

4 PORTS + 802.11n WIRELESS ADSL MODEM

User Manual

V 1.1

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1.OVERVIEW

1.1 ABOUT ADSL

An ADSL MODEM is a broadband Internet access device, which utilizes the high frequency segment of the phone line to transmit high-speed data without affecting the voice transmission. The frequency of the ADSL signal is higher than that of voice, so voice and ADSL signal can coexist in one line by using a splitter to insulate each from the other. ADSL data transfer adapts the asymmetry model. It supports upload transmission speed up to 1Mbps and download speed up to 8 Mbps (24Mbps for ADSL2+). ADSL is an ideal device for broadband access.

1.2 ABOUT ADSL2/2+

Transmission performance of ADSL2 is improved comparing with the first generation of ADSL. These improvements are mainly concerned with long distance, anti-line-loss, anti-noise, etc. By doubling the transmission bandwidth, ADSL2+ has implemented a downlink rate as high as 24 Mbps. Therefore, Internet applications such as synchronous transmission of multi video stream, online games and huge capacity of downloading files are made possible.

1.3 FEATURES

- 1、 Support ANSI T1.413 ISSUE 2, ITU G.992.1 (G.DMT), ITU G.992.2 (G.LITE), ITU G.992.3, ITU G.992.5
- 2、 Web-based configuration and monitoring.
- 3、 Support multiple PVCs.
- 4、 Routing function,including static routing
- 5、 DNS function ,including DNS server.
- 6、 DHCP, Firewall, UPNP function.
- 7、 Quality of Service Control for Traffic Prioritization.
- 8、 Support 802.11n, 802.11b, 802.11g.
- 9、 Support Multiple SSID
- 10、 Support Wireless MAC Filter, Wireless Bridge .
- 11、 Diagnostics function.
- 12、 Support TR069 and TR064 to manage the device.
- 13、 AccessControl function.
- 14、 Device LOG function
- 15、 Update software via WEB, CLI, TR069

2 SPECIFICATION

2.1 INTERFACE INTRODUCTION

2.1.1 INDICATOR AND INTERFACE



Table 2.1

ITEM	Name	State introduction
Indicator	POWER	A steady Green light means the power connection works properly
	DSL	Green, shows DSL line status.
	INTERNET	Green, Flashing means the Modem is transmitting or receiving data
	WLAN	Green, Indicates status of connection to the wireless device
Interface	LINE	Connected with phone line or “ADSL” port of the splitter.
	ETHERNET	To be connected to a PC network card by a straight-through network cable, also can use a crossover cable to connect to Hub, Switch or Router.
	POWER	Power interface, Connect with power adapter.
	SWITCH	To turn on / off the power.
	RST(Optional)	Press the reset button and turn on the power, then keep pressing the reset button for 2 seconds. Then you can reset the modem with the default settings.
	WIRELESS(optional)	Open/Close wireless via pressing the button

2.1.2 SPLITTER SPEC

Table 2.2

Interface	Introduction
LINE	Connected with telephone line

ADSL	Connect with the LINE port of the ADSL Modem using telephone line provided.
PHONE	Connect with telephone

2.2 HARDWARE CONNECTION

Introduction:

- 1、 Use a telephone cord to connect the LINE port of the splitter with the RJ-11 port (the phone jack) on the wall.
- 2、 Use another telephone cord to connect the ADSL port of the splitter with the LINE port of the ADSL Modem.
- 3、 Use another telephone cord to connect the telephone set with the PHONE port of the splitter.
- 4、 Connect Ethernet port of the ADSL MODEM with 10/100BASE-T port of the computer using the network cable that comes with the modem.
- 5、 Plug in the power cord, and turn on the power.

If you do not want Internet services and telephone voice services simultaneously, please just connect the LINE port of the ADSL Modem with the RJ-11 port (the phone jack) on the wall using a telephone cord. In this case, the splitter is not necessary.

2.3 LED STATUS INDICATION

Table 2.3

Status	POWER (green)	DSL (green)	INTERNET (green)	WIRELESS(green)
Steady light	Power on	The modem is in good connection	/	Wireless is connected
Flashing	/	In handshaking status	/	/
Fast flashing	/	/	Transmitting or receiving data	Transforming data
Off	Power off	Connection not set up	Not connected with PC properly	Wireless is disabled

3. CONFIGURATION

3.1 DEFAULT CONFIGURATION

ADSL MODEM has pre-configured with the VCI/VPI which is in common use.

