ADSL2+ Modem With 150Mbps Wireless-N Router User Manual Certification FCC CE

### **FCC Statement**

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 equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

This unit complies with Part 15 & 68 of FCC Rules. Operation is subject to 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.

Note: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

#### INFORMATION TO BE SUPPLIED TO USERS

We confirm that the following information will supplied to the users of this equipment. This information will be provided with the user's manual.

#### FCC REQUIREMENTS

This equipment complies with Part 68 of the FCC rules and the requirements adopted by the

ACTA. On the exterior of the cabinet of this equipment is a label that contains, among other information, the FCC Registration Number and Ringer Equivalence Number (REN) for this equipment. A product identifier in the format US: SX5DL04BDL4302R. If requested, this number must be provided to the telephone company.

FCC compliant telephone cord and modular plug is provided with this equipment. This equipment is designed to be connected to the telephone network or premises wiring using a compatible modular jack that is Part 68 compliant. See Installation Instructions for details. The REN is used to determine the quantity of devices that may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. Typically, the sum of RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to a line (as determined by the total RENs) contact the local telephone company. If this equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notice isn't practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary. The telephone company may make changes to its facilities, equipment, operations or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice so you can make the necessary modifications to maintain uninterrupted service.

### **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.

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# 1. Introduction

Thank you for choosing the 150Mbps Wireless-N 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 or IEEE 802.11n/ IEEE 802.11g/ IEEE 802.11b wireless network.

The router 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 DNS 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 product 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.

### Wireless

In the most attentive wireless security, the Router provides multiple protection measures. It can be set to turn off the wireless network name (SSID) broadcast so that only stations that have the SSID can be connected. The Router provides wireless LAN 64/128-bit WEP encryption security, WPA-PSK/WPA2-PSK authentication.

### **1.2.** Package Contents

The following contents should be found in your package:

- > One 150Mbps Wireless N ADSL2+ Modem Router
- One Power Adapter
- User Manual
- ➢ RJ45 cable
- RJ11 cables
- One ADSL splitter
- CD-ROM

### **1.3.** Main Features

- Four 10/100Mbps Auto-Negotiation RJ45 LAN ports (Auto MDI/MDIX), one RJ11 port.
- Wireless N speed up to 150Mbps.
- 5dBi antenna provides extended range for better performance of signal coverage and reception.
- Adopts Advanced DMT modulation and demodulation technology.
- Multi-user sharing a high-speed Internet connection.
- > Downstream data rates up to 24Mbps, upstream data rates up to 1Mbps.
- Supports long transfers, the max line length can reach to 6.5Km.
- Supports PPPoE, it allows connecting the internet on demand and disconnecting from the internet when idle.
- Provides reliable ESD and surge-protect function with quick response semi-conductive surge protection circuit.
- > High speed and asymmetrical data transmit mode, provides safe and exclusive bandwidth.
- Supports All ADSL industrial standards.
- > Provides integrated access of internet and route function which face to SOHO user.
- Built-in DHCP server.
- Built-in firewall, supporting MAC filter, IP filter and DNS 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.
- WPS (PIN/PBC) enabled, easy one-touch WPA wireless security encryption with the WPS button.
- Provides WPA-PSK/WPA2-PSK data security.
- > 802.1Q VLAN binds specific LAN ports and PVCs for differential services.
- Supports TR-069 and SNMP.

### 1.4. Conventions

The Router or device mentioned in this User Manual stands for the product without any explanations.

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

# 2. Hardware Installation

### 2.1. The Front Panel



Figure 2-1

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

Name	Status	Indication
PWR	On	Power is on
	Off	Power is off
	Flash	The ADSL negotiation is in progress
ADSL	On	The LINE port is linked up.
	Off	The LINE port is linked down.
	Flash	Data is being transferred over the Internet.
Internet	On	A successful PPP connection has been built.
	Off	There is no successful PPP connection or the Router works on Bridge
	Off	mode.
	Flash	There is wireless data being transmitted.
WLAN	On	The wireless function is enabled but no data is being transmitted.
	Off	The wireless function is disabled.
	Flash	Data is being transferred over the 1-4 (LAN) port.
	0	There is a successful connection on the corresponding 1-4 (LAN) port but
LAN(1-4)	UII	no activity.
	Off	There is no connection on the corresponding 1-4 (LAN) port or the
	UII	connection is abnormal.
	Slow Flash	Wi-Fi Protected Setup (WPS) are ongoing
WPS	Off	Wi-Fi Protected Setup (WPS) is disabled or a wireless device has been
		connected to the Router by WPS function.

### LED Explanation:

### 2.2. The Back Panel



Figure 2-2

> **PWR**: The Power plug is where you will connect the power adapter.

- 1, 2, 3, 4 (LAN): Through the port, you can connect the Router to your PC or the other Ethernet network device.
- Default: 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 "System Management Restore" of the Router's Web-based Utility.
- ADSL: Through the port, you can connect the router with the telephone. Or you can connect them by an external separate splitter. For details, please refer to 2.4.
- > Antenna: Used for wireless operation and data transmit.

### 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.
- The Router can be placed on a shelf or desktop.
- Keep away from the strong electromagnetic radiation and the device of electromagnetic sensitive.

### 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. 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 the router, 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 the router Plug one end of the twisted-pair ADSL cable into the ADSL LINE port on the rear panel of the router. 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 router. **Step 3:** Power on the computers and LAN devices.

**Step 4**: 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.



Figure 2-3

# 3. Quick Installation Guide

### 3.1. Configure PC

After you directly connect your PC to the product 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.

### 3.1.1. For Windows 2000 or Windows XP as below.

Step 1: Right Click My Network Places. Then select Properties (shown in Figure 3-1).



Figure 3-1

Step 2: Right Click Local Area Connection. Then select Properties.





Step 3: Double click the Internet Protocol [TCP/IP].

	Authenticati	on /	Advanced			
Connec	t using:					
調査					Configur	e )
This co	nnection use:	s the l	iollowing ite	ms:		
	Client for Mi	croso	ft Network:	20 1		
	File and Prin DoS Packa	nter 5 FSch	hating for M eduler	licrosoft	Networks	
1	Internet Pro	tocol	(TCP/IP)			
				_		
[]	nstall		Urmata		Propertie	s []
Desc	ription					
Tran wide acro	smission Cont area network ss diverse inte	rol Pr prote erconr	otocol/Inte ocol that pr nected net	rnet Pro ovides c vorks.	tocol. The defau ommunication	ult
[]]Sho	w icon in notil	ficatio	n area whe	en conn	ected	
1.10110	fy me when th	nis co	nnection h	as limited	d or no connecti	ivity
Not						

Figure 3-3

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

reneral	
You can get IP settings assigned this capability. Otherwise, you ne the appropriate IP settings.	l automatically if your network supports ed to ask your network administrator for
O Obtain an IP address autor	atically
⊙Use the following IP addres	8
IP address:	192.168.1.2
Sybnet mask:	255 . 255 . 255 . 0
<u>D</u> efault gateway:	192 168 1 1
O Oblain DNS server address	automatically
OUSE the following DNS served as a served of the served	er addresses:
Preferred DNS server:	192.168.1.1
Alternate DNS server	<u>et 28 28</u>
	Ad <u>v</u> anced

Figure 3-4

Note:

You can 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.

### 3.1.2. For Windows 7 or Windows Vista as below.

Step 1: Click the Open Network and Sharing Center.



Figure 3-5

Step 2: Click the Change adapter settings.



Figure 3-6

Step 3: Click Local Area Connection with the right button of your mouse. Then select Properties.





Step 4: Double click the "Internet Protocol Version 4(TCP/IPv4)".

Children Children	ng	
Connect using:		
2		
This connection u	ses the following items:	Configure
Client for Client for Client for GoS Pac File and A Internet Client for A Internet Client for	Microsoft Networks Bridge Protocol sket Scheduler Printer Sharing for Microsoft Protocol Version 6 (TCP/IP) Protocol Version 4 (TCP/IP) er Topology Discovery Map er Topology Discovery Res	Networks /6) /4) per I/O Driver ponder
🗹 🐣 Link-Lay		
Ivel ⊸ Link-Lay	Uninstall	Properties
Install Description Transmission C wide area netw across diverse	Uninstall ontrol Protocol/Internet Protocol that provides of interconnected networks.	tocol. The default

Figure 3-8

Step 5: Select the "Obtain an IP address automatically" as below. Then click "OK".

Alternate Configura	ition				
ou can get IP settings assig his capability. Otherwise, yo or the appropriate IP setting	gned automatic ou need to ask gs.	ally if your i	your n netwoi	etwork rk.admi	supports nistrator
( Obtain an IP address a	utomatically				
🔵 Use the following IP add	dress:				
IP address:			18		
Subnet mask:		10	14	÷.	ī.
Default gateway:		-D	iù.	ià.	
Obtain DNS server addr	ress automatic	ally			
💮 Use the following DNS s	server address	esi			
Preferred DNS server:		. 6	12		
Alternate DNS server:		- Ki	9	18	
🗍 Validate settings upon	ejőt			Adv	/anced

Figure 3-9

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 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 3-10

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 3-11

You can check it follow 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  $192.168.1.2 \sim 192.168.1.254$ .

