then you can configure the filter rules based on MAC address.

Access	Quick Start	Interface Setup	Advanced Setup	Access Manageme	nt Main	tenance	Status	Help
Management		Filter	🔵 🔰 sni	MP UPnF	P D	DNS	CVVMP	
Filter								
Filter Type								
		Filter Type Selectio	n : (P / MAC Filt	er) 🗸				
IP / MAC Filter Set Editing			$\sim$					
	ID /	MAC Filter Set Inde	x: 1 💌					
	IF 7	Interfac						
		Directio						
IP / MAC Filter Rule Editing		Directio	In Doan					
IF / MAC Filter Rule Editing	15.44	1AC Filter Rule Inde						
	IP / N							
			e: (MAC) 🖌 e: 💿 Yes ()	N-				
		Activ	e. 🕑 yes 🔘	/ NO				
		MAC Addres	s: 00:0a:eb:00:	07:be				
		Rule Unmatche		=				
IP / MAC Filter Listing								
	IP / MA	C Filter Set Inde	к 1 😽	Interface	PVC0		Direction	Both
	# Act	ive Src Addres	s/Mask	Dest IP/Mask	Src Port	Dest Port	Protocol	Unmatched
	1 Ye	-		-	-	-	-	Next
	2 Ye		0:07:5f	-	-	-	-	Forward
	3 -			-	-	-	-	-
	4 - 5 -			-	-		-	-
	6 -			-		-		-
							4	
			SAVE	ELETE CANCEL				

#### Figure 4-29

- > **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 router will skip the rule and transmit directly. If you select Next, the 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:

Filter Type Selection : IP / MAC Filter 🛛 🗸

Select the "MAC" as the Rule Type on the Filter screen (show in Figure 4-29).

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 :	1 💌
Interface :	PVC0 🔽
Direction :	Outgoing 🔽
IP / MAC Filter Rule Index :	1 💌
Rule Type :	MAC 🔽
Active :	💿 Yes 🔘 No

# P Note:

If you want to make the rule take effect, please select  $\boldsymbol{Yes}$  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

Other operations for the entries as shown in Figure 4-29:

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

Select 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 4-30), then you can configure the filter rules based on application.

Access	Quick Start	Interface Setup	Advanced Setup	Access Management	Maintenance	Status	Help
Management	ACL	Filter	SNMF	UPnP	DDNS	CVVMP	
Filter							
Filter Type							
	Filte	r Type Selection	: Application Filt	Brow			
Application Filter Editing			~	~			
			: 💿 Activated				
			: 💿 Allow 🔘				
			: 💿 Allow 🔘				
		YMSG	: 🔘 Allow 💿	Deny			
	R	eal Audio∕Video	: 🔘 Allow 💿	Deny			
			SAVE CAN	ICEL			

Figure 4-30

- **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 Router will accept the application; if you select Deny, the Router will forbid the application.

#### 4.5.2.4. URL

Select **URL** as the Filter type (shown in Figure 4-31), then you can configure the filter rules based on URL.

# TD-8840T ADSL2+ Modem Router User Guide

Access	Quick Start	Interface Setup	Advanced Setup	Access Management	Maintenance	Status	Help
Management		Filter	SNMP	UPnP	DDNS	CWMP	
Filter							
Filter Type							
	Filter	r Type Selection	n : URL Filter	~			
URL Filter Editing							
		Activ	e : 🔿 Yes 💿 No				
		URL Inde:					
URL Filter Listing		UR	-:[				
one rinter clothing	Index	U	RL				
	1						
	2						
	3						
	4						
	5						
	6						
	7						
	8						
	9						
	10						
	11						
	12						
	13						
	14						
	15						
	16						

# SAVE DELETE CANCEL

## Figure 4-31

- **Filter Type Selection:** Select the URL Filter for the next configuration.
- > Active: Select "Yes" to make the rule to 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 its index is "1".