3.2 COMPUTER CONFIGURATION

The default IP address for ADSL MODEM is: **192.168.1.1**; The Subnet Mask is: **255.255.255.0**. Users can configure ADSL MODEM through an Internet browser. ADSL MODEM can be used as gateway and DNS server; users need to set the computer's TCP/IP protocol as follow:

- 1、Set the computer IP address at same segment of ADSL MODEM, such as set the IP address of the network card to one of the “192.168.1.2”~ “192.168.1.254”.
- 2、Set the computer's gateway the same IP address as the ADSL Modem's.
- 3、Set computer's DNS server the same as ADSL Modem's IP address or that of an effective DNS server.

3.3 ADSL MODEM CONFIGURATION

3.3.1 LOG IN

Open the browser; input **http://192.168.1.1** at the address column. Press “Enter” key then the entry dialog box will show up as Figure 3.1. Input Username: **admin** , Password: **password** (capital sensitive), then press Enter.



Figure 3.1

3.3.2 SAVE SETTING

After getting through each page for parameters setting, click “Save” or “Save/ Apply” to store the value in ADSL MODEM. Briefly, we named “Save”.

Note:

When you save the settings, the web page will be refreshed slowly, please wait it finished.

Some settings only take effect after rebooting the router.

3.4 WAN CONFIGURATION

If the configuration is bridge encapsulation, there is no need to configure any more parameters. Only need to use the third party dial-up software to connect the Internet.

Totally, this router supports: PPPoA、PPPoE、MER、IPoA、Bridging. For detail configuration information, please check the following configuration guide.

3.4.1 VIEW WAN SERVICE

Click “Device Info” on the left page, enter into “WAN” page.

- **NOTE: At most we can support eight connections. We will support Edit existed connections later. In the latest firmware, there no need reboot the device when you add/remove/edit one wan connection. It will take effect immediately.**

Device Info

Summary

WAN

Statistics

Route

ARP

DHCP

WAN Info

Interface	Description	Type	VlanMuxId	Igmp	NAT	Firewall	Status	IPv4 Address
atm1	br_0_8_35	Bridge	Disabled	Disabled	Disabled	Disabled	Unconnect	
ppp0	pppoe_0_0_35	PPPoE	Disabled	Disabled	Enabled	Enabled	Unconnect	Connect

Figure 3.2

3.4.2 RFC1483 BRIDGE ON ATM CONFIGURATION

Click “Advanced Setup” on the left page, enter into “Layer2 Interface” configuration page, where we can select the type of Layer2-Interface, ATM or ETH.

- **NOTE: ATM interface is our most commonly used mode, which will transport data on DSL line via Bridge or Route Connections. And, ETH Interface can be used as LAN-UP Interface , the details will be introduced in subsequent chapters.**

Select ATM Interface , then click “Add” button to add one NEW Interface of Layer2. Then input appropriate VPI/VCI, select EOA used for IPoE , PPPoE, Bridge. Select Encapsulation Mode and Service Category, Connection Mode(Default, VLAN-MUX, MSC). Usually, you only need to setup VPI/VCI to the value assigned by your ISP . At last click “Apply /Save” button to save the configuration.



6512-A1-xx

Device Info
 Quick Setup
 Advanced Setup
 Layer2 Interface
 ATM Interface
 ETH Interface
 WAN Service
 Ethernet Mode
 LAN
 NAT
 Security
 Parental Control
 Quality of Service
 Routing
 DSL
 UPnP
 DNS Proxy
 Print Server
 Interface Grouping
 IPSec
 Certificate
 Multicast
 Diagnostics
 Management

VPI: [0-255]
 VCI: [32-65535]

 Select DSL Latency
☒ Path0
☐ Path1

 Select DSL Link Type (EoA is for PPPoE, IPoE, and Bridge.)
☒ EoA
☐ PPPoA
☐ IPoA

 Select Connection Mode
☒ Default Mode - Single service over one connection
☐ VLAN MUX Mode - Multiple Vlan service over one connection

 Encapsulation Mode:
 Service Category:

 Select IP QoS Scheduler Algorithm
☒ Strict Priority
 Precedence of the default queue:
☐ Weighted Fair Queuing
 Weight Value of the default queue: [1-63]
 MPAAL Group Precedence:

Figure 3.3

After your save, there will be one Layer2 Interface(atm3) added as following:

DSL ATM Interface Configuration

Choose Add, or Remove to configure DSL ATM interfaces.