### 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**.

🥖 Blank Page	- Windows Internet Explorer
00-	Line 102.168.1.1/

After that, you will see the screen shown below, enter the default User Name **guest** and the default Password **guest**.

password.	2.108.1.1 at ADSL ROUTER/MODEM requires a username and
Warning: Th sent in an in connection).	s server is requesting that your username and password be ecure manner (basic authentication without a secure
	User name Password
	Remember my credentials



And then click OK to access to the Wireless Modem Management Panel screen.

Converse Setup	Conversional Tetrap	Committent Setup
System Log	VP1; (0-255)	Considerate and samples a way to configure your
Terrent Setup	VO: (5-65533)	Hodem to access the Internet: Access
Wireless Management	Channel Model: 1463 Bridgald -	WH / YCL
Security Setup	DHCP Server Settap	and "Wreess Setur".
LANSettp	DHO! Server Sataux: # Enable Deable	Conversent tasi for your
Applications & Game Application Gamery	P Address Post 192,168.2.7	to configure the Hoden
0053	Winders Setup	
Reama Advanced Servay	Www.sis Status: # Englie Osobe Rade Mode: Access Point -	
system standaesem	SSID) Default	
C	15 April 11	

Figure 3-8

## 4. Modem Management

After your successful login, you can configure and manage the device. There are main menus on the left of the Web-based Utility. To apply any settings you have altered on the page, please click the **Apply** or **Save** button.

### 4.1. Convenient Setup

This webpage provides you the convenient and simplest way to configure your Modem to access the internet.

10	Topusesyage
VPI	: (0-255)
VCI	: (0-65535)
Channel Mode	: 1483 Bridged 💌
DHCP Server Setup	
DHCP Server Sataus	🛛 🤨 Disable
IP Address Pool	: 192.168.1.2 - 192.168.1.63
Wireless Setup	
Wireless Status	🗧 🥺 Enable 🛛 🕙 Disable
Radio Mode	Access Point
SSID	Default
	Apply

Figure 4-1

1) .....

**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.

your ISP.

3) ..... NAPT: Select this option to Enable/Disable the NAPT (Network Address Port Translation)

function for this PVC. The NAPT function can be activated or deactivated per PVC basis.
4)

#### Channel Mode:

a) .....

**1483 Bridged**: 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. This mode allows you use the product as an ADSL modem. You could set up a dial-up connection to the Internet by using your own computer without sharing.

b).....

**1483 MER**: When RFC 1483 MER (MAC Encapsulated Routing) is enabled on a router, it allows configuration of an ATM Access Concentrator for both modem and router deployment since it supports bridge encapsulation as well as IP encapsulation. ATM cells are encapsulated with an IP address header when routing; ATM cells are encapsulated with a MAC address header when bridging.

What all this techno-speak means is that RFC 1483 MER allows you to do IP routing with NAT on the LAN side of the CPE router and bridging on the WAN side. And when NAT and MER are enabled on the CPE router, a customer network of many workstations will appear the same as a single workstation behind a modem.

If you select this channel mode, you will see a screen show in below.

VPI:	(0-255)
VCI:	(0-65535)
Channel Mode:	1483 MER 💌
Enable NAPT:	
WAN IP Settings	
Type:	Fixed IP O DHCP
Local IP Address:	
Remote IP Address:	
Subnet Mask:	
Default Route:	🕐 Dicable 🧕 Enable

Convenient Setup



You can configure IP routing automatically using DHCP, or manuanly by providing the following information:

≻	
	Local IP Address
۶	
	Remote IP Address
۶	
, . <b>.</b>	Subnet Mask

If you NSP has not provided specifics for these settings, and you are unsure what is appropriate, choose this type **DHCP** and **NAPT** enabled.

c) .....
PPPoE/PPPoA: If you want to share an ADSL among your local network, please select

this mode and type in the PPPoE/PPPoA account and password to make your the product connect to Internet. (show in Figure 4-3).

VPI:		(0-255)
VCI:		(0-65535)
Channel Mode:	PPPoE 💌	
Enable NAPT:	V	
PPP Setup		
User Name:		]
Password:		
Default Route:	Disable	Enable

Figure 4-3

۶.....

**User Name**: Enter your username for your PPPoE connection.

Password: Enter your password for your PPPoE connection.

<u>></u>

**Default Route**: You should select **Enable** to configure the PVC as the default gateway to internet from this device.

5) .....

#### **DHCP Server Setup**

(a ) a )

Here you can select the DHCP Server Status enable or disable and configure IP Address Pool range.

DHCP Server Sataus:	Enable	Disable
IP Address Pool:	192.168.1.2	- 192.168.1.63

6) .....

#### Wirelss Setup

Here you can select Wielress Status enable or disable and configure SSID for your wireless network.

Wireless Setup	
Wireless Status:	🤨 Enable 💿 Disable
Radio Mode:	Access Point
SSID:	Default
	Apply

Figure 4-5

After configuring all the Settings, click **Apply** to take effect.

### 4.2. Internet Setup

Choose "Interface Setup", you can see the next submenus: Internet Setup, QoS for PVC, ADSL Setup and Port Mapping. Click any of them, and you will be able to configure the corresponding function.

Internet Setup QoS for PVC ADSL Setup Port Mapping

### 4.2.1. Internet Setup

Choose "Interface Setup Internet Setup" menu, you can configure the parameters for your internet.

Inter	net Setup	QoS fo	r PVC	) AI	)SL Set	ap   Por	t Mapping						
						VP.	E.	(	0-255)	(			
						VC	B	(	0-6553	5)			
					Enca	sulation	: 🤨 LLC	VC-M	urx.				
					Chann	el Mode	: 1483 Brid	ged 💌					
					Iter	n Statu:	🗧 🖲 Enable	🔋 Dis	sable				
					802	1q VLA	N 🤗 Disable	i i E	nable				
					Brid	ge Mod	e Bridged E	thernet (	Transp	arent Br	idging) 📼		
							Apply	1					
	Items sho	w in ev	erv sir	nde r	але 5		Anoiy		10-	A 0		Total	1 Danes
Index	Interface	Mode	VPI	VCI	Encap	NAPT	User Name	DRoute	Status	802.10 VLAN	Modify	1 94.01	Del
1	vc0	br1483	5	35	LLC	disable		disable	enable	disable	Modify		Del

Figure 4-6

VPI/VCI: Refer to 4.1.
 Encapsulation: Select the encapsulation mode for the Dynamic IP Address, you can leave it default.
 Channel Mode: Refer to 4.1.
 Item Status: you can configure the item take effect or not.
 802.1q VLAN: 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.

802.1q VLAN in this router binds specific LAN ports and VCs for differential services such as IPTV. Select **Enable** to enable this function, and then enter the specified VLAN ID which is provided by your IPTV provider. (show in Figure 4-7)

VPI:		(0-255)
VCI:		(0-65535)
Encapsulation:	🦲 ШС 🔘	VC-Mux
Channel Mode:	1483 Bridge	ed 💌
Item Status:	🤨 Enable	💿 Disable
802.1q VLAN	Disable	🤨 Enable
VLAN ID	0	(0-4095)
Bridge Mode	Bridged Eth	ernet (Transparent Bridging) 💌
	Apply	

Figure 4-7

#### Note:

Some VCs for IPTV do not needs to configure 802.1q VLAN, please get more details from your ISP.

6) .....

### Bridge Mode: a).....

Bridged Ethernet (Transparent Bridging): Default Bridge Mode.

b).....

**Bridged PPPoE (implies Bridged Ethernet)**: In this mode only PPPoE data packets can through the PVC.

c) .....

### **Disable Bridge**

After you finish configuration, please click **Apply** to make the settings take effect. Then the system will generated a record in the screen below. You can also modify or delete the record which you configured.

	Items sho	w in ev	ery sir	ngle p	age 5		Apply		4	1 🕆 🧔	1	Total 1 Pages
Index	x Interface	Mode	VPI	VCI	Encap	NAPT	User Name	DRoute	Status	802.1q VLAN	Modify	Del
1	vc0	br1483	5	35	LLC	disable		disable	enable	disable	Modify	Del
2	vc1	br1483	8	35	LLC	disable		disable	enable	enable	Modify	Del

Figure 4-8

#### 4.2.2. QoS for PVC

Choose menu "Interface Setup QoS for PVC" menu, you can see the next screen. (show in Figure 4-9)

					-			
			V	PI:				
			V	CI:				
			Q	S: UBR				
			P	CR:				
			CD	/T;				
			S	CR:				
			M	BS:				
				Apply				
Iter	ns show in (	every single (	page 5	Apply	1	∲ ≙ ∮	) <b>1</b> - 1	Fotal 1 Pages
Index	VPI	VCI	QoS	PCR	CDVT	SCR	MBS	Modify
1	5	35	LIBR	6000	0			Modify

### Figure 4-9

This 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. Click the **Modify** button to configure. (show in Figure 4-10)

۷.....

**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), CDVT (Cell Delay Variation Tolerance) and MBS (Maximum Burst Size), please configure them according to your needs.

