

ADSL MODEM
USER MANUAL

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Reference Standards

Related Documents

Definition & Acronyms

ATU-C	ADSL Transceiver Unit, Central Office End
ATU-R	ADSL Transceiver Unit, Remote Terminal End
FEXT	Far-end Cross Talk
HDSL	High-rate Digital Subscriber Line
POTS	Plain Old Telephone Service
PSTN	Public Switched Telephone Network
WINS	Windows® Internet Name Server
ADSL	Asymmetric Digital Subscriber Line
OAM	Operations, Administration And Maintenance
QAM	Quadrature Amplitude Modulation
DMT	Discrete Multitone
DSL	Digital Subscriber Line
FEC	Forward Error Correction
ATM	Asynchronous Transfer Mode
WAN	Wide Area Network
PRD	Pseudo-random Downstream
PRU	Pseudo-random Upstream
USB	Universal Serial Bus
LAN	Local Area Network
PVC	Permanent Virtual Circuit
SVC	Switched Virtual Circuit
PPP	Point to Point protocol
DNS	Domain Name Server
VPI	Virtual Path ID
VCI	Virtual Circuit ID
DSL	Digital Subscriber Line
IP	Internet Protocol
CO	Central Office
EC	Echo Canceling

OVERVIEW

1

1. OVERVIEW

1.1 ABOUT ADSL

ADSL MODEM is a broadband Internet access device, which utilizes the high frequency segment of the phone line to transmit high-speed data without interfering with the voice transmission. The frequency of 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 on the asymmetry way. The upload speed is up to 1Mbps and download speed is up to 8Mbps. It is an ideal device for broadband access.

1.2 DEVICE INTRODUCTION

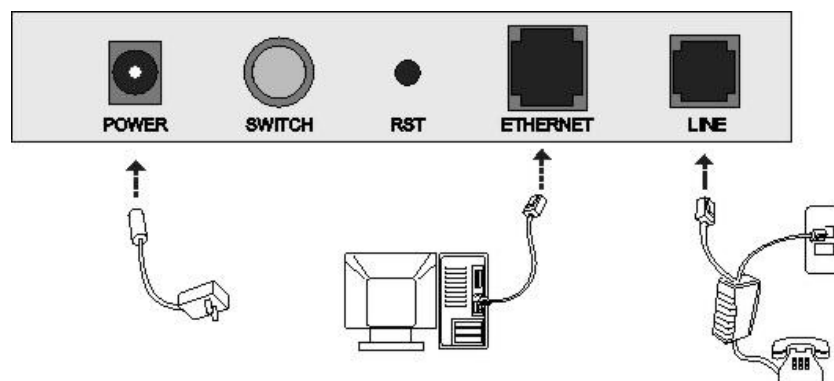


Figure 1.1

Interface introduction:

- ① Power Interface: 5.2V DC, 1000mA. 
- ② Power switch: To turn on or off the power.
- ③ Reset Key: Reset default configuration.
- ④ Ethernet Interface: To be connected to a PC or a HUB by a CAT 5 twisted parallel cable. A straight-through network cable should be used when it is connected to a PC network card and a crossover cable should be used for UP LINK interface of HUB.
- ⑤ Line Interface: To be connected to a telephone.

1.3 LED STATUS INDICATION

Table 1.1

Status	POWER (red)	LINK (yellow)	DATA (green)	PC(green)
Steady light	Power on	The modem is in good connection	/	Ethernet line is connected
Flashing	/	No signal	/	/
Fast flashing	/	In handshaking status	Transmitting or receiving data	/
Off	Power off	Power off	Not connected with PC properly	Ethernet line not connected properly

1.4 PROTOCOLS

ADSL Modem supports the following protocols:

1. PPPoA (PPP over ATM) LLC encapsulation or VCMUX encapsulation (RFC2364)
2. PPPoE (PPP over Ethernet) LLC encapsulation or VCMUX encapsulation (RFC2516)
3. 1483 bridge (1483 Bridged IP over ATM) LLC encapsulation or VCMUX encapsulation (RFC1483)
4. 1483 routing (1483 Routing IP over ATM) LLC encapsulation or VCMUX encapsulation (RFC1483)
5. Classical IP over ATM (RFC1577)

1.5 FEATURES

1. Supports ANSI T1.413 ISSUE 2, ITU G.992.1 (G.DMT) and ITU G.992.2 (G.LITE), ADSL2/2+.
2. Web-based configuration and monitoring.
3. Supports up to 8 PVCs.
4. Routing function.
5. NAT、DHCP function.
6. Maximum upstream transmission rates of 1Mbps
7. Maximum downstream transmission rates of 8 Mbps
8. Software upgradeable.
9. Transmission distance up to 5 km.
10. ATM management function.
11. Based on EOA long distance management

HARDWARE INSTALLATION AND SOFTWARE CONFIGURATION

2

2. HARDWARE INSTALLATION AND SOFTWARE CONFIGURATION

2.1 SYSTEM REQUIREMENT

A computer with a network card with Ethernet interface.