Interface	Vpi	Vci	DSL Latency	Category	Link Type	Connection Mode	IP QoS	Scheduler Alg	Queue Weight	Group Precedence	Remove
atm0	0	35	Path0	UBR	EoA	DefaultMode	Enabled	SP			☐
atm1	0	32	Path0	UBR	EoA	DefaultMode	Enabled	SP			☐

Figure 3.4

Next, add one Layer3 Interface via “Wan Service” configuration page, and click “Add” button as following:

Device Info
 Quick Setup
 Advanced Setup
 Layer2 Interface
 ATM Interface
 ETH Interface
 WAN Service
 Ethernet Mode
 LAN

Wide Area Network (WAN) Service Setup

Choose Add, Remove or Edit to configure a WAN service over a selected interface.

Interface	Description	Type	Vlan8021p	VlanMuxId	Igmp	NAT	Firewall	Remove	Edit
atm0	br_0_0_35	Bridge	N/A	N/A	Disabled	Disabled	Disabled	☐	Edit

Figure 3.5

You need to select one Layer2 Interface from the Layer2Interface List. Then click “Next” to select Bridge mode :

Figure 3.6

Press “Next” to enter into “WAN Setup - Summary”, click “Apply/Save” to save configuration, if you need to modify the parameter, click “Back” as Figure 3.7.

Connection Type:	Bridge
NAT:	Disabled
Full Cone NAT:	Disabled
Firewall:	Disabled
IGMP Multicast:	Not Applicable
Quality Of Service:	Enabled

Figure 3.7

3.4.3 PPPOE ON ATM CONFIGURATION

PPPoE is also known as RFC 2516. It is a method of encapsulating PPP packets over Ethernet.

PPPoA is also known as RFC2364 and named as Peer to Peer Protocol over ATM. As PPPoE, it also has all the features of PPP. Although it's based on ATM protocol, the setting of all the other parameters is similar with PPPoE. So we only introduce PPPoE in detail here.

In Figure 3.6, select PPP over Ethernet (PPPoE)

Figure 3.8

Press “Next” entering the configuring interface, as Figure3.9.

Figure 3.9

- PPP Username: Your account from ISP to access Internet.
- PPP Password: Input the password assigned by your ISP.
- PPPoE Service Name: Server name of network ISP. No need to set.
- Authentication Method: Authentication mode of network ISP. Default is AUTO.

- Dial on demand: When this mode is selected, the connection that has no traffic within assigned disconnect timeout (e.g. 1 minute) will be automatically disconnected. The connection will be activated again when traffic arrives. This function is advantageous for users who are charged with online time. It should be noticed that some programs automatically link to Internet. Computer will send data to network when infected by virus. Connection will not be disconnected under these data streams.
- Inactivity Timeout: When “Dial on demand” is selected, this input box indicates that after how long the connection will be disconnected in the absence of traffic. If the value is 0, connection will not be disconnected.
- Enable manual MTU set: set MTU value manually by yourself
- Manual Connect:connect/disconnect PPPoE connection manually

Press “Next” to select default gateway from Routing Interfaces:

Routing -- Default Gateway

Default gateway interface list can have multiple WAN interfaces served as system default gateways but only one will be used according to the priority with the first being the highest and the last one the lowest priority if the WAN interface is connected. Priority order can be changed by removing all and adding them back in again.

Selected Default Gateway Interfaces		Available Routed WAN Interfaces
ppp0	-> <-	
Back Next		

Figure 3.10

Press “Next” to setup default DNS server as following:

DNS Server Configuration

Select DNS Server Interface from available WAN interfaces OR enter static DNS server IP addresses for the system. In ATM mode, if only a single PVC with IPoA or static IPoE protocol is configured, Static DNS server IP addresses must be entered.

DNS Server Interfaces can have multiple WAN interfaces served as system dns servers but only one will be used according to the priority with the first being the highest and the last one the lowest priority if the WAN interface is connected. Priority order can be changed by removing all and adding them back in again.

☒ **Select DNS Server Interface from available WAN interfaces:**

Selected DNS Server Interfaces		Available WAN Interfaces
ppp0	→ ←	

☐ **Use the following Static DNS IP address:**

Primary DNS server:

Secondary DNS server:

Figure 3.11

Press “Next” to enter into “WAN Setup - Summary”, click “Apply/Save” to save configuration, if you need to modify the parameter, click “Back” as Figure 3.12

WAN Setup - Summary

Make sure that the settings below match the settings provided by your ISP.