Internet S	Setup   QoS	for PVC (A	DSL Setup   P	ort Mapping	1			
			V	PI: 5	Ī			
			V	CI: 35	ĺ			
			Q	oS: UBR				
			P	CR: 6000				
			CD	/T: 0				
			S	CR:				
			M	BS:				
				Apply				
Iten	ns show in (	every single (	page 5	Apply		<b>小</b> 合 4	) 🔿 1 🖂 '	Total 1 Page
Index	VPI	VCI	QoS	PCR	CDVT	SCR	MBS	Modify
1	5	35	UBR	6000	0	1000	1000	Modify
2	8	35	UBR	6000	0	-	1000	Modify

Figure 4-10

### 4.2.3. ADSL Setup

Choose "Interface Setup ADSL Setup" menu, you can see the ADSL Setup webpage show in Figure 4-11.

This feature provides options for user to setup ADSL modulation mode, AnnexL option, AnnexM option, ADSL Capability and ADSL Tone. Please configure them according to your needs.

ADSL modulation	
	🖉 AnnexA 💿 AnnexB
	🔲 G.Lite
	G.Dmt
	<b>T1.413</b>
	ADSL2
	ADSL2+
AnnexL Option	
	Enabled (Note: Only ADSL 2 supports AnnexL)
AnnexM Option	
	Enabled (Note: Only ADSL 2/2+ support AnnexM)
ADSL Capability	
	Bitswap Enabled
	SRA Enabled
ADSL Tone	
	Tone Mask
	Apply

Figure 4-11

### 4.2.4. Port Mapping

Choose "Interface Setup Port Mapping" menu, you can see the next screen show in Figure 4-12.

t Mapping		
	Status   Enable  Disable	
	Save	
Index	Interfaces	Edit
Default	LAN4,LAN3,LAN2,LAN1,wlan0,vc0,vc1	
1		Edit
2		Edit
3		Edit
4		Edit

Figure 4-12

This router can supports 4 groups editable Port Mapping. This function is similar to Port-VLAN, it binds specified LAN port to VCs to implement some special network applications, such as IPTV.

The bound port will not be used on other VCs.

#### For Example:

If you want to add a Port Mapping entry binds "LAN4" to "vc1", please follow these instruction:

- 1. Configure PVC "vc1", refer to **4.2.1**.
- 2. Select **Enable** marquee to enable the Port Mapping status, click the **Save** button to make it effective.
- 3. Click one of the **Edit** button, select the LAN/WLAN port and PVCs you want to bind. (show in Figure 4-12)

Port Ma	pping			
	Status  e Enable Disable			
	Save			
Index	Interfaces	Edit		
Default	LAN4, LAN3, LAN2, LAN1, wian0, vc0, vc1			
1	ZLAN4 LAN3 LAN2 LAN1 wian0 vc0 vc1	Apply	Cancel	
2		E	dit	
3		E	dit	
4		E	dit	

Figure 4-12

### 4. Then click **Apply** button to make it effective. (show in Figure 4-13)

t Mapping		
Statu	🔍 Enable 🔿 Disable	
	Save:	
Index	Interfaces	Edit
Default	LAN3,LAN2,LAN1,wlan0,vc0	
1	LAN4,vc1	Edit
2		Edit
3		Edit
4		Edit

### Figure 4-13

If you want to modify Port Mapping entries, click the **Edit** button.

### 4.3. System Information

Choose "System Information" menu, you can see the screen show in Figure 4-14.

Or	perational Sta	tus: ACTIVA	TING.			
3	Upstream Spe	eed:0 kbps				
Dou	wostream Spe	ed:0 kbos				
003						
		and the second				
NAN Cont	figuration					
VAN Conf	figuration			17000 M	24.5	
VAN Conf	figuration VPI/VCI	Encap	Protocol	IP Address	Gateway	Status
VAN Conf	figuration VPI/VCI	Encap	Protocol	IP Address Refresh	Gateway	Status
WAN Conf	figuration VPI/VCI	Encap	Protocol	IP Address Refresh	Gateway	Status

Figure 4-14

This feature displays current status of the Router.

≻.	
	<b>Internet Info</b> : This feature provides running status information of the WAN port (The port connect to the Internet), and displays the current version of the software.
	LAN Info: This item provides information about Modem's LAN port, display LAN port's MAC address, IP address and current situation of DHCP server.
γ.	AP Info: This item provides current running information of Primary AP.
	Wireless Status: Display wireless interface status is enabled or not.
	Wireless Status: Display the current number of wireless stations associated with router.
	Wireless Mode: Current wireless mode of wireless router.
	Channel: Display current channel of your wireless router.
	<b>SSID</b> : SSID (Service Set Identifier) is your wireless network's name shared among all points in a wireless network. The SSID must be identical for all devices in the wireless network. So make sure all points in the wireless network have the same SSID, we suggested to user the default SSID.
	f)
	<ul> <li>g)</li> <li>SSID Broadcasting: You can select "enable" or "disable" to enable or disable the broadcast SSID function, if the setting of the field is disable, wireless client can not obtain this SSID to login in, the user have to input the SSID value manually.</li> </ul>
	Security Mode: Display whether your security wireless function have been applied.
<i>·</i> ·	System: This item provides current running information of System.

Statistics: This item provides statistics information about the bits router sends and received, including LAN, WAN and WLAN.

▶.....

ADSL Statistics: Statistical information about the current ADSL lines.

### 4.4. System Log

Choose "**System Log**" menu, and you will be able to query the logs of the Modem. The Modem can keep logs of all traffic. You can query the logs to find what happened to the Modem.

Items :	show in every single page 10	Apply	🌾 🐣 👙 🎲 1 💌 Total 1 Pages
No.	Time		Descript
1	2011-05-30 13:29:02		DHCP:DHCP Server enable!
		DellAll	

Figure 4-15

Click the **Del All** button to clear the logs.

### 4.5. Wireless Management

Choose "Wireless Management" menu, and you will see the submenus. (show in Figure 4-8)

```
Basic Security Host Filter Host List WPS Advanced
```

Figure 4-16

Please configure the parameters for wireless according to the descriptions below.

### 4.5.1. Basic

Providing basic configuration items for wireless router users, including "Wireless network status ", "Band", "Radio mode", nine basic configuration items.

lasic					
Wireless Network Status	Enable	D	sat	ble	
Radio Band	802.11b+g	+n [	•		
Radio Mode	Access Poir	t	•		
SSID	Default				
SSID Broadcasting	Enable	_	ő	Disable	
Channel Width	0 20MHZ		9	40MHZ	
Control Sideband	Lower		Ø	Upper	
Region	FCC				
Channel	Channel 6				
	Sav	ë i			

Figure 4-17

۶..... Wireless Network Status: You can choose "enable" or "disable" to enable or disable the "Wireless Network Status", if you choose "Disable", the AP function of wireless router will be turned off. A ...... Radio Band: You can select the wireless standards running on your network, the default setting is 802.11b/g/n Mixed. A ..... Radio Mode: You can select radio mode of wireless router, the default setting is AP mode. A ..... SSID: SSID (Service Set Identifier) is your wireless network's name shared among all points in a wireless network. The SSID must be identical for all devices in the wireless network. So make sure all points in the wireless network have the same SSID, we suggested to user the default SSID. SSID Broadcasting: You can select "enable" or "disable" to enable or disable the broadcast SSID function, if the setting of the field is disable, wireless client can not obtain this SSID to login in, the user have to input the SSID value manually. A ..... Channel Bandwidth: This switch allows you to set Router's wireless bandwidth modes: a) ..... 20MHz: Setting the Router to this mode only allows 20MHz operation. This mode is compatible with 802.11n, 802.11g and 802.11bgear, but will limit Wireless N routers' bandwidth by half the rate. b)..... 40MHz: Setting the Router to this mode allows only 40MHz operation. This mode is compatible only with router, draft 802.11n compliant devices. It may affect legacy 802.11b/g devices. Use only when you have a pure router, draft 802.11n wireless network.

۶.....

**Control Sideband**: It controls your wireless router use the higher or lower channel to tranfer related datas while it working on 40Mhz mode.

▶.....

Channel: You can set the working channel from 1 to 14 manually to avoid interference.

#### 4.5.2. Security

Choose "Security Setup Access Control", you can see the Security screen shown below.

Basic   Security   Host Filter   Host List   WP	S (Advanced	
Security Setup		
Authentication Type	None	
	None	
	WEP	
	WPA-PSK	
	WPA2-PSK WPA/WPA2-PSK	

Figure 4-18

The item allows you to encrypt your wireless communication, and you can also protect your wireless network from unauthorized user access

۶.....

Authentication Type: There supplies "None", "WEP", "WPA-PASK", "WPA2-PSK" and "WPA/WPA2-PSK" five different encryption modes. "None" means do not encrypt wireless data.

WEP: There are two basic levels of WEP encryption, 64 bits and 128 bits, the more bits password have, the better security wireless network is, at the same time the speed of wireless is more slower. If you select WEP to encrypt your data, choose the bits of password, it should be 64 bits or 128 bits. Then choose the format of password; it should be HEX or ASCII. The valid character for HEX format should be numbers from 0 to 9 or letters from A to F. HEX doesn't support mixed letter and number mode. And ASCII supports mixed both letters and numbers. By default, router provides four fields to input four groups of password, you can input all of them or only one of them, and the client 's password only need to match one group of password.