2.2 HARDWARE INSTALLATION

2.2.1 HARDWARE CONNECTION

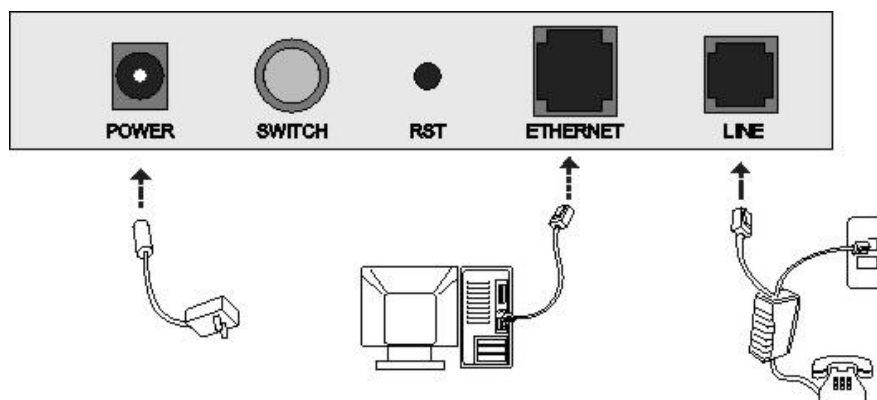


Figure 2.1

To go online and make phone calls simultaneously, please refer to Appendix B: SPLITTER CONNECTION.

2.2.2 INSTALLATION STEPS

1. Connect line port⑤ of the ADSL MODEM to telephone jack with the telephone cord that comes with the modem.
2. Connect Ethernet port④ of the ADSL MODEM to Ethernet port of the computer using the network cable that comes with the modem.
3. Plug in the power cord ①, and turn on the power.

2.3 SOFTWARE CONFIGURATION

2.3.1 PREPARATION BEFORE SOFTWARE INSTALLATION

Before the installation, please confirm information below or consult with the ADSL service provider. Table 2.1 shows all the information needed to configure for different protocols.

Table 2.1

Protocol	Virtual Dial Mode		Private Line Mode		
	PPPOE	PPPOA	1483 Bridged	1483 Routed	1577 Private Line
Necessary Information	VPI	VPI	VPI	VPI	VPI
	VCI	VCI	VCI	VCI	VCI
	User name	User name		IP address/Sub mask	IP address/Sub mask
	Password	Password		Gateway	Gateway

2.3.2 COMPUTER CONFIGURATION

The default factory-set IP Address for the 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 a gateway and DNS server and users need to set the computer's TCP/IP protocol as follow:

1. Set the computer at same Internet segment with ADSL MODEM so as to enter ADSL MODEM configuration page through a browser.
2. Set the computer's gateway's IP address the same as the ADSL Modem's.
3. Set the computer's DNS server's IP address the same as the ADSL Modem's or that of an effective DNS server.

If the user has any question regarding the computer's TCP/IP protocol, please refer to APPENDIX C: TCP/IP PROTOCOL CONFIGURATION.

2.3.3 ADSL MODEM CONFIGURATION

Open the browser; input **http://192.168.1.1** in the address column. Press "Enter" key then the entry dialog box will pop up as Figure 2.2, Input username: **admin**, and password: **password** (Note that this is capital sensitive), then press "Enter". The ADSL MODEM configuration page will be shown.

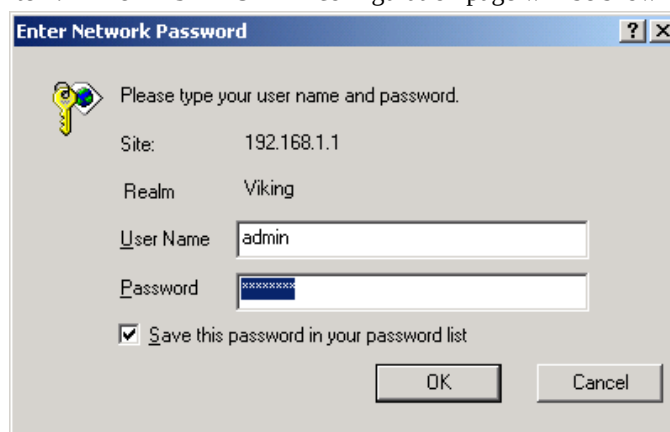


Figure 2.2

2.3.4 ADSL MODEM WORK MODE CONFIGURATION

- For different protocols, the users need to set ADSL Modem accordingly as listed below:

Table 2.2

PPPoE	ATM VC	Protocol	Use DNS	User Name	Password
PPPoA	✓	PPPoE	Enable	✓	✓
	✓	PPPoA	Enable	✓	✓

1483 Bridged	Lower interface	Default route
	✓	Disable

1483 Routed	Lower interface	IP Address	Sub mask	Gateway Address
	✓	✓	✓	✓

1577 Private Line	Lower interface	IP Address	Sub mask	IPoA Mode	Gateway Address
	✓	✓	✓	1577	✓

Note: ✓ means configure according to ADSL service provider's instructed value.

PPPoE can also be realized via third party dialup software.

User Manual Reference Chapter	PPPoE	PPPoA	1483 Bridged	1483 Routed	1577 Private Line
	3.4	3.4	3.2	3.3	3.3

- After getting through every page for parameters set-up, click “Submit” to save the value in ADSL MODEM
- Click the “**Commit & reboot**” on “**Admin**” Tab to enter the saving configuration page as Figure 2.3. Click “**Commit**” button to save the setting. Click “**Reboot**” button to reboot the ADSL MODEM. The ADSL MODEM will work on the new parameters.