Connection Type:	PPPoE
NAT:	Enabled
Full Cone NAT:	Disabled
Firewall:	Enabled
IGMP Multicast:	Disabled
Quality Of Service:	Enabled

Click "Apply/Save" to have this interface to be effective. Click "Back" to make any modifications.

Figure 3.12

3.4.4 IPOE ON ATM CONFIGURATION

In Figure3.6, select MAC Encapsulation Routing (MER),

WAN Service Configuration

Select WAN service type:

- ☐ PPP over Ethernet (PPPoE)
☒ IP over Ethernet
☐ Bridging

Enter Service Description: ipoe_0_0_32

Back

Next

Figure 3.13

Press “Next”, and the IP address can be queried from your ISP, the result as Figure3.14.

WAN IP Settings

Enter information provided to you by your ISP to configure the WAN IP settings.

Notice: If "Obtain an IP address automatically" is chosen, DHCP will be enabled for PVC in IPoE mode.

If "Use the following Static IP address" is chosen, enter the WAN IP address, subnet mask and interface gateway.

☐ Obtain an IP address automatically
 Option 60 Vendor ID:
 Option 61 IAID: (8 hexadecimal digits)
 Option 61 DUID: (hexadecimal digit)
 Option 125: ☒ Disable ☐ Enable
☒ Use the following Static IP address:
 WAN IP Address:
 WAN Subnet Mask:
 WAN gateway IP Address:
 MAC Clone:
 (00:00:00:00:00:00 means use dynamic mac address)

Back Next

Figure 3.14

Press “Next” to configure services of Translation on this connection, as Figure 3.15:

Network Address Translation Settings

Network Address Translation (NAT) allows you to share one Wide Area Network (WAN) IP address for multiple computers on your Local Area Network (LAN).

☒ Enable NAT

NAT Public Ip Address Automatic ▼

☐ Enable Fullcone NAT

☒ Enable Firewall

IGMP Multicast

☐ Enable IGMP Multicast

Back Next

Figure 3.15

Press “Next” to select default gateway from Routing Interfaces as Figure 3.16:

Routing -- Default Gateway

Default gateway interface list can have multiple WAN interfaces served as system default gateways but only one will be used according to the priority with the first being the highest and the last one the lowest priority if the WAN interface is connected. Priority order can be changed by removing all and adding them back in again.

Selected Default Gateway Interfaces

atm1



Available Routed WAN Interfaces

Back Next

Figure 3.16

Press “Next” to setup default DNS server as Figure 3.17:

DNS Server Configuration

Select DNS Server Interface from available WAN interfaces OR enter static DNS server IP addresses for the system. In ATM mode, if only a single PVC with IPoA or static IPoE protocol is configured, Static DNS server IP addresses must be entered.

DNS Server Interfaces can have multiple WAN interfaces served as system dns servers but only one will be used according to the priority with the first being the highest and the last one the lowest priority if the WAN interface is connected. Priority order can be changed by removing all and adding them back in again.

☐ Select DNS Server Interface from available WAN interfaces:

Selected DNS Server
Interfaces

Available WAN Interfaces

The screenshot shows two empty rectangular boxes. The left box is labeled 'Selected DNS Server Interfaces' and contains the text 'atm1' at the top. The right box is labeled 'Available WAN Interfaces'. Between the two boxes are two small square buttons with arrows: the top one points right ('->') and the bottom one points left ('<-').

☒ Use the following Static DNS IP address:

Primary DNS server:
Secondary DNS server:

Figure 3.17

Press “Next” to enter into “WAN Setup - Summary”, click “Apply/Save” to save configuration, if you need to modify the parameter, click “Back” as as Figure 3.18

WAN Setup - Summary

Make sure that the settings below match the settings provided by your ISP.

Connection Type:	IPoE
NAT:	Enabled
Full Cone NAT:	Disabled
Firewall:	Enabled
IGMP Multicast:	Disabled
Quality Of Service:	Enabled

Click "Apply/Save" to have this interface to be effective. Click "Back" to make any modifications.

Figure 3.18

3.5 WIRELESS CONFIGURATION

Press “**Wireless**” on the top of web pages to enter wireless section. You can select to configure wireless setup, security and management.