Basic Security Host Filter Host List WPS Advanced

Figure 4-19

#### Note:

When WPS function enabled, please don't use WEP authentication. More details

#### about WPS, please refer to 4.5.5.

**WPA-PSK:** You can select the algorithm you want to use, TKIP or AES. TKIP means "Temporal Key Integrity Protocol", which incorporates Message Integrity Code (MIC) to provide protection against hackers. AES, means "Advanced Encryption System", which utilizes a symmetric 128-Bit block data encryption. You can set key renewal time in the "Key Renewal" field.

∻.....

Security Setup		
Authentication Type	WPA-PSK	
Pre-Shared Key		
Encryption Type	💿 TKIP 🤵 AES 💿 TKIP & AES	
Key Mode	💿 HEX 🧕 ASCII	
Кеу	47ec0f315b09b02956ab93	
Key Renewal (60-86400 seconds)	86400	
	Save	

Figure 4-20

♦.....

**WPA2-PSK:** The WPA2-PSK is similar to WPA -PSK and with stronger encryption method than WPA-PSK, using WPA2-PSK; you should input password (leave this value in the range of 8 to 63 characters) and key renewal time (leave this value in the range of 60 to 86400 seconds).

♦.....

**WPA&WPA2-PSK:** This item mixed WPA-PSK and WPA2-PSK mode, which provides higher security level; you can configure it according with WPA-PSK or WPA2-PSK.

### 4.5.3. Host Filter

Choose "Security Setup Host Filter", you can see the next screen shown below.

<b>Wireless Access Cont</b>	rol			
Wireless Access Con	rol Status	🔍 Enable	Disable	
Miralass Accors Control Pula	🧧 Permit v	vireless connection fi	or MAC address listed (others are Denied)	
WITEIESS ACCess LC	merol Rule	🔿 Deny wi	reless connection for	MAC address listed (others are Permitted)
			Save	
Rule Description				
М	AC Address			
			Add	
Items show in eve	ery single p	age 5	Apply	🤹 👚 🤤 🎲 🛛 💽 Total 1 Page
ID	MA	AC Address		Delete
1	22-22	-22-22-22-1	11	Del



You can filter wireless users by enabling this function; thus unauthorized users can not access the

network. To disable "Wireless Host Filter", keep the default setting "Disable". To enable "Wireless Host Filter", follow these steps to set "Wireless Host Filter".

Add MAC address you want to control in the "MAC address" field (the format is XX-XX-XX-XX-XX), then click "Add" button, and you will see the MAC address has displayed in the MAC list.

There are two items supplied, "Permit wireless connection for MAC address listed (others are Denied)" and "Deny wireless connection for MAC address listed (others are Permitted)", Select the item you want, and click "Save Settings" button.

#### 4.5.4. Host List

Choose "Security Setup Host List", you can see the next screen shown below.

asic Security Hos	t Filter	Host List V	VPS Advanc	ed		
MAC Address	Mode	Tx Packet	Rx Packet	Tx Rate (Mbps)	Power Saving	Expired Time (s)
08:10:75:23:6f:6d	11n	138	57	135	no	286
			Ref	resh		



This page display current status of the wireless client associate with AP.

### 4.5.5. WPS

Choose "Security Setup WPS", you can see the WPS screen shown below.

WPS Settings			
<u> </u>	NPS Status 🔍 Enable 👘 💿 Disable		
A	P PIN Code 84915856 Gene	rated FIN	
	Save		
WPS PIN Settings			
Wireless Hos	t PIN Code		
	Connect		
WPS PBC Settings			
	Connect		
WPS Configuration			
Security Mode	Authentication Type	Key Format	Key
None			

#### Figure 4-23

Wi-Fi Protected Setup (WPS) is a standard for easy and secure establishment of a wireless network. Traditionally, users would have to manually create a wireless network name (SSID), and then manually entering a creative, yet predictable security key on both the access point and client to prevent unwanted access to their wireless network. This whole process requires the users to have the background knowledge of the Wi-Fi devices and the ability to make the necessary configuration changes. With WPS, it will automatically configure a wireless network with a network name (SSID) and strong WPA data encryption and authentication. WPS is designed to support various Wi-Fi certified 802.11 products ranging from access points, wireless adapters, Wi-Fi phones, and other consumer electronics devices.

#### Note:

#### More configuration details about WPS, please refer to 5.2.

### 4.5.6. Advanced

Choose "Security Setup Advanced", you can see the next screen shown below.



#### Figure 4-24

This page display current status of the wireless client associate with AP, If you have no special requirements, we suggest that you do not change the settings.

Authentication Type: The default is set to "Auto Select", which allows "Open System" or "Shared Key" authentication to be used. Select "Shared Key" if you only want to use "Shared Key" authentication (the sender and recipient use a WEP key for authentication).

۶.....

**Fragmentation Threshold:** This value specifies the maximum size for a packet before data is fragmented into multiple packets. You should leave this value in the 256 to 2346 range. In most cases, it should remain as its default value of 2346. Setting the Fragmentation Threshold too low may result in poor network performance.

RTS Threshold: You can set RTS Threshold value in this field, the valid range should be 256-2347 and default value is 2347. If a network packet is smaller than the preset RTS threshold size, the RTS/CTS mechanism will not be enabled.

۶.....

**Aggregation:** You can accelerate the wireless transmission speed by enabling the aggregation function.

▶.....

**Transmit Rate:** Transmit rate indicates the transmission speed of wireless LAN access .The default setting is "Auto" and you can set this value between 1 – 54Mbps range.

▶.....

**Preamble Type:** "Short Preamble" is suitable for heavy traffic wireless network. "Long Preamble" provides much communication reliability; the default setting is "Long Preamble".

### 4.6. Security Setup

Choose "Security Setup Access Control", you can see submenus shown below.

MAC Filter Internet Access Control DNS Filter

#### Figure 4-25

These features make it possible for administrators to control user's access to the Internet, protect the networks.

#### 4.6.1. MAC Filter

You can filter users by enabling this function, thus unauthorized users can not access the network. Follow these steps below to set MAC filter:

**Step 1**. Add MAC address you want to control in the "MAC address" field (the format is XX:XX:XX:XX:XX), select the filter rules you want to set, then click "Add" button, and you will see the MAC address has displayed in the MAC list.

MA	C Filter Parar	neter						
	-	MAC Filter Status	🗢 Ena	able	Disab	le		
		MAC Filter Pula	🕛 Der	ny throu	gh the rou	uter for MAC addres	is listed, others a	ire permitted
		MAC FILET RUIE.	e Per	mit thro	ugh the re	outer for MAC addr	ess listed, others	are denied
					Save			
MA	C Filter Mana	igement						
		Description						
		Rule	Permit	1				
		MAC Address						
		Days To Block	Eve	eryday	Sun Wed	Mon 🗖 Tue I 🛄 Thu 🛄 Fri 🛯	Sat	
		Times To Block	AI	Day	00:00	- 00:00 -		
					Add			
	Items show	in every single pa	ge 5		Apply	(a)	8 4 4 1 2	Total 1 Page
ID	Description	MAC Addres	s	Days 1	To Block	Times To Block	Rule	Del
1	example1	2a:34:14:12:do	:32	J	All	All Day	Permit 💌	Dei
					Del Ali			



Step 2. There are two items supplied, "Permit wireless connection for MAC address listed (others

are Denied)" and "Deny wireless connection for MAC address listed (others are Permitted)", Select the item you want, and click "Save " button.

MAC Filter Parameter	
MAC Filter Status	💿 Enable 🖉 Disable
MAC Eller Dule	Deny through the router for MAC address listed, others are permitted
MAC HICER KUIE	Permit through the router for MAC address listed, others are denied
	Save

Figure 4-27

#### 4.6.2. Internet Access Control

The rules of "Internet Access Control" based on source IP, port number and protocol. Follow these steps to set Internet Access Control:

**Step 1**. You can select "**Default IP Firewall Rule**" and click "**Save Settings**" to enable "**Internet Access Control**" function. This is only the first step, you should continued to create appropriate rules for "**Internet Access Control**".

P Filter Parameter		
IP Firewall Status	Enable	O Disable
Doffulk ID Firewall Dula	🔘 Deny thr	ough the router for IP address listed, others are permitted
Default IP Firewall Rule	Permit the	rrough the router for IP address listed, others are denied



**Step 2.** Input description information for current access control rule in the "**Description**" field. Input IP address of host you want to restrict .If the rule has already existed in "Protocol Template". You can select appropriate item and apply it. Or you can input protocol type and port number manually, click "**Add**" button, then the item will displayed in the list.

IP Filter List Management						
Descriptio	n example	2				
Ru	e Permit	-				
Source IP Addre	s 192.16	8.1.7	1			
Protocol and Po	t Al 💽					
Days To Bloc	k 🗌 Eve	ryday	Sun 🗹 Mon 🕅 🗹	Tue Fri 🛄 Sat		
Times To Bloo	k 🗵 All E	)ay	00:00 00:00	0		
			Add			
Items show in every single	bage 5		Apply	命令母	1 I .	Total 1 Pages
ID Description Source IP Dest	ination ort	rotoco	Days To Block	Times To Block	Rule	Del
1 example1 192.168.1.6 N	one	ALL	Mon, Tue, Wed, Thu, Fri	All Day	Permit 👻	Del
		1	Del All			

Figure 4-29

Step 3. If you want to delete certain item on the list, select appropriate item on the list, click

"Del" to delete it (show in 4-29).