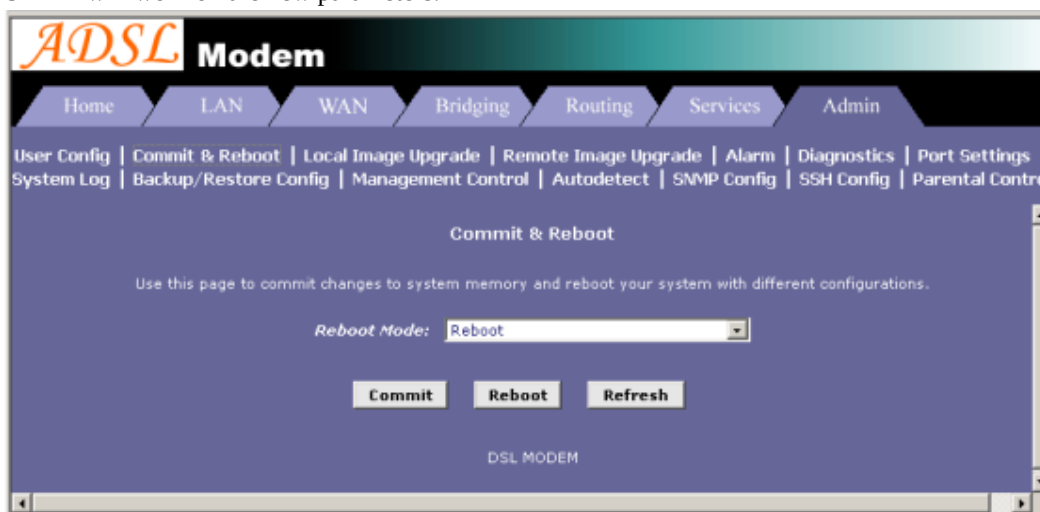


Figure 2.3

2.3.5 ADSL MODEM SOFTWARE INTRODUCTION

The same toolbar will appear on different pages, for example “LAN config” is on the page “LAN” and “Routing”. You can modify on either page.

1. Home

The page shows the complete configuration. You can click any item to enter the detail configuration page.

2. LAN

You can set the IP address and subnet mask, configure the modem as DHCP server, or add DHCP pool on the page.

3. WAN

You can check the ADSL's working status and parameters, add/edit or delete ATM lower interface, add/edit or delete PPP、EOA and IPOA protocol.

4. Bridging

You can add/delete bridging interface on the page. You can also open and close the bridged mode, set LAN, check DSL parameters, add/delete ATM interface and EOA interface.

5. Routing

You can find the routing table on this page. Other functions could be done on other pages previously described.

6. Services

You can configure the NAT, RIP, firewall and DNS or check it on this page.

7. Admin

You can modify user's password, save modified configuration, reboot ADSL MODEM, update software, and check alarm and port settings information and diagnostics on this page

Usually you will be able to complete most of the settings needed on the pages of Home, LAN, WAN, Admin.

PROTOCOL CONFIGURATION

3

3. PROTOCOL CONFIGURATION

3.1 HIERARCHY OF PROTOCOLS

The hierarchy of protocols interface is shown in Figure 3.1.

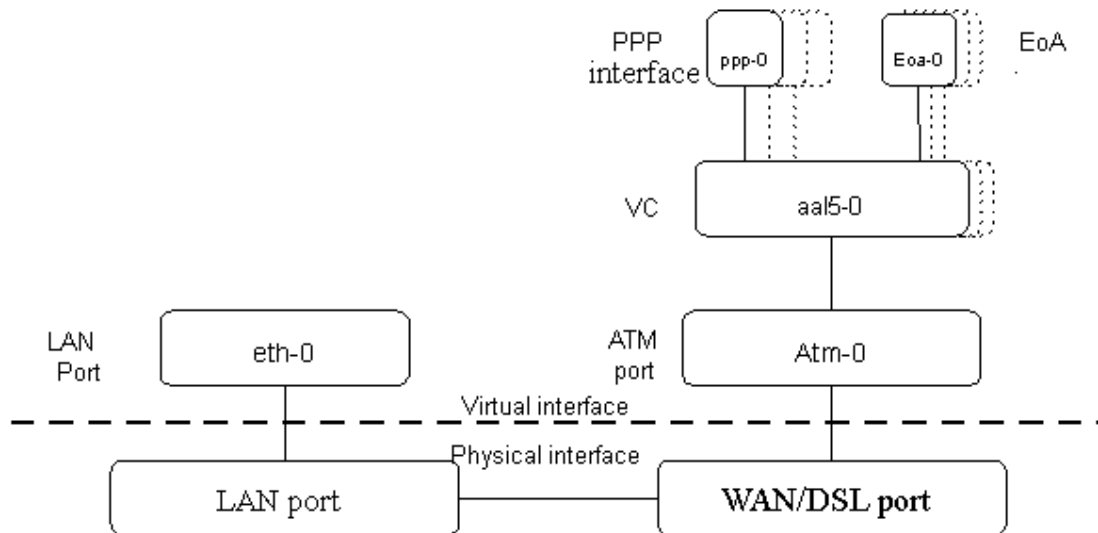


Figure 3.1

Both PPP and EOA module are build on ATM level interface. If you want to setup PPP, EOA or IPOA modules you must ensure you have an ATM interface first. Please configure protocol modules as stated below:

1. Setup LAN module **Eth-0**;
2. Setup ATM module. The user can click the “Add”, “Edit” or “Delete” button of ATM VC toolbar in the page “WAN” to create, edit or delete ATM modules;
3. Setup PPP, EOA or IPOA modules, the user can click the “Add”, “Edit” or “Delete” button of PPP, EOA or IPOA toolbars in the page of WAN to create, edit or delete different protocol modules.