Device Info

Quick Setup

Advanced Setup

Wireless

Basic

Security

MAC Filter

Wireless Bridge

Advanced

Station Info

Diagnostics

Management

and restrict the channel set based on country requirements.
Click "Apply/Save" to configure the basic wireless options.

☒ Enable Wireless

☐ Hide Access Point

☐ Clients Isolation

☐ Disable WMM Advertise

☐ Enable Wireless Multicast Forwarding (WMF)

SSID:

BSSID: 22:10:18:01:00:01

Country:

Max Clients:

Wireless - Guest/Virtual Access Points:

Enabled	SSID	Hidden	Isolate Clients	Disable WMM Advertise	Enable WMF	Max Clients	BSSID
☐	wld_Guest1	☐	☐	☐	☐	16	N/A
☐	wld_Guest2	☐	☐	☐	☐	16	N/A
☐	wld_Guest3	☐	☐	☐	☐	16	N/A

Figure 3.19

3.5.1 WIRELESS BASIC SETUP

Click “**Basic**” on the left menu to setup basic wireless parameters. In default, check “Enable Wireless” box to launch wireless AP.

- **SSID (Service Set Identifier):** The mobile users cannot access WLAN until setting their SSID as the same value of the wireless ADSL. The SSID value of the ADSL is “default”
- **Hide Access Point:** If checked, wireless station will no see SSID of the ADSL.

3.5.2 WIRELESS SECURITY

Press “**Security**” on the left menu to construct wireless security. You can select to configure WEP encryption, Shared, 802.1x, WPA, and WPA2 authentication.

- **WEP Encryption**
Select “Enabled” of the WEP encryption list. You can enter WEP encryption page.
Encryption Strength: Key length: 128bits or 64bits.
Current Network Key 1-4: Up to four keys that are in form of hex digitals could be set. Mobile users can’t access the AP if they haven’t set the same key as AP. For 64bits and 128bits keys, you should input 10 and 26 hexadecimal digitals or 5 and 13 ASCII characters respectively. Every two digitals should be comparted with others by a space character. For example: “7890ABCDEF”

(hexadecimal digitals) or “QWERT” (ASCII characters) for a key length of 64bits.

Device Info
Quick Setup
Advanced Setup
Wireless
Basic
Security
MAC Filter
Wireless Bridge
Advanced
Station Info
Diagnostics
Management

OR
through WiFi Protected Setup(WPS)

WPS Setup

Enable WPS Disabled

Manual Setup AP

You can set the network authentication method, selecting data encryption, specify whether a network key is required to authenticate to this wireless network and specify the encryption strength. Click "Apply/Save" when done.

Select SSID: BrcmAP0

Network Authentication: Open

WEP Encryption: Enabled

Encryption Strength: 128-bit

Current Network Key: 1

Network Key 1:

Network Key 2:

Network Key 3:

Network Key 4:

Enter 13 ASCII characters or 26 hexadecimal digits for 128-bit encryption keys
Enter 5 ASCII characters or 10 hexadecimal digits for 64-bit encryption keys

Apply/Save

Figure 3.20

- 802.1x Authentication

Select “802.1x” to enter 802.1x authentication page.

The 802.1x authentication needs a Radius server in LAN. In this page, you can input Radius server IP address, port number and secret key.

Manual Setup AP

You can set the network authentication method, selecting data encryption, specify whether a network key is required to authenticate to this wireless network and specify the encryption strength. Click "Apply/Save" when done.

Select SSID:	BrcmAP0 ▼
Network Authentication:	802.1X ▼
RADIUS Server IP Address:	0.0.0.0
RADIUS Port:	1812
RADIUS Key:	
WEP Encryption:	Enabled ▼
Encryption Strength:	128-bit ▼
Current Network Key:	2 ▼
Network Key 1:	1234567890123
Network Key 2:	1234567890123
Network Key 3:	1234567890123
Network Key 4:	1234567890123

Enter 13 ASCII characters or 26 hexadecimal digits for 128-bit encryption keys
Enter 5 ASCII characters or 10 hexadecimal digits for 64-bit encryption keys

Apply/Save

Figure 3.21

3.5.3 WIRELESS MAC FILTER

Press “**Mac Filter**” on the left menu to setup wireless MAC filter

In fact, the Access List function is just like MAC address filtering and selected to permit or forbid access of wireless station with specified MAC address.

Method: select “Allow” or “Deny” mode, and click “Add” button, and input MAC address which you want to allow or deny.