- Step 1: Select the "URL Filter" as the Filer Type Selection (show in Figure 4-31).
- 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 to save the entry.

#### Other operations for the entries as shown in Figure 4-31:

Select the **URL Index** to view or modify the entry.

Select 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  $\rightarrow$  SNMP", you can see the SNMP screen. The Simple Network Management Protocol (SNMP) is used for exchanging information between network devices.

Access	Quick Start	Interface Setup	Advanced Setup	Access Management	Maintenance	Status	Help
Management	ACL	Filter		D UPnP	DDNS	CWMP	
SNMP							
		Get Community :	public				
		Set Community :	public				
			SAVE				

Figure 4-32

- Get Community: Set the password for the incoming Get and Get next requests from the management station.
- > Set Community: Set the password for incoming Set requests from the management station.

## 4.5.4 UPnP

Choose "Access Management  $\rightarrow$  UPnP", you can configure the UPnP in the screen (shown in Figure 4-33).

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	CWMP	
	I						
Universal Plug & Play				-			
			: 💿 Activated				
		Auto-configured	: 🔘 Activated	Deactivated (by U	PnP-enabled Applicatio	n)	
			SAVE				

Figure 4-33

- UPnP: Activate or Deactivate the UPnP function. Only when the function is activated, can the UPnP take effect.
- Auto-Configure: 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 $\rightarrow$ DDNS", you can configure the DDNS function in the screen (shown in Figure 4-34).

TD-8840T ADSL2+ Modem Router User Gui
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The router offers a Dynamic Domain Name System (**DDNS**) feature. The feature lets you use a static host name with a dynamic IP address. User should type the host name, user name and password assigned to your ADSL Router by your Dynamic DNS provider. User also can decide to turn on DYNDNS Wildcard or not.

Access	Quick Start	Interface Setup	Advanced Setup	Access Management	Maintenance	Status	Help
Management	ACL	Filter	SNMP	UPnP	DDNS	CVVMP	
Dynamic DNS							
		Dynamic DNS :	💿 Activated	O Deactivated			
	1	Service Provider :	www.dyndns.c	org	_		
		My Host Name :					
		E-mail Address					
		Username					
		Password					
	١	Mildcard support :	🔘 Yes 💿 N	0	_		
			SAVE				

Figure 4-34

- > **Dynamic DNS:** Activate the DDNS function or not.
- > Service Provider: This field displays the service provider of DDNS.
- > My Host Name: Enter your host name here.
- **E-mail Address:** Enter your E-mail address here.
- **Username & Password:** Type the "User Name" and "Password" for your DDNS account.
- > Wildcard support: Select the option to use Wildcard function

## 4.5.6 CWMP

Choose "Access Management  $\rightarrow$  CWMP", you can configure the CWMP function in the screen (shown in Figure 4-35).

The 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).

			TD-8	840T ADSL2	2+ Modem	<b>Router Use</b>	er Guide
Access	Quick Start	Interface Setup	Advanced Setup	Access Management	Maintenar	ice Status	Help
Management	ACL	Filter	SNMP	UPnP	DDNS	CWMP	
CWMP Setup							
		CVMP	🔘 Activated 🤇	Deactivated			
Login ACS							
		URL					
		User Name :			1		
Connection Request		Password					
connection request		Path	/tr069				
			7547				
		UserName			]		
		Password			]		
Periodic Inform							
			Activated	Deactivated			
		Interval(s) :	86400				
			SAVE CAN	CEL			

Figure 4-35

- > **CWMP:** Select 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.
- User Name/Password: Enter the User Name and Password that provided the ACS server to login the router.
- Periodic Inform: Activate or deactivate the function. If Activated, the information will be informed to ACS server periodically.
- > Interval: 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 $\rightarrow$ Administration", you can set new password for admin in the screen (shown in Figure 4-37).