3.2 RFC1483 BRIDGE CONFIGURATION

1. ATM VC Configuration

- The user can edit, create and delete ATM VC level module. The factory-set configuration has 6 ATM VCs.

- Then we will add one more ATM PVC module: **aal5-6** (VPI=0, VCI=33) as an example, and use this PVC to setup a RFC1483 Bridge.
- Click the **ATM VC** label in Page “WAN”, then click “Add” button in the ATM VC toolbar, the pop up Window is shown as Figure 3.2.
- Type number “0” in *VPI* item and “33” in the *VCI* item, then click “Submit” button. The result window is shown as Figure 3.3.

ATM VC - Add - Microsoft Internet Explorer

ADSL Modem

ATM VC - Add

Basic Information

VC Interface:	aal5-6
VPI:	0
VCI:	33
Mux Type:	LLC
Max Proto per AAL5:	2

Submit Cancel Help

DSL MODEM

Figure 3.2

GS8100 Configuration Manager GUI - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address http://192.168.1.1/hag/pages/home.htm

ADSL Modem

Home LAN WAN Bridging Routing Services Admin

DSL | ATM VC | PPP | EOA | IPOA

ATM VC Configuration

This page is used to view and configure ATM VCs

Interface	VPI	VCI	Mux Type	Max Proto per AAL5	Conf. IL3 Protocol	Actual IL3 Protocol	Action(s)
aal5-1	0	32	LLC	2	Any	bridging	Reset IL3
aal5-6	0	33	LLC	2	Any	None	Reset IL3
aal5-2	0	35	LLC	2	Any	bridging	Reset IL3
aal5-3	0	100	LLC	2	Any	bridging	Reset IL3
aal5-4	8	35	LLC	2	Any	bridging	Reset IL3
aal5-5	8	81	LLC	2	Any	bridging	Reset IL3
aal5-0	14	24	LLC	2	Any	bridging	Reset IL3

Internet

Figure 3.3

2. EOA Configuration

Click **EOA** label. The factory –set configuration has 6 EOAs. Here we add one EOA : **eo-a-6** as an example.

- Click “Add” button, the pop up Window is shown as Figure 3.4.
- Choose **aal5-6** option for *Lower interface*; **Disable** option for *Default Route*. Don’t change other items.
- Click “Submit” button, the result window is shown as Figure 3.5.

EOA Interface - Add - Microsoft Internet Explorer

ADSL Modem

EOA Interface - Add

EOA Information	
EOA Interface:	eo-a-6
Interface Sec Type:	Public
Lower Interface:	aal5-6
Configured IP Address:	0 0 0 0
Netmask:	0 0 0 0
MTU:	65535
Use DHCP:	☐ Enable ☒ Disable
Default Route:	☐ Enable ☒ Disable
Gateway IP Address:	

Submit Cancel Help

DSL MODEM

Figure 3.4

GS8100 Configuration Manager GUI - Microsoft Internet Explorer

Address: http://192.168.1.1/hag/pages/home.htm

ADSL Modem

Home LAN WAN Bridging Routing Services Admin

DSL | ATM VC | PPP | EOA | IPOA

Interface	Interface Sec Type	Lower Interface	IP Address	Netmask	Use DHCP	Default Route	Gateway Address	Status	Action
eo-a-0	Public	aal5-0	0.0.0.0	0.0.0.0	Disable	Disable	0.0.0.0		
eo-a-1	Public	aal5-1	0.0.0.0	0.0.0.0	Disable	Disable	0.0.0.0		
eo-a-2	Public	aal5-2	0.0.0.0	0.0.0.0	Disable	Disable	0.0.0.0		
eo-a-3	Public	aal5-3	0.0.0.0	0.0.0.0	Disable	Disable	0.0.0.0		
eo-a-4	Public	aal5-4	0.0.0.0	0.0.0.0	Disable	Disable	0.0.0.0		
eo-a-5	Public	aal5-5	0.0.0.0	0.0.0.0	Disable	Disable	0.0.0.0		
eo-a-6	Public	aal5-6	0.0.0.0	0.0.0.0	Disable	Disable	0.0.0.0		

Done Internet

Figure 3.5

3. Click “Bridging” Page -> choose **ea-6** option for *interface name* -> click “Add” button -> click “Submit” button.
4. Click “**Commit & Reboot**” label in the page Admin, shown as in Figure 2.3. Click “Commit” button to save. When it shows “Changes Committed Successfully...” click “Reboot” button or turn off then turn on the ADSL MODEM. The MODEM will work on the new parameters.

3.3 STATIC ROUTING CONFIGURATION

(RFC1483 routing/RFC1577configuration)

1. RFC1483 routing

a) ATM VC configuration

Use one of the ATM VCs which we had added in 3.2 for example: **aal5-6** (VPI=0, VCI=33)

b) EOA configuration

- Only one PPP can be accepted by the MODEM as default router. So confirm there are no PPPs in the “PPP” of Page “WAN”, shown as Figure 3.6.
- Click **EOA** label. The factory default configuration sets 6 EOAs (RFC1483 bridge). Add **ea-6** for example.
- Click “Add” button, the pop up window is shown as Figure 3.4
- Choose **aal5-6** for *Lower Interface* option
- Choose **enable** for *Default Route* option
- Fill the IP address, IP subnet mask and gateway IP address items with the parameters provided by DSL ISP. Here we will use “202.117.118.25”, “255.255.255.0” and “202.96.199.133” as examples.
- Don’t change other options, click “Submit” button, and the result window is shown as Figure 3.7