Wireless -- MAC Filter

Select SSID: BrcmAP0 

MAC Restrict Mode: ☒ Disabled ☐ Allow ☐ Deny

MAC Address	Remove
-------------	--------

Add Remove

Figure 3.22

Notice: You only can select one of allow mode or deny mode.

3.5.4 WIRELESS ADVANCED SETUP

Press “**Advanced**” on the left menu to construct wireless security as Figure 3.23

Band:	2.4GHz	
Channel:	1	Current: 1 (interference: acceptable)
Auto Channel Timer(min)	0	
802.11n/EWC:	Auto	
Bandwidth:	20MHz in 2.4G Band and 40MHz in 5G Band	Current: 20MHz
Control Sideband:	Lower	Current: None
802.11n Rate:	Auto	
802.11n Protection:	Auto	
Support 802.11n Client Only:	Off	
RIFS Advertisement:	Off	
OBSS Co-Existence:	Enable	
RX Chain Power Save:	Disable	Power Save status: Full Power
RX Chain Power Save Quiet Time:	10	
RX Chain Power Save PP5:	10	
54g ^m Rate:	1 Mbps	
Multicast Rate:	Auto	
Basic Rate:	Default	
Fragmentation Threshold:	2346	
RTS Threshold:	2347	
DTIM Interval:	1	
Beacon Interval:	100	
Global Max Clients:	16	
XPress [™] Technology:	Disabled	
Transmit Power:	100%	
WMM(Wi-Fi Multimedia):	Enabled	
WMM No Acknowledgement:	Disabled	
WMM APSD:	Enabled	

Apply/Save

Figure 3.23

4 OTHER CONFIGURATION

4.1 LAN CONFIGURATION

4.1.1 CONFIGURATION OF MODEM'S PASSWORD

When you configure ADSL MODEM through an Internet browser, the system requires user name and password to validate access permission. The factory sets the modem at a default username of “**admin**” and the password of “**password**”. The username is unchanged. You can enter the “password configuration” on Configuration column to change the password.

Attention: please remember the password after change, otherwise you will not be able to change configuration after saving setting as Figure 4.1

Access Control -- Passwords

Access to your broadband router is controlled through three user accounts: admin, support, and user.

The user name "admin" has unrestricted access to change and view configuration of your Broadband Router.

The user name "support" is used to allow an ISP technician to access your Broadband Router for maintenance and to run diagnostics.

The user name "user" can access the Broadband Router, view configuration settings and statistics, as well as, update the router's software.

Use the fields below to enter up to 16 characters and click "Apply/Save" to change or create passwords. Note: Password cannot contain a space.

User Name:	
Old Password:	
New Password:	
Confirm Password:	

Figure 4.1

4.1.2 CONFIGURATION OF MODEM'S IP ADDRESS

As a network device, ADSL Modem has its own IP address and MAC address. The factory sets the MODEM, at a default IP address of 192.168.1.1 and subnet mask of 255.255.255.0. The user can configure these addresses through the "LAN" on "Configuration" like this:

For example, change IP address to "10.10.10.10". Click "LAN", input "IP address": 10.10.10.10, then "subnet mask": 255.255.255.0 press "Apply/Save" as Figure 4.2.

Device Info
Quick Setup
Advanced Setup
Layer 2 Interface
ATM Interface
ETH Interface
WAN Service
Ethernet Mode
LAN
NAT
Security
Parental Control
Quality of Service
Routing
DSL
UPnP
DNS Proxy
Print Server
Interface Grouping
IPSec
Certificate
Multicast
Diagnostics
Management

Local Area Network (LAN) Setup

Configure the Broadband Router IP Address and Subnet Mask for LAN interface. GroupName Default

IP Address:

Subnet Mask:

☐ Enable IGMP Snooping

☐ Disable DHCP Server

☒ Enable DHCP Server

Start IP Address:

End IP Address:

Leased Time (hour):

Static IP Lease List: (A maximum 32 entries can be configured)

MAC Address	IP Address	Remove
Add Entries		
Remove Entries		

☐ Configure the second IP Address and Subnet Mask for LAN interface

Figure 4.2

4.1.2 DHCP CONFIGURATION

- click “LAN ”
- click “Enable DHCP server”;
- Define the “Start IP address” and the “End IP address” of DHCP server (for example, from 10.10.10.11 to 10.10.10.254).
- Input the value of Lease Time (Measured by the second, 0 indicates permanently valid).