TD-8840T ADSL2+ Modem Router User Guide

Maintenance	Quick Start	Interface Setup	e Advanco Setup			Mainten	ance	Status	Help
	Administra	ation	Time Zone	Firmware	Sys	sRestart	Diag	nostics	
	1								
Administrator		Userna	ame∶admin						
		New Passw							
	Co	onfirm Passw	vord :						
			SAVE	CANCEL					
			SATE (	CANCEL					



## P Note:

- 1) There is only one account that can access Web-Management interface. The default account is "admin", and the 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 4-37).

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, specify the PC's Clock as the device' system time or connect to a NTP (Network Time Protocol) server. If you manually set the time, you may also set Daylight Saving dates and the system time will automatically adjust on those dates. If a NTP server is set, you will only need to set the time zone. If PC's Clock is selected, the device will get the PC's Clock by way of the system time.

## 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	Acces Manager		Mainten	ance	Status	Help
	Administ	ration Tim	e Zone	Firmware			Diag		
Time Zone									
		Current Date/Time	: 01/08/2008 14	4:13:17					
Time Synchronization									
	Syne	chronize time with	: 💿 NTP Serv	er automatically	,				
			🔘 PC's Cloc	:k					
			🔘 Manualiy						
		Time Zone	: (GMT) Green	wich Mean Tim	e : Dublin	, Edinburgh, Li	sbon, Lo	ndon 🛛 🔛	
		Daylight Saving	: 🔘 Enabled	💿 Disabled	_				
	NT	P Server Address	: 0.0.0.0		(0.0.0.	0: Default Vali	ie)		
			SAVE CA	NCEL					

Figure 4-38

## P Note:

The ADSL Router built-in some NTP Servers, when the Router connects to the Internet, the Router will get the system time automatically from the NTP Server. You can also configure the NTP Server address manually, and then the 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	Acces Managen		Maintena	ince	Status	Help
	Administr	ration (Tim	ie Zone	Firmware	Sys	Restart	Diag	nostics	
Time Zone									
	(	Current Date/Time	: 01/08/2008 14	:13:38					
Time Synchronization									
	Sync	hronize time with	💠 🔘 NTP Serve	er automatically					
			PC's Clock	t i					
			Manually						
		Date			lonth/Dat				
		Time	14 13	: <mark>38 (</mark> ho	our:min:s	ec)			
			SAVE CA	NCEL					

Figure 4-39

#### 3. Manually

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

Maintenance	Quick Start	Interface Setup	Advanced Setup	Acces Manager		Maintena	ance	Status	Help
	Administ	ration (Tim	ie Zone	Firmware	Sys	Restart	Diag	nostics	
Time Zone									
		Current Date/Time	: 01/08/2008 14	13:58					
Time Synchronization									
	Syn	chronize time with	🗄 🔘 NTP Serve	er automatically					
			OPC's Clock	(					
			Manually						
		Date			vlonth/Dai				
		Time	: 14 13	; 58 (h	our:min:s	ec)			
			SAVE CA	NCEL					

Figure 4-40

## 4.6.3 Firmware

Choose "**Maintenance** $\rightarrow$ **Firmware**", you can upgrade the firmware of the Router in the screen (shown in Figure 4-41). 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.

ADSL2+ Modem Router User Guide TD-8840T Quick Interface Advanced Access Maintenance Status Help Start Setup Setup Management Maintenance Firmware/Romfile Upgrade Current Firmware Version : 3.0.0 Build 101208 Rel.36427 Browse... New Firmware Location : Browse... New Romfile Location: Romfile Backup : ROMFILE SAVE Status : It might take several minutes, don't power off it during upgrading. Device will restart after 0 the upgrade. UPGRADE

Figure 4-41

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

- **Step 1:** Download a more recent firmware upgrade file from the TP-LINK website (http://www.tp-link.com).
- **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.