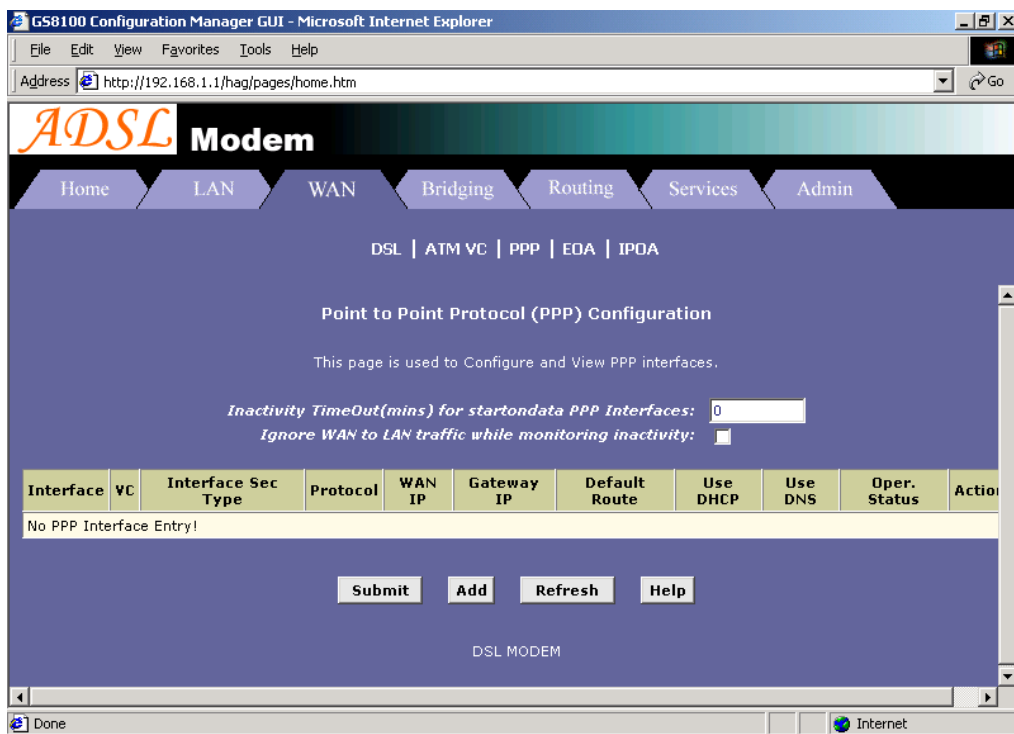


Figure 3.6

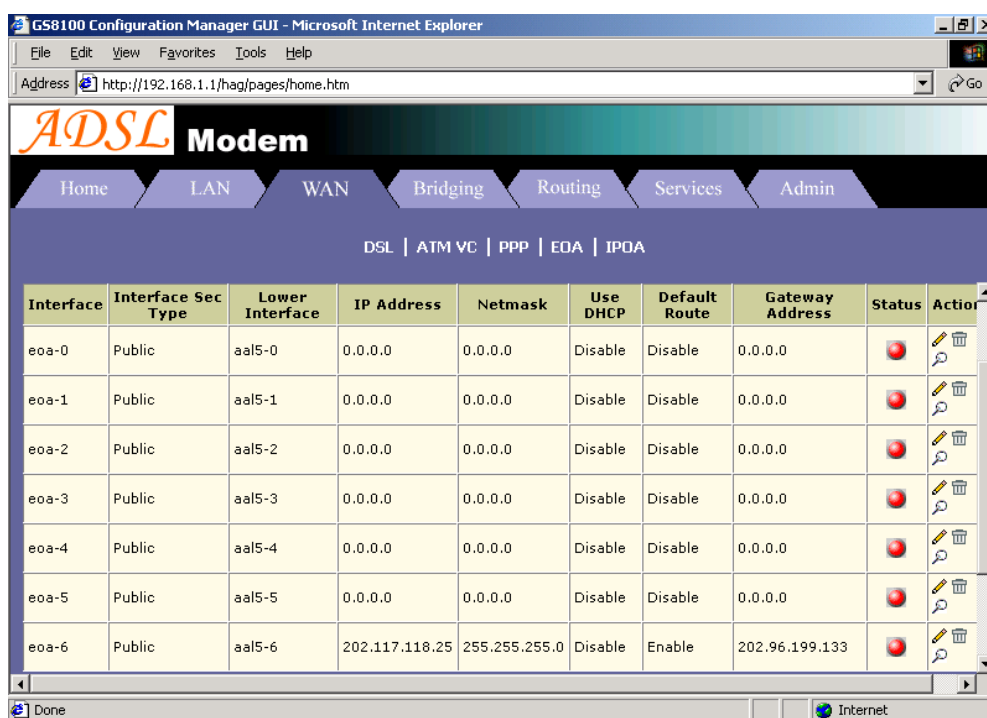


Figure 3.7

- c) Click “**Commit & Reboot**” label in Page Admin to access **save configuration** tools page, shown as Figure 2.3. Click “Commit” button. Wait till this message “Changes Committed Successfully...” appears. Click “Reboot” button or turn off and on power of the ADSL MODEM. The MODEM will work on the new parameters.