As Figure 4.3, open DHCP server, computer will set the IP Address of network card with one of the address 10.10.10.11 ~ 10.10.10.254.

☐ Disable DHCP Server
☒ Enable DHCP Server

Start IP Address:
 End IP Address:
 Leased Time (hour):

Static IP Lease List: (A maximum 32 entries can be configured)

MAC Address	IP Address	Remove
Add Entries Remove Entries		

Figure 4.3

Note: When you use the DHCP Server, please pay attention to having multi-DHCP Server in one LAN.

5. TROUBLESHOOTING

5.1 UNABLE TO ACCESS INTERNET

5.1.1 CHECK THE LINE AND THE DEVICE

- 1、 Check the indicator of power supply is on, if not, Make sure the connection of power supply is correct; Make sure the output of power supply is correct; Make sure the switch of power supply is turned on;
- 2、 Check the indicator of PC is on, if not, Make sure the connection of cable and network adapter; Make sure that the correct cable is used;
- 3、 Check the LINK LED to see if it is twinkling. If no fast twinkling is observed within 3 minutes, please check whether phone line has been correctly placed; whether ADSL separator is correctly used. If multiple extensions have been installed, make sure that the separator is installed prior to the junction box of phone line. If the above items are confirmed and still no fast twinkling of WAN LED is observed, call the ISP to query whether ADSL service has been provided on your line;
- 4、 Check the LINK LED to see whether it is unable to change status from fast twinkling to always light, or whether it changes status to fast twinkling after sometime of always light. If these phenomena occur constantly, please contact your ISP with a demand to check lines and signal quality;

If there is no problem in the above items, the line and the device shall be working. Problems may come from your computer configuration or device configuration.

5.1.2 CHECK YOUR CONFIGURATION

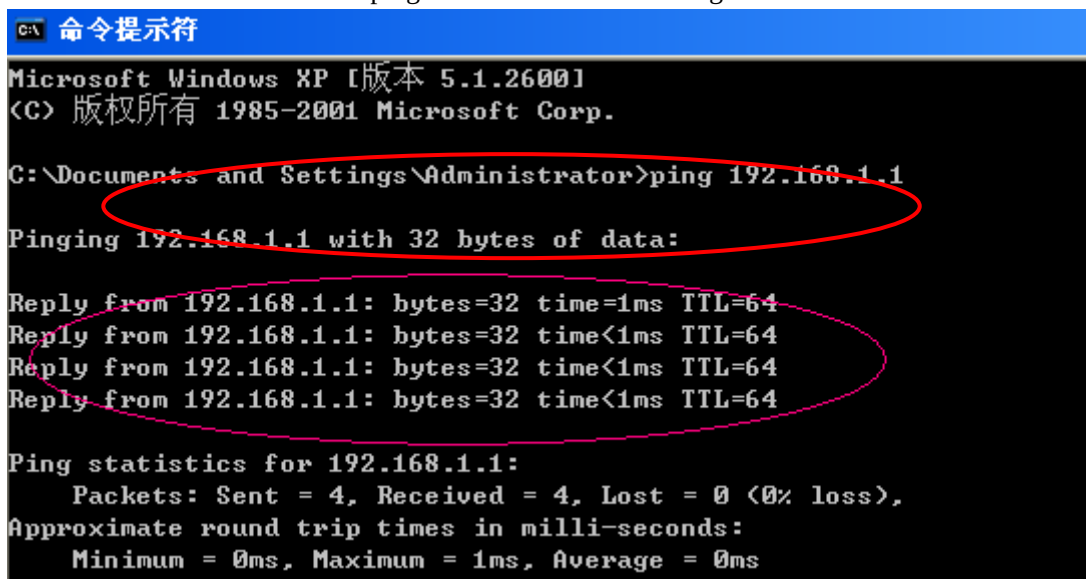
We explain here the configuration of PPPoE using Windows 2000 operation system as an example. For other operation systems the process is similar.