#### PNote:

- New firmware versions are posted at http://www.tp-link.com and can be downloaded for free. If the 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 router's firmware, you may lose its current configurations, so please back up the router's current settings before you upgrade its firmware.
- 3) Do not turn off the router or press the Reset button while the firmware is being upgraded.
- 4) The 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 4-41), click **Save** button in the next screen (shown in Figure 4-42) to proceed.

File Dov	vnload - 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					
:	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 4-42

**Step 2:** Save the file as the appointed file (shown in Figure 4-43).

Save As						? 🔀
Save jn:	🚞 TD-8840T		*	G 🕫	• 📰 •	
My Recent Documents						
Desktop						
My Documents						
My Computer						
	File <u>n</u> ame:	rom-0			~	<u>S</u> ave
My Network	Save as <u>t</u> ype:	Document			*	Cancel

Figure 4-43

#### To restore the 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 System Restart

Choose "**Maintenance** $\rightarrow$ **System Restart**", you can select to restart the device with current settings or restore to factory default settings in the screen (shown in Figure 4-44).

			TD	-8840T	DSL2-	- Modem	Rou	ter User C	Guide
Maintenance	Quick Start	Interface Setup	e Advano Setu			Maintena	ance	Status	Help
	Administr	ration	Time Zone	Firmware	Sys	sRestart	Diag	nostics	
System Restart System Restart with :  Current Settings Factory Default Settings									
			RESTA	RT					

Figure 4-44

# 4.6.5 Diagnostic

Choose "**Maintenance** $\rightarrow$ **Diagnostic**", 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 4-45).

Maintenance	Quick Start	Interface Setup	Advance: Setup	l Acce Manage		Maintenance	Status	Help
	Administ	ration Tin	ne Zone	Firmware	SysR	estart Diag	nostics	
Diagnostic Test								
	Virtual Circuit: PVC0							
	>> Testing Ethernet LAN connection			л	PAS	s		
	>> Testing ADSL Synchroniza				PAS	6S		
	>> Testing ATM OAM segment ping			g	PAS	SS		
	>> Testing ATM OAM end to end ping			ing	FA	L		
	>> Ping Primary Domain Name Server .			/er.	FA	L		
	>> Ping www.yahoo.com				PAS	SS		

Figure 4-45

# 4.7 Help

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

			TD-884	10T ADSL2	+ Modem Rou	uter User G	uide
	Quick	Interface	Advanced	Access	Maintenance	Status	Help
Help	Start	Setup	Setup	Management			-
Quick Start							
		0	Quick Start				
Interface Setup							
		-	Internet Settin	igs			
		0	LAN Settings				
Advanced Setup							
			9				
		0	NAT				
			QoS VLAN				
		ŏ	ADSL				
		ŏ	Firewall				
Access Management							
		0	ACL				
		Ō	IP Filter				
		0	SNMP				
		0	UPnP				
		0	DDNS				
Maintenance		•					
		00	Administration Time Zone	n			
		ŏ	Firmware				
		Ŏ	SysRestart				
		0	Diagnostics				
Status							
		0	Device Info				
		0	System Log				
		0	Statistics				

Figure 4-46

# P Note:

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

# Appendix A: Specification

General					
Standards and Protocols	ANSI T1.413, ITU G.992.1, ITU G.992.2, ITU G.992.3, ITU G.992.5, IEEE 802.3, IEEE 802.3u, TCP/IP, PPPoA, PPPoE, SNTP, HTTP, DHCP, ICMP, NAT, CWMP, SNMP				
Safety & Emission	FCC, CE				
Ports	4 10/100M Auto-Negotiation RJ45 ports (Auto MDI/MDIX) 1 RJ11 port				
LEDs	Power, ADSL, Internet, 1-4 (LAN)				
Network Medium	10Base-T: UTP category 3, 4, 5 cable 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				
	Physical and Environment				
Working Temperature	0°C ~ 40°C				
Working Humidity	10% ~ 90% RH (non-condensing)				
Storage Temperature	-40℃ ~ 70℃				
Storage Humidity	5% ~ 90% RH (non-condensing)				