2. RFC1577 configuration

a) ATM VC configuration

Use one of the factory default ATM VCs for example: **aal5-6** (VPI=0, VCI=33)

b) IPOA configuration

- Only one PPP can be accept by the MODEM as default route. So confirm there are no PPPs in the “PPP” of Page “WAN”, shown as Figure 3.6.
- Click **IPOA** label. Add one IPOA **ipoa-0** for example.
- Click “Add” button, the pop up window is shown as Figure 3.8.
- Choose 1577 for *IPOA type* option.
- Choose Enable for *Default Route* option.
- Fill in the IP address, IP subnet mask and gateway IP address items with the parameters provided by DSL ISP. Here use “202.117.118.25”, “255.255.255.0” and “202.96.199.133” for example.
- Do not change other options, click “Submit” button, and the result window will be shown as Figure 3.9

IPoA Interface - Add

IPoA Information

IPoA Interface:	ipoa-0
Configured IP Address:	202 117 118 25
Interface Sec Type:	Public
Netmask:	255 255 255 0
MTU:	65535
RFC 1577:	☒ Yes ☐ No
Use DHCP:	☐ Enable ☒ Disable
Default Route:	☒ Enable ☐ Disable
Gateway IP Address:	202 96 199 133

Submit Cancel Help

DSL MODEM

Figure 3.8

GS8100 Configuration Manager GUI

Address: http://192.168.1.1/hag/pages/home.htm

ADSL Modem

Home LAN WAN Bridging Routing Services Admin

DSL | ATM VC | PPP | EOA | IPoA

IP over ATM (IPoA) Configuration

This Page is used to View, Add and Delete IPoA Interfaces.

Interface	Interface Sec Type	RFC 1577	Lower Interface	Peer IP Address	IP Address	Netmask	Use DHCP	Gateway Address	Status	Action
ipoa-0	Public	Yes	-	-	202.117.118.25	255.255.255.0	Disable	202.96.199.133		Map

Add Map Refresh Help

DSL MODEM

Figure 3.9

- c) Click “**Commit & Reboot**” in Page Admin to access **Save configuration** tools page, shown as Figure 2.3. Click “Commit” button and wait till the message “Changes Committed Successfully...” appears. Click “Reboot” button or turn off and on the power of the ADSL MODEM. The MODEM will work on the new parameters.

3.4 PPPOA AND PPPOE CONFIGURATION

There are two methods for PPPOE configuration: 1483 bridge + third-party dialup software; Internal virtual Dialup function in the MODEM.

1483 bridge + third-party dialup software

- Setup RFC1483 Bridge.
- Install third party dialup software such as **Enternet300**, **WinPoet** or **RasPPPoE**. For more detail consult with the DSL ISP.
- Use the installed software to dial up.

Internal virtual Dialup function in the MODEM

1. ATM VC configuration
Use one of the factory set ATM VCs for example: **aal5-0** (VPI=14, VCI=24)
2. PPP configuration
 - Click **“PPP”** label on the Page “WAN”.
 - Click “Add” button, the pop up window is shown as Figure 3.10.
 - Choose aal5-0 for the *Lower Interface* option.
 - Choose Enable for *DNS* option.
 - Fill in the User Name and Password provided by the DSL ISP.
 - Do not change other options. Click “Submit” button, the result window is shown as Figure 3.11.
3. Click **“Commit & Reboot”** in Page “Admin” to access **Save configuration** tools page, shown as Figure 2.3. Click “Commit” button and wait till the message “Changes Committed Successfully...” appears. Click “Reboot” button or turn off and on the power of the ADSL MODEM. The MODEM will work on the new parameters.

PPP Interface - Add - Microsoft Internet Explorer

Basic Information	
PPP Interface:	ppp-0
ATM VC:	aal5-0
Interface Sec Type:	Public
Status:	Start
Protocol:	☐ PPPoA ☒ PPPoE
Service Name:	
Use DHCP:	☐ Enable ☒ Disable
Use DNS:	☒ Enable ☐ Disable
Default Route:	☒ Enable ☐ Disable
MTU:	1500
Inactivity TimeOut(mins):	☐ Use Global ☐ Never TimeOut ☐
Numbered If-Name:	None
Security Information	
Security Protocol:	☒ PAP ☐ CHAP
Login Name:	

Figure 3.10

GS8100 Configuration Manager GUI - Microsoft Internet Explorer

Address: http://192.168.1.1/hag/pages/home.htm

ADSL Modem

Home | LAN | WAN | Bridging | Routing | Services | Admin

DSL | ATM VC | PPP | EDA | IPOA

Point to Point Protocol (PPP) Configuration

This page is used to Configure and View PPP interfaces.

Inactivity TimeOut(mins) for startondata PPP Interfaces:

Ignore WAN to LAN traffic while monitoring inactivity: ☐

Interface	VC	Interface Sec Type	Protocol	WAN IP	Gateway IP	Default Route	Use DHCP	Use DNS	Oper. Status	Action
ppp-0	aal5-0	Public	PPPoE	0.0.0.0	0.0.0.0	Enable	Disable	Enable	Link Down	

Submit Add Refresh Help

DSL MODEM

Done Internet

Figure 3.11

APPLICATION OF DHCP

4

4. APPLICATION OF DHCP

Apart from being a modem, ADSL Modem can also support router, DHCP and DNS applications, which are especially applicable for small business, small scale LAN, net-café, etc.