- 1、 Enter the device manager to check if Ethernet adapter is correctly installed. If any problem exists, please re-installed it;
- 2、 Check the configuration of Ethernet adapter in PC. Try to manually set IP address that is in band 192.168.1.x without conflict. See 3.2;
- 3、 Try to run command “ping 192.168.1.1” on command line mode. If the response returns “time out”, please check Ethernet connection and IP settings;
- 4、 If this modem is reachable, try to run ping with a known outer IP, e.g. the DNS server IP of ShangHai Online: “ping 202.96.209.133”.
 - If ping is reachable, there shall be no problems in the modem. Please see step 5;
 - If ping is not reachable, see step 6 and check if the configuration is correct.
- 5、 Please try to ping a certain outer URL, e.g. “ping www.google.com”.
 - If ping is reachable, there shall be no problems in the network settings. Please check the settings of the PC terminal, e.g. whether the security level is too high, or whether anti-virus firewall is installed;
 - If ping is not reachable, check the DNS setting of Ethernet adapter. See 3.2.

Note 1: The precondition is that LAN settings in the modem has not been modified.

Note 2: We usually start command line mode in Windows 2000 as follows: click on the “RUN” item of Windows Start Menu, input characters “cmd” in the input box popped up with an “Enter”. The window subsequently popped up is the command line window.

Note 3: The returned values of ping command in the following format show the standard of “reachable”



```

C:\ 命令提示符
Microsoft Windows XP [版本 5.1.2600]
(C) 版权所有 1985-2001 Microsoft Corp.

C:\Documents and Settings\Administrator>ping 192.168.1.1

Pinging 192.168.1.1 with 32 bytes of data:

Reply from 192.168.1.1: bytes=32 time<1ms TTL=64
Reply from 192.168.1.1: bytes=32 time<1ms TTL=64
Reply from 192.168.1.1: bytes=32 time<1ms TTL=64
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 = 1ms, Average = 0ms
  
```

Figure 5.1

- 6、 If ping of the modem is reachable but ping of the outer fixed IP is unreachable, attention should be

concentrated upon device settings. Please enter the configuring interface following the instructions in this manual.

- (1) Check first the number of connections. If more than one connection exists, for troubleshooting , delete unused connections and remain the one connection you are using.
- (2) Check the connection to see whether correct “type” is selected. It’s normal to choose login type of PPPoE. When you use PPPoE to login, the following information should be provided: VPI and VCI, which can be queried from your ISP, user name and password.
- (3) Then make sure that “using NAT” and “default gateway” have been selected with a tick. Check whether “connect on demand” has been selected with a tick. If it is selected, the connection is activated only when traffic to outer networks arrives. If not selected, check “keep connection”, which should be set to 0 if you demand to keep connection

Make sure that the above parameters are saved after configuration. Internet is now available since the configuration is properly done.

ANNEX: SHIPPING LIST

ADSL MODEM	×1
Splitter	×1
User Manual	×1
Power Supply	×1
Cable Cat5 RJ45	×1
Telephone Line	×2
Warranty Certificate	×1

FCC INFORMATION

This equipment complies with CFR 47, Part 15.19 of the FCC rules. Operation of the equipment is subject to the following conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received; including interference that may cause undesired operation.

THIS DEVICE MUST NOT BE CO-LOCATED OR OPERATING IN CONJUNCTION WITH ANY OTHER ANTENNA OR TRANSMITTER

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.

Federal Communications Commission (FCC) Requirements, Part 15

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 provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- 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.

REGULATORY INFORMATION / DISCLAIMERS

Installation and use of this Wireless LAN device must be in strict accordance with the instructions included in the user documentation provided with the product. Any changes or modifications (including the antennas) made to this device that are not expressly approved by the manufacturer may void the user's authority to operate the equipment. The manufacturer is not responsible for any radio or television interference caused by unauthorized modification of this device, or the substitution of the connecting cables and equipment other than manufacturer specified. It is the responsibility of the user to correct any interference caused by such unauthorized modification, substitution or attachment. Manufacturer and its authorized resellers or distributors will assume no liability for any damage or violation of government

CAUTION: To maintain compliance with FCC's RF exposure guidelines, this equipment should be installed and operated with minimum distance 20cm between the radiator and your body. Use on the supplied antenna. Unauthorized antenna, modification, or attachments could damage the transmitter and may violate FCC regulations.

MPE Statement (Safety Information)

Your device contains a low power transmitter. When device is transmitted it sends out Radio Frequency (RF) signal.

SAFETY INFORMATION

In order to maintain compliance with the FCC RF exposure guidelines, this equipment should be installed and operated with minimum distance 20cm between the radiator and your body. Use only with supplied antenna. Unauthorized antenna, modification, or attachments could damage the transmitter and may violate FCC regulations.