### 4.6.3. DNS Filter

"**DNS filter**"is able to filter certain domain name such as <u>www.sina.com</u>. Follow these steps to set DNS filter:

**Step 1**. You can select "**Default DNS filter rule**" and click "**Save**" to enable "**DNS Filter**" function. This is only the first step, you should continued to create appropriate rules for "**DNS Filter**".

MAC Filter   Internet Access Contro	1 DNS Filter
DNS Filter Parameter	
DNS Filter Status	Enable     C Disable
Default DNS Filter Rule	C Deny through the router for DNS Key words listed, others are Permitted
	• Permit through the router for DNS Key words listed, others are Denied
	Save

Figure 4-30

**Step 2**. Input description information in the "**Description**" field for current access control rule, input website name or Domain name in the "**DNS Key Words**" field, such as www.163.com.

DNS	Filter List Management				
	Rule	Permit 💌			
	DNS Filter Key words	www.163.com			
	Days To Block	🔽 Everyday	Sun 🕅 Mon 🗐	Tue Fri 🗖 Sat	
	Times To Black	M All Day	00:00	2	
			Add		
	Items show in every single p	age 3	Apply	\$ \$ \$ \$ \$ \$	🖬 Total 1 Pages
ID	DNS Filter Key words	Days To Block	Times To Block	Rule	Del
1	www.163.com	All	All Day	Permit	Del
-			Del All		

Figure 4-31

### 4.7. LAN Setup

Choose "LAN Setup" menu, and you will see the LAN Setup screen shown below.

LAN IP Address DHCP Server DHCP Client Info

Figure 4-32

Please configure the parameters for LAN ports according to the descriptions below.

### 4.7.1. LAN IP Address

Choose "LAN Setup LAN IP Address", you can see the next screen shown below.

System IP Setup		
IP Address	192.168.1.1	
Subnet Mask	255.255.255.0	
	Save	

Figure 4-33

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.

#### 4.7.2. DHCP Server

Choose "LAN Setup DHCP Server", you can see the next screen shown below.

DHCP S	erver Setup			
	DHCP Server Status	: 📀 Enable	C Disable	
	IP Address Po	0 192.168.1.2	- 192.168.1.63	
	Lease Time(	5) 86400		
		Save		
DHCP I	P Address Reserving			
🗖 Auto	o Setup			
	MAC Addre	ss 22-22-22-12-5	4-55	
	IP Addre	ss 192.168.1.61		
		Add		
Ite	ms show in every single page 3	Арріу	¢ 🕆 🕹	🗆 1 💌 Total 1 Pages
ID	IP Address	MAC A	ddress	Del
1.	192,168.1.61	22:22:22	12:54:55	Del

#### Figure 4-34

Select **Enabled**, then 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.

∻	·
<b></b>	<b>Status</b> : Keep the default setting "Enable", so router is able to user DHCP function, if a DHCP server has already existed in the network, please select "Disable".
, 	<b>IP Address Pool</b> : The DHCP pool is used for allocate IP address by DHCP server, the DHCP pool range is also changeable.
v	Lease Time: Display the rest time that router allows dynamic IP users connect to router.

#### **DHCP IP Address Reserving**

This function is used to allocate reserve IP address to designated MAC address.

DHCP IF	Address Reserving		
T Auto	) Setup		
	MAC Addres	22-22-22-12-54-55	
	IP Addres	192.168.1.61	
		Add	
Iter	ns show in every single page 3	Apply	政 1 🗾 Total 1 Pages
ID	IP Address	MAC Address	Del
1	192.168.1.61	22:22:22:12:54:55	Del

Figure 4-35

### 4.7.3. DHCP Client Info

Choose "LAN Setup DHCP Server", you can see the next screen shown below.

LAN IP Ad	dress   DHCP Server   DHCP Client	Info	
DHCP Clie	ent Info		
Item	s show in every single page 5	Apply	🦚 👚 🚽 🗆 🛛 💽 Total 1 Pages
ID	IP Address	MAC Add	dress Status
1	192.168.2.2	00:26:5a:00	8:63:20 Dynamic

Figure 4-36

This page display DHCP server assigned IP address situation.

### 4.8. Applications & Games

Choose "Applications & Games", you can see the next screen shown below.

Virtual Serivce DMZ Setting UPnP Port Trigger IGMP Snooping

Figure 4-37

This item provides configuration items and related templates about optimize games and applications, including "Virtual server", "DMZ", "UPnP", "Port Trigger" and "IGMP Snooping".

### 4.8.1. Virtual Service

Choose "Applications & Games Virtual Service", you can see the next screen shown below.

FTF	Private Port					
		Status	Enable	Disable		
		Port Number	21			
			Sav	6		
Vir	tual Setting					
		Description:				
		Internal Host IP Address	-			
		Protocol:	ALL			
		External Port:				
		Internal Port:				
			Sav	8		
	Items show i	n every single page 5	Apply		6 🔊 🤪 🗇 1 🖃	Total 1 Page
ID	Description	Internal Host IP Addres	s Protoc	col External Port	Internal Port	Del
1	example1	192.168.2.5	ALL	23	23	Del

Figure 4-37

Some games, servers, and applications (such as BT, QQ video, Edunkey, Web server) are no longer effect when behind the firewall, so this item provides function of port mapping from LAN to WAN.

### ▶.....

FTP Private Port: If you need this function, please choose "Enable".

▶.....

### Virtual Setting

Description: Describe current virtual service item.

Internal Host IP Address: Indicates IP address of the internal host using virtual server.

♦.....

**Protocol**: The protocol item supplies several protocols. Such as TCP, HTTP, UDP, POP3, etc. If you have web server within LAN, you can select the HTTP template then the router will set port 80 automatically.

External Port: 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.

♦.....

Internal Port: Enter an intranet port number.

**To add a virtual server entry**, please enter all items as shown in Figure 4-25. After that, click **"Save"** to make the entry take effect.

A 11	cual security						
		Description:	exa	mple2	1		
		Internal Host IP Address	192	.168.1.6			
		Protocol:	ALL	26			
		External Port:	21	- 21			
		Internal Port:	21	li i			
				Save	0		
	Items show i	n every single page 5		Apply		1	Total 1 Page
ID	Description	Internal Host IP Addres	55	Protocol	External Port	Internal Port	Del
1	example1	192.168.2.5		ALL	23	23	Del

Figure 4-38

### 4.8.2. DMZ Setting

Choose "Applications & Games DMZ Setting", you can see the next screen shown below.

🕘 Enable	۲	Disable	
0.0.0			
	Enable 0.0.0.0	Enable     9	Enable     Oisable

#### Figure 4-39

DMZ opens all the ports of one computer, exposing the computer to the Internet. So it should only be used for some special-purpose, especial for Internet online games. Using this function you can select "**DMZ**" item and input IP address of DMZ host, then click "**Save**" (show in Figure 4-26). For the purpose of security, we suggested that using "**Virtual server**" instead of "**DMZ**".

### 4.8.3. UPnP

Choose "Applications & Games UPnP", you can see the next screen shown below.

IPnP		
	UPnP Status 🤍 Enable 💭 Disable	
	Sava	



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. Select "**Enable**" to enable this function.

### 4.8.4. Port Trigger

Choose "Applications & Games Port Trigger", you can see the next screen shown below.

Port T	rigger Setup				
	Predefine	d Trigger Rules Se	elect one of the pr	edefined rules 💌	
		Rule Name			
	Ŧ	rigger Protocol			
		Trigger Port			
	Fo	rward Protocol			
		Forward Port			
			Save		
It	ems show in every sing	jle page 5	Apply	🏟 👚 👙 🎲 🛛 💌 Total	0 Pages
ID	Rule Name	Trigger Co	ondition	Forward Condition	Del

Figure 4-41

Some applications require multiple connections, like Internet games, video conferencing, Internet calling and so on. These applications cannot work with a pure NAT Router. Port Triggering is used for some of these applications that can work with an NAT Router.

#### Once the Router is configured, the operation is as follows:

1. A local host makes an outgoing connection using a destination port number defined in the Trigger Port field.

2. The Router records this connection, opens the incoming port or ports associated with this entry in the Port Triggering table, and associates them with the local host.

3. When necessary, the external host will be able to connect to the local host using one of the ports defined in the Incoming Ports field.

Predefined Trigger Rules: Select one of the predefined rules. There are five rules by default.

۶.....

**Trigger Port**: The port for outgoing traffic. An outgoing connection using this port will trigger this rule.

A .....

**Trigger Protocol**: The protocol used for Trigger Ports, either TCP, UDP, or All (all protocols supported by the Router).

Forward Port: The port or port range used by the remote system when it responds to the outgoing request. A response using one of these ports will be forwarded to the PC that triggered this rule. You can input at most 5 groups of ports (or port sections). Every group of ports must be set apart with ",". For example, 2000-2038, 2050-2051, 2085, 3010-3030.