The ADSL Modem can work as a router, DHCP sever and DNS sever without proxy server. The configuration steps are shown below:

4.1 TCP/IP PROTOCOL CONFIGURATION

1. Set IP address as “Automatically obtain IP address”;
2. Set gateway’s IP the same as Modem’s;
3. Set DNS’s address at the Modem’s IP address or a valid DNS address.

4.2 MODEM CONFIGURATION

1. Set protocol as described in Chapter 3.
2. DHCP sever settings:
 - a) Click **DHCP mode** label of Page “LAN”. Choose **DHCP sever** for *DHCP mode* option. Then click “Submit”.
 - b) Click **DHCP sever** label to define DHCP starting and ending IP address, shown as Figure 4.2.
 - c) Click  to delete current DHCP sever address pool.
 - d) If you want to add new DHCP sever address pool, click “Add” button, the pop up window is shown as Figure 4.3.
 - e) Fill in the starting IP address, ending IP address and subnet mask IP address Items. Here we will use 192.168.1.3, 192.168.1.34 and 255.255.255.0 as an example.
 - f) Do not change other options. Click “Submit”, the result window is shown as Figure 4.2.

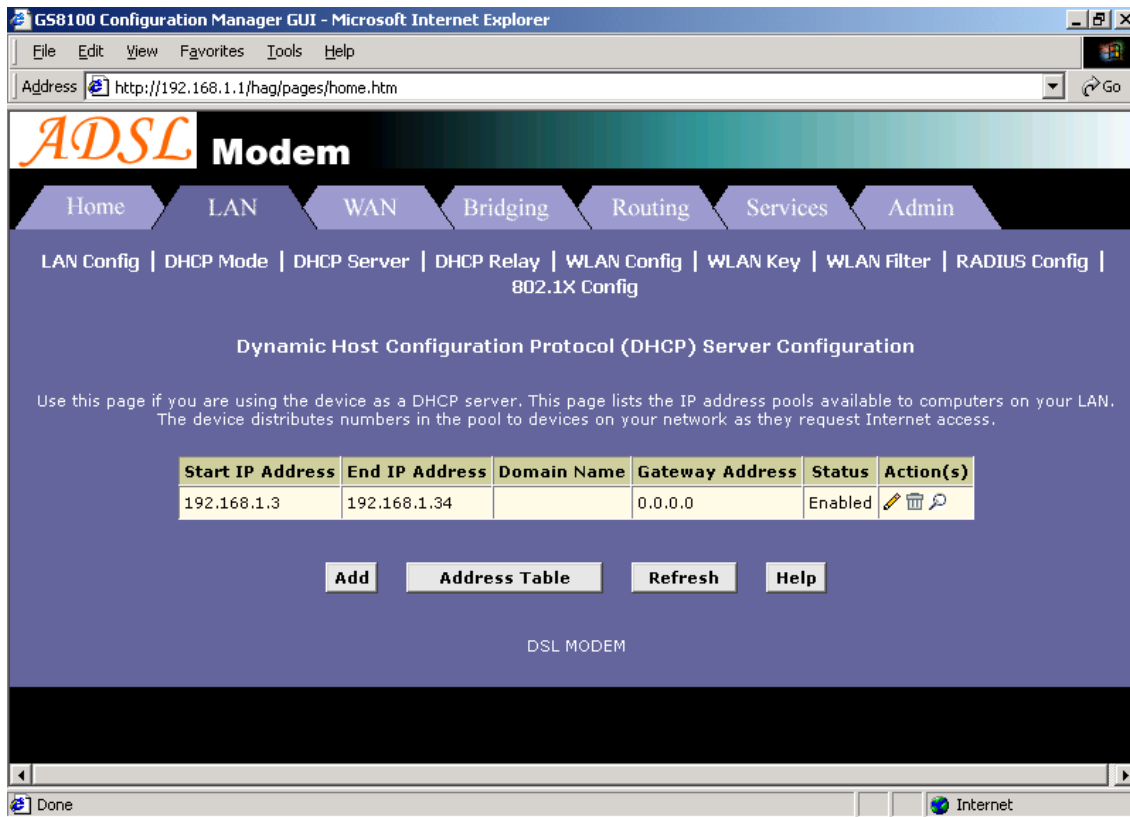


Figure 4.2

The screenshot shows the "DHCP Server Pool - Add" configuration page. It features the ADSL Modem logo and the title "DHCP Server Pool - Add". Below the title is a table for "DHCP Pool Information" with the following fields:

DHCP Pool Information				
Start IP Address:	192	168	1	3
End IP Address:	192	168	1	34
Mac Address:		:		:
Netmask:	255	255	255	0
Domain Name:				
Gateway Address:	0	0	0	0
DNS Address:	0	0	0	0
SDNS Address:	0	0	0	0
SMTP Address:	0	0	0	0
POP3 Address:	0	0	0	0
NNTP Address:	0	0	0	0
WWW Address:	0	0	0	0
IRC Address:	0	0	0	0

Figure 4.3

3. DNS settings:

Click **DNS** label of Page Services. Choose **Enable** option. Fill in the DNS sever IP address column with the valid DNS sever IP address; here we use 202.96.209.5 and 202.96.209.133 for example. Click “Add”, the result window is shown as Figure 4.4.

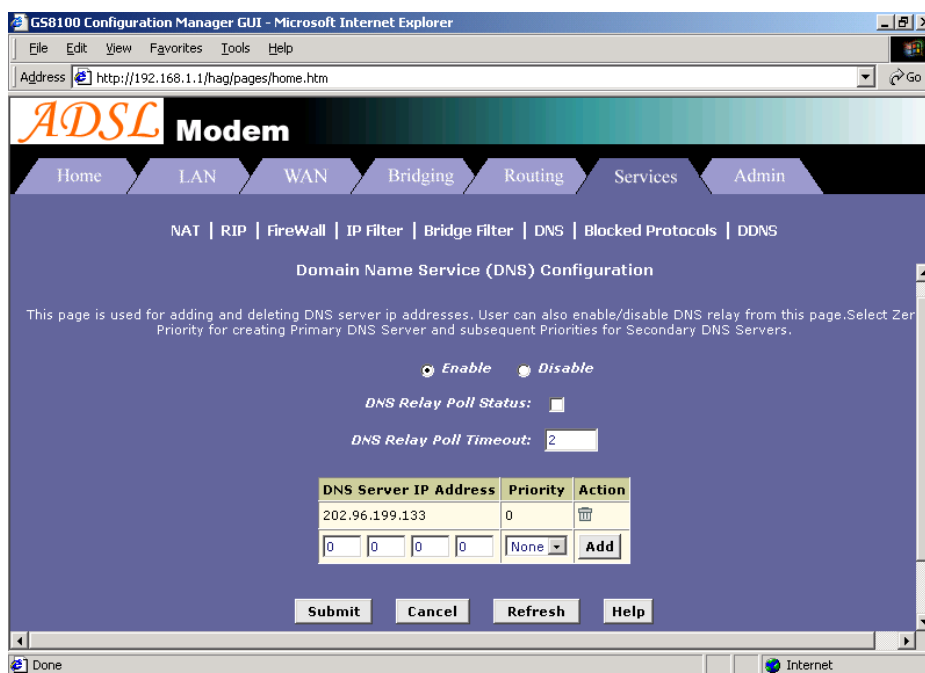


Figure 4.4

4. Click “**Commit & Reboot**” label in Page Admin to access **Save configuration** tools page, shown as Figure 2.3. Click “Commit” and wait till the message “Changes Committed Successfully...” appears. Click “Reboot” or turn off and on the power of the ADSL MODEM. The MODEM will work on the new parameters.

OTHER FUNCTIONS AND CONFIGURATION

5

5. OTHER FUNCTIONS AND CONFIGURATION

5.1 STATUS CHECKING

The working status of ADSL MODEM can be monitored by some pages.

1. System Information

As shown in Figure 5.1, the information of hardware version, software version, DSL link status, link speed, LAN interface and WAN interface can be viewed on this page.

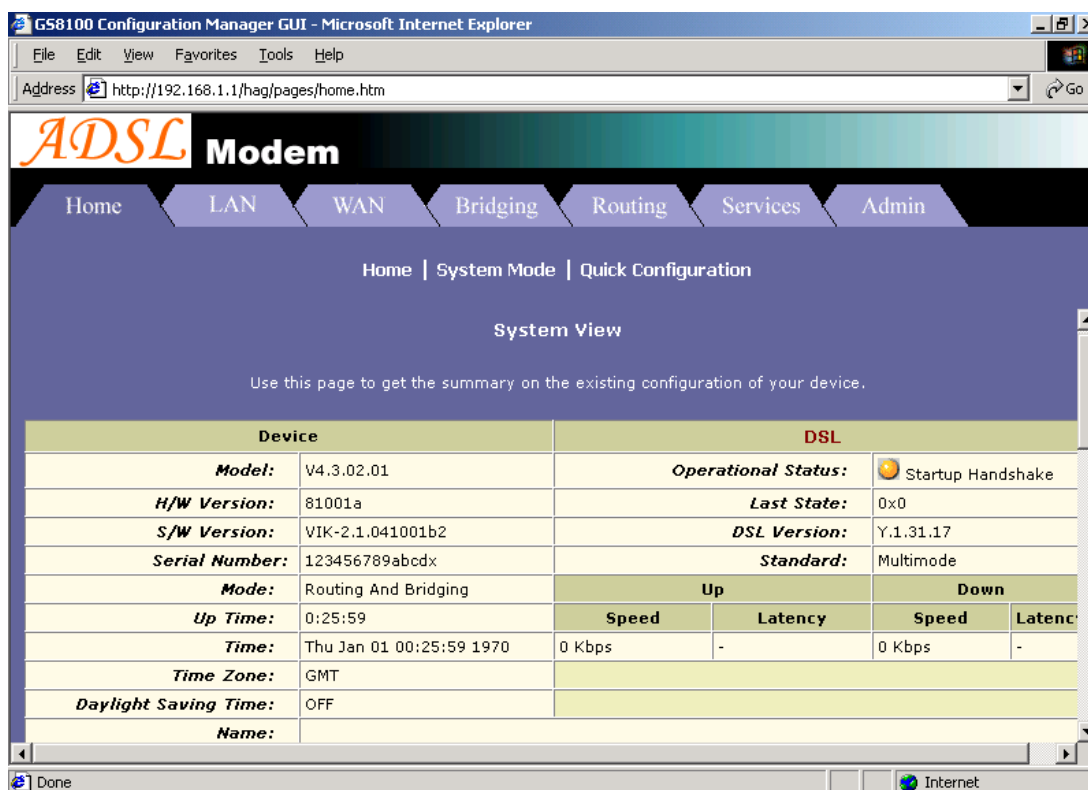


Figure 5.1

2. DSL Information

As shown in Figure 