▶.....

Forward Protocol: The protocol used for Incoming Ports Range, either TCP or UDP.

#### To add a new rule, follow the steps below.

1...... Select a predefined rule from the Predefined Trigger Rules drop-down list, then the Trigger Port field and the Forward Ports field will be automatically filled. If the Common Applications do not have the application you need, enter the Trigger Port and the Incoming Ports manually.

2.....

Select the protocol used for Trigger Port from the Trigger Protocol drop-down list, either TCP or UDP.

3..... Select the protocol used for Forward Ports from the Forward Protocol drop-down list, either TCP or UDP.

4.....

Click "Save" button to save the new rule.

Virtual Serivce DMZ Setting UPnP Fort Trigger IGMP Sucoping

Port	Trigger Setup				
	Pred	efined Trigger Rules	Select one of the	predefined rules 🐱	
		Rule Name			
		Trigger Protocol	TCP 💌		
		Trigger Port			
		Forward Protocol	TCP 💌		
		Forward Port			
			Save		
1 5	Items show in ever	y single page 5	Apply	40 A Q A	1 Total 1 Pages
ID	Rule Name	Trigger Conditio	in Fo	orward Condition	Del
1	Enppy	TCP:4001	1	FCP:4901,7878	0.el

Figure 4-42

### 4.8.5. IGMP Snooping

Choose menu "Application & Games→ IGMP Snooping", you can enable or disable IGMP snooping function in the screen as shown below.

SMP Snooping		
	Status 🔘 Enable 😐 Disable	



Status: 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 "Enable" to enable the IGMP Snooping function if you need.

### 4.9. Applications Gateway

### 4.9.1. VPN Pass-through

Choose menu "Applications Gateway→ VPN Pass-through", you can enable or disable the VPN Pass-through function in the screen as shown below.

PN Pass-through			
PPTP Pass-through	🕴 🤨 Enable	🔘 Disable	
L2TP Pass-through	🕴 🧕 Enable	🔘 Disable	
IPSEC Pass-through	: 🔍 Enable	Disable	

Figure 4-44

VPN is commonly used for encapsulate and encrypt data across the public network. For VPN tunnel, the router supports IPSEC pass-through, PPTP pass-through and L2TP pass-through.

۶.....

**PPTP Pass-through:** PPTP means the "Point to Point Tunneling Protocol", select "enable" to allow PPTP pass-through the router.

▶.....

**L2TP Pass-through:** PPTP means the "Point to Point Tunneling Protocol", select "enable" to allow PPTP pass-through the router.

A .....

**IPSEC Pass-through:** IPSEC (Internet Protocol Security) is a suite of protocols used to implement secure exchange; select "enable" to allow IPSEC pass-through the router.

### 4.10. DDNS

Choose menu "DDNS→ DDNS", you can configure the DDNS function in the screen shown in below.

1.0	_				-	~
1	-	-		1	2	3
	11		12	v.	~	
	~	-	•	-	~	

DDNS Setup	
DDNS Status:	📀 Enable 🧕 Disable
DDNS Server Provider:	DynDNS www.dyndns.org
Username:	
Password:	
Dynamic Domain Name:	
Status:	
	Save Refresh



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.

۶.....

DDNS Status: Enable or disable DDNS function.

▶.....

**DDNS Server Provider:** For example, if you want to user service of "DynDNS", you have to register an account first. Other DNS service providers as the same.

۶.....

Username & Password: Type the "User Name" and "Password" for your DDNS account.

$\geq$	
•	Dynamic Domain Name: Enter your DDNS server domain name here.
,	Status: The status of the DDNS service connection is displayed here.
_	

### To set up for DDNS, follow these instructions:

1	
2	Enable DDNS function by select the "Enable" marquee.
3	Type the User Name for your DDNS account.
4	Type the Password for your DDNS account.
5	Type the Domain Name received from your dynamic DNS service provider here.
	Click the "Save" button to log in to the DDNS service.

### 4.11. Routing

Choose "Routing" menu, and you will see the routing information in the next screen.

Routi	ng Table Con	nfiguration			
		т	ype NET 👻		
	Dest	ination Network or IP add	ress		
		Subnet Mas	ik:		
		Next-Hop IP add	ress		
			Save		
It	tems show in (	every single page 5	Apply	🕼 👚 😓 🕩 💽 Tot	tal O Page
ID	Type	Dst IP address	Mask	Next-hop address	Del

Figure 4-46

Most of broadband router and wireless router are working on NAT mode, so this feature is designed for the most common network environment.

Destination Network or IP Address: Specify a certain destination Network or IP address which static route forward to.

Subnet Mask: Subnet mask is used for distinguishing an IP address between Network portion and Host portion.

۶....

**The Next-hop IP Address:** This is an IP address of the next-hop device (and also is the gateway address for local host) that allows forwarding data between router and remote network or host.

▶.....

**Routing Table:** You can check out all current route items, click "**Del**" button to delete a route item existed in routing table.

### 4.12. Advanced Setup

Choose "Advanced Setup" menu, and you will see the submenus. (Show in Figure 4-47)

SNMP Protocol Configuration	Remote Access	TR-069 Configuration
-----------------------------	---------------	----------------------

Figure 4-47

### 4.12.1. SNMP Protocol Configuration

Choose menu "Advanced Setup→ SNMP Protocol Configuration" and you will see the SNMP Protocol Configuration in the next screen show in below.

🖲 Enable 💿 Disable	
System Description	
System Contact	
ADSL Modent/Router	
System Location	
1.3.6.1.4.1.16972	
192,168.1.254	
public	
public	
	Enable Disable System Description System Contact ADSL Modem/Router System Location 1.3:6.1.4.1.16972 192.168.1.254 public public

#### Figure 4-48

This page is used to configure the SNMP protocol. Here you may change the setting for system description, trap IP address, community name, etc.

#### 4.12.2. Remote Access

Choose menu "Advanced Setup  $\rightarrow$  Remote Access" and you will see the Remote Access in the next screen show in below. This feature allows you to manage your Router from a remote location via the Internet.

e Access			
Service Name	LAN	WAN	WAN Port
TELNET		<u></u>	23
FTP		<u></u>	21
TETP	Ē	0	
HTTP		0	80
SNMP			
PING	Q	<u> </u>	

#### Figure 4-49

This page is used to enable/disable management services for the LAN and WAN. Select these services according to actual needs.

### 4.12.3. TR-069 Configuration

Choose menu "Advanced Setup→ TR-069 Configuration", you can configure the TR-069 function in the screen as shown in below.

SNMP Protocol Configuration Remote Access	IR-069 Configuration
TR-069 Configuration	
Status	📀 Enable 🔹 Disable
ACS	
URL	http://
User Name	usemame
Password	password
Periodic Inform Enable	🧧 Enable 💿 Disable
Periodic Inform Interval(S)	300
Connection Request	
User Name	
Password	
Path	/tr069
port	7547
	Save

#### Figure 4-50

TR-069 protocol which collects information, diagnoses the devices and configures the devices automatically via ACS (Auto-Configuration Server). This page is used to configure the TR-069 CPE. Here you may change the setting for the ACS's parameters.

- Status: Select "Enable" the TR-069 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.
- Periodic Inform: Activate or deactivate the function. If Activated, the information will be informed to ACS server periodically.
- > **Periodic Inform Interval**: Enter the interval time here.
- > **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.

### 4.13. System Management

Choose menu "System Management", and you will see the next submenus.

Password Setup	Upgrade	Reboot	Backup	Restore	WOL	System Time	ľ

Figure 4-51

#### 4.13.1. Password Setup

Choose menu **"System Management-> Password Setup**", you can set new password for admin in the screen.

er name is:guest		
New Passwor	d.	('Password' only include letter and
Hew Password	number)	
Confirm Password	d:	

Figure 4-52

The default username/password is guest/guest. To ensure the Router's security, we strongly recommend you to change the default password. Enter a new password and confirm your new password, then click "Save" button to save settings.

### 4.13.2. Upgrade

Choose menu "System Management→ Upgrade", you can upgrade firmware in the screen.

The second se	Take waters a prost
Upgrade File	Browse
opgrade file	browden

Figure 4-53

Click "Browse..."button and select a File to upgrade. After you have selected the appropriate file, click "**Upgrade**" button to execute upgrade procedure. Do not cut off the power supply during the process of upgrading.

### 4.13.3. Reboot

Choose menu "System Management→ Reboot", click "Restart" button to restart the router.

ſ	Password Setup Upgrade Reboot Backup Restore WOL System Time
	Restart

Figure 4-54

### 4.13.4. Backup

Choose menu "System Management-> Backup" and you will see the next screen show in below.

Parameter	
Bac	kup
ter Recovery	
System parameter file	Browse
byseen parameter me	

Figure 4-55

This page allows you to backup current settings to a file by click the "Backup" button. Or restore the settings from the file which was saved previously.

### 4.13.5. Restore

Choose menu "System Management-> Restore" and you will see the next screen show in below.

(	Password Setup Upgrade Reboot Backup Restore WOL System Time
	Restore

### Figure 4-56

Click "**Restore**" button, the Router will erase all of your settings and replace them with the factory defaults, make sure you have backup current settings before click this button.

### 4.13.6. WOL (Wake-up On LAN)

Choose menu "System Management -> WOL" and you will see the next screen show in below.

Password Setup Upgrade Reboot Backup Restore WOL System Time	
WOL	
Host MAC Address 00:00:00:00:00	
Wake Up	

Figure 4-57

Enter host MAC address, and then click button of "**Wake up**" to wake up the target host which in the LAN.

Note:

This function in computer motherboard and NIC all have special requirements, if your PC's motherboard and NIC do not support sensei function, please don't use this function.

### 4.13.7. System Time

Choose menu **"System Management→ System Time**" and you will see the next screen show in below.

75 mile		
Current 7	ime 05/30/2011 18:58:28	
	GMT (GMT) London, Lisbon (Greenwich Mean)	

Figure 4-58

The system time is the time used by the device for scheduling services. Chose the time zone for you need.

# 5. Appendix

### 5.1. Wireless Network

To set up a wireless network between your computer and your product, please make sure the wireless adapter in your computer is available.

The configuration For Windows 2000 or Windows XP as below

Step 1: Click the "Wireless Management". Enable the wireless network as below.

System Log Basic	5		
Internet Setup	Wireless Network Status	Enable 🔿	Disable
Wireless Management	Radio Band	802.11b+a+n	
Security Setup Access Control	Radio Mode	Access Point	
LAN Setup	SSID D	lefault	
Applilcations & Game	SSID Broadcasting	Enable	Disable
Application Gateway	Channel Width	20MHZ	· 40MHZ
Routing	Control Sideband	Lower	🔿 Upper
Advanced Setup	Region	-CC -	
System Management	Channel	Channel 6 🖌	

Figure 5-1

**Step 2:** Click the **"Security"** label and select one authentication type in the drop-down menu. Set the **"Encryption Type"**, **"Key Mode"**, **"Key"** and **"Key Renewal"** as your wish but remember what you stetted.

Security Setup		
Authentication Type	WPA-PSK	3
Pre-Shared Key		
Encryption Type	🔹 TKIP 💿 AES 🔇	TKIP & AES
Key Mode	🗢 HEX 🔋 ASCII	
Key		
Key Renewal (60-86400 seconds)	86400	
	Save	

Figure 5-2

Step 3: Click "My Network Places" with the right button of your mouse. Then select "Properties".





**Step 4:** Click **"Wireless Network Connection**" with the right button of your mouse. Then select **"View Available Wireless Networks**".

Connected	Disable
📶 (🗘) Intel(R) PRO/Wi	View Available Wireless Networks
	Status
-	Repair
	Bridge Connections
	Create Shortcut
	Delete
	Rename
	Properties



Step 5: Double click the wireless network your product provided.



Figure 5-5

**Step 6**: Input the key you stetted before if the wireless network you connecting to requests password.

'he network "Default" rei ietwork key helps prevei	quires a network key (also called a WEP key or WPA key). A
ype the key, and then o	lick Connect.
letwork key:	

Figure 5-6

The configuration For Windows 7 or Windows Vista as below

Step 1 & Step 2 refer to the configuration For Windows 2000 or Windows XP.



Figure 5-7 Step 4: Click the SSID of your wireless network and then press the "Connect" button as below.



Figure 5-8

**Step 5**: Input the key you stetted before if the wireless network you connecting to requests password.

Connect to a Net	work	
Type the netwo	ork security key	
Security key:	Hide characters	
		OK Cancel

Figure 5-9

### **5.2. WPS Detailed Configuration**

### 5.2.1. Method A

First, holds down the router's WPS button for 3 seconds or push the "PBC" button of the wireless NIC client (show in figure 5-10).

😕 11n USB Wireless LA	N Utility	
Refresh(R) Mode(M) Abou	t(A)	
MyComputer	General       Profile       Available Network       Status:       Statistics       Wi-Fi Protect Setup         WJE-Fi Protected Setup (WPS)         An easy and secure setup solution for Wi-Fi network         Pin Input Config (PIN)       After pushing the PIN button.Please enter the PIN code into your AP.         Input PIN from AP       PIN Code : 17809283         Pin Input Config (PIN)       Pin Input Config (PIN)         Push Button       After pushing the PBC button.Please push the physical button on your AP or visual button on the WPS config page.         Push Button       Push Button Config (PBC)	
Show Tray Icon	Disable Adapter	Class
Radio Off	Windows Zero Config	uose

Figure 5-10 ≻

Then the following window will appear.

WI-FI Prote	ted Setup - PBC method
If there is mo Overlap ].Plea	e than one AP on the PBC mode, there will be [Session e use PIN method or wait for a while and use PBC method again
Status :	P Sitesurvey
Complete	
Complete	

### Figure 5-11

Next, holds down the router's WPS button for 3 seconds or push the PBC button "Connect" in the webpage.

	WPS Status 💿 Enable 🛛 Disable	
	AP PIN Code 65884898 Generated	PIN
	Save	
/PS PIN Settings		
	Wireless Host PIN Code	



> Wait tens of seconds, a successful connection screen will displayed.

efresh(R) Mode(M) Abo	out(A)
HyComputer	General Profile Available Network Status Statistics Wi-Fi Protect Setup
	Status: Associated
	Speed: Tx:150 Mbps Rx:150 Mbps
	Type: Infrastructure
	Encryption: AES
	SSID: WPS0000250405
	Signal Strength:
	100%
	Link Quality: 100%
	Notwork Address:
	Mac address: 08:10:74:83:03:20
	IP Address: 192.168.1.2
	Subnet Mask: 255,255,255,0
	Gateway: 192.168.1.1
	ReNew IP
>	
Show Tray Icon	Disable Adapter

Figure 5-13

If the SSID in the wireless card client (show in figure 5-14) and the SSID in the webpage

(show in figure 5-13) are the same. Then can determine the WPS has connected successful.

Basic   Security   Host Filter   Host List   WP	S (Advanced)		
<b>Jasic</b>			
Wireless Network Status		Disab	ble
Radio Band	802.11b+g+n	×	
Radio Mode	Access Point	Y	
SSID	WPS00002504	05	
SSID Broadcasting	Enable	0	Disable
Channel Width	O 20MHZ	۲	40MHZ
Control Sideband	O Lower	۲	Upper
Region	FCC 💌	Ē.	
Channel	Channel 6 💌	Ĩ.	
	Save		

Figure 5-14

### 5.2.2. Method B

First, click the "Pin Input Config" button as shown below.

😕 11n USB Wireless LA	N Utility	
Refresh(R) Mode(M) Abou	t(A)	
Refresh(R) Mode(M) Abou	General       Profile       Available Network       Status:       Statistics       Wi-Fi Protect Setup         Wi-Fi Protected Setup (WPS)         An easy and secure setup solution for Wi-Fi network         Pin Input Config (PIN)         After pushing the PIN button.Please enter the PIN code into your AP.         Input PIN from AP       PIN Code : 59393016         Pin Input Config (PIN)         Push Button         After pushing the PBC button.Please push the physical button on your AP or visual button on the WPS config page.	
Show Tray Icon	Disable Adapter	Close

Figure 5-15

Click "Yes" to continue.



Figure 5-16

Then select the WPS AP Name (Here is RTL867x-ADSL).

W	/i-Fi Protected Setu	ıp - Select AP	
	WPS AP Name	WPS AP MAC	J.
	RTL867x-ADSL ANV2	00:05:10:03:04:05 00:21:29:80:96:93	
ŭ	r		
	Select	Refresh Cancel	

Figure 5-17

> Then the following window will appear.



Figure 5-18

> Enter wireless NIC client auto-generated PIN Code "59393016", then click the "Connect"

button (show in Figure 5-18 and Figure 5-19).

NPS Settings				
	WPS Stat	us 💿 Enable	O Disable	
	AP PIN Co	de 65884898	Generated PIN	
		Save		
VPS PIN Settings		-		
1	Wireless Host PIN Co	de 59393016		
		Corme	a	
NPS PBC Settings				

Figure 5-19

Then will begin to automatic connection, appear as follows, the interface means connection succeeded.

🎟 11n USB Wireless LA	N Uniny 📃 🗖 🔀
Refresh(R) Mode(M) Abou	R(A)
B MyComputer	General Profile Available Network Status Statistics Wi-Fi Protect Setup
	Status: Associated
	Speed: Tx:150 Mbps Rx:150 Mbps
	Type: Infrastructure
	Encryption: AES
	S5ID: WPS0000250405
	Signal Strength: 100%
	Link Quality:
	Network Address:
	MAC Address: 08:10:74:83:D3:20
	IP Address: 192.168,1.2
	Subnet Mask: 205.205.0
	Galeway, 194,100,111
	ReNew IP
< >	
Show Tray Icon	Disable Adapter Close
LI Radio Off	U Windows Zero Config

Figure 5-20

### 5.2.3. Method C

> Click the "Generated PIN" button as shown below.

res secongs	
	WPS Status 💿 Enable 🔿 Disable
	AP PIN Code 66392330 Generated PIN
	Save
VPS PIN Settings	
M	Vireless Host PIN Code
	Connect
WPS PBC Settings	

Figure 5-21

> Click "**OK**" button to make change effectively.

Message	from webpage 🛛 🔀
⚠	PIN number was generated. You have to click 'Apply Changes' button to make change effectively.
	ОК

Figure 5-23

Check the "Input PIN from AP" button, and enter the regenerate PIN: 65884898. Then click the "PIN Input Config" button as shown below.

😕 11n USB Wireless LA	AN Utility	
Refresh(R) Mode(M) Abou	ut(A)	
MyComputer	General       Profile       Available Network       Status       Statistics       WI-Fi Protect Setup         Wi-Fi Protected Setup (WPS)         An easy and secure setup solution for Wi-Fi network         Pin Input Config (PIN)         After pushing the PIN button.Please enter the PIN code into your AP.         Input PIN from AP       PIN Code :66392330         Pin Input Config (PIN)         Push Button         After pushing the PBC button.Please push the physical button on your AP or visual button on the WPS config page.	
<ul> <li>Show Tray Icon</li> </ul>	Push Button Config (PBC)	Close

Figure 5-24

Select the WPS AP Name (Here is RTL867x-ADSL).

٧	Vi-Fi Protected Set	up - Select AP	X
8	WPS AP Name RTL867x-ADSL ANV2	WPS AP MAC 00:05:10:03:04:05 00:21:29:80:96:93	
	0000	00.21.25/00.90.90	
	Select	Refresh Cancel	

Figure 5-25

Then will begin to automatic connection, appear as follows the interface means connection succeeded.

🖳 1 1 n USB Wireless LA	N Utility	
Refresh(R) Mode(M) Abou	lt(A)	
🗟 😼 MyComputer	General Profile Available Network Status Statistics Wi-Fi Protect Setup	
	Status: Associated Speed: Tx:150 Mbps Rx:150 Mbps Type: Infrastructure Encryption: AES SSID: RTL867x-ADSL_QPQT2HHF Signal Strength: Link Quality:	
	Network Address:         MAC Address:         08:10:74:83:D3:2D           IP Address:         192.168.1.2           Subnet Mask:         255.255.255.0           Gateway:         192.168.1.1	
Show Tray Icon	Disable Adapter	Close

Figure 5-26

### 5.3. FAQ

### 5.3.1. How to restore the default parameter of the modem

#### A) Hard Reset

Keep the modem power on with electricity, push the default button with ball-point pen or toothpick for 10 seconds, the default parameter will be restored after about 3 minutes .But the configuration before will be lost. So you need to reset it again.





### B) Soft Reset

Firstly, log in the modem configuration interface, click the "System Management Restore" in order, then click the "Restore" as showed below.

Convenient Setup	
System Information	rassword Setup web Setup upgrade Kesoot Kestore wOL System Lime
System Log	Restore
Internet Setup	
Wireless Management	
Security Setup	
Access Control	
LAN Setup	
Applications & Game	
Application Gateway	
DDNS	
Routing	
System Management	
	Eiguro 5, 29
	ligue 5-20
▶	
The interface	below will appear, click " <b>OK</b> ".
Convenient Setup	Password Setup Web Setup Upgrade Reboot Restore WOL System Time
System Information	Protezni
Jatanat Satur	restore
Wiseless Management	
Security Setup	Message from webpage
Access Control	
I AN Setup	Do you really want to change the system configuration to factory default?
Annlications & Game	
Application Gateway	OK Cancel
DDNS	
Routing	
System Management	
system training training	
	Figure 5-29
$\diamond$	
The interface	below will appear, wait for 3 minutes, then the modem will enter the

configuration interface automatically.

Convenient Setup	etun Web Setun Ungrade Rehnat Restore WOL System Time
System Information	the state strate state and state and state and
System Log Reboot	
Internet Setup	
Wireless Management	
Security Setup	Restarting, Please wait
LAN Setup	
Applications & Game	
Application Gateway	
DDNS	
C Routing	
System Management	

Figure 5-30

### 5.3.2. How to upgrade the modem

 Firstly log in the configuration interface, then click the "System Management Upgrade Browse" in order as showed below.

Convenient Setup	Passward Satur Wah Satur Ungrada Ral	Bast Restars WOI System Time	
System Information	Tassion Scrup   new Scrup   Opgrade   New	Not   Kesture   WOL   System Time	14
System Log	Upgrade File	Browse	
Internet Setup		Upgrade	
Wireless Management			
Security Setup			
Access Control			
LAN Setup			
Applications & Game			
Application Gateway			
DDNS			
C Routing			
System Management			

Figure 5-31

Select the upgrade firmware in the dialog appeared, then click the "**Open**" button to use it as showed below.



Then click "Upgrade OK" in order as showed below.

Password Setup Web Setup Upg	rade Reboot Restore WOL System Time
Upgrade File E:\New Fol	der\img\router.img Browse
	Upgrade
Mer	ssage from webpage
	are you sure you will upgrade the file system?           OK         Cancel
۶	Figure 5-33
Then the modem begin management interface at	to upgrade as showed below, wait for 3 minutes, it will enter the utomatically.
5.3.3. How to connect the	modem after setting WLAN password

#### ▶.....

Firstly set password as showed below, remember to click "Save".

Security Setup		
Authentication Type	WPA/WPA2-PSK 💌	
Pre-Shared Key		
Encryption Type	Γype ⊙ TKIP ◯ AES ◯ TKIP & AES	
Key Mode	🔿 hex 💿 ascii	
Key	12345678	
Key Renewal (60-86400 seconds)	86400	
	Save	

Figure 5-34

▶.....



Then click the icon Utility on desktop (here take the product WF-2403 as an example),

the interface showed below will appear. Choose "Available Network".

Jt( <u>A</u> )
General Profile Available Network Status Statistics Wi-Fi Protect Setup Status: Not Associated
Type: N/A Encryption: N/A SSID:
Signal Strength:
Network Address: MAC Address: IR Address: 0.0.0.0
Subnet Mask: 0.0.00 Gateway:
ReNew IP

The interface showed below will appear. Then choose the SSID (it's "Default" here) as showed below.

S S MyComputer	General Photoe Available Network Status Statutics WilFi Protect Setup					
	SSID	Channel	Encryption	Network Authentication	Signal	ñ
	19 Bertault	6	703P	WPA Pm-Shared Key/	56%	b
	1"Net	6	AES	WPA Pre-Shared Key/	56%	ì
	K" active vowinteress	10	WEP	Unknown	.40%	, Dr
	Ref	resh		Add to Profile	]	5

Figure 5-36 ≻

Double-click "**Default**", the interface showed below will appear (show in figure 5-36), then enter the WLAN password (It's 12345678 here) as showed below.

reless Network Properties:	
Profile Name: Default	902.1x configure
Network Name(SSID); Default	EAP TYPE :
	(द्वार
	Tunnel : Privision Mode :
<ul> <li>Inic is a computer to compute (ad noc) network; wreless access points are not used.</li> </ul>	N
Channel: la (2432%Pc)	Usemame :
Wireless network security	
This network requires a key for the following:	Identity :
Network Authentication: WPA2-PSK 💽	
Data encryption: TKIP	Domain :
	Password i
Key index (advanced):	Certificate ;
Network key:	
*****	PAC : Auto Select PAC
Confirm network key:	
******	



Click "OK" and wait for several minutes (show in figure 5-37), you will see the interface showed below which means successful connection.

😃 11n USB Wireless LA	N Utility	
Refresh( <u>R)</u> Mode( <u>M</u> ) Abou	r(A)	
🗟 😼 MyComputer	General Profile Available Network Status Statistics Wi-Fi Protect Setup	
	Status: Associated	
	Speed: Tx:150 Mbps Rx:150 Mbps	
	Type: Infrastructure	
	Encryption; TKIP	
	SSID: Default	
	Signal Strength: 92%	
	Link Quality:	
	100%	
	MAC Address: MAC Address: 00:10/74/00/92:20	
	IP Address: 192.168.1.3	
	Subnet Mask: 255.255.0	
	Gateway: 192.168.1.1	
	ReNew IP	
s >		
Show Tray Icon	Disable Adapter     Clos     Windows Zero Config	æ
	Figure 5-38	

Note: Similarly, when use the computer's client itself to connect, just input the password when connecting.

▶.....

### 5.4. Specifications

General		
Standards and	ANSI T1.413, ITU G.992.1, ITU G.992.2, ITU G.992.3, ITU G.992.5, IEEE	
Protocols	802.11b, IEEE 802.11g, IEEE 802.11n, IEEE 802.3, IEEE 802.3u, IEEE	
	802.1q, IGMP, SNMP, TR-069, TCP/IP, PPPoE, SNTP, HTTP, DHCP, ICMP,	
	NAT	
Safety & Emission	FCC、 CE	
Ports	Four 10/100M Auto-Negotiation RJ45 ports (Auto MDI/MDIX)	
	One RJ11 port	
LEDs	Power, ADSL, Internet, WLAN, 1,2,3,4(LAN), WPS	
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 1Mbps	
System Requirement	Internet Explorer 5.0 or later,	
	Win 9x/ ME/ 2000/ XP/ Vista/Windows 7	
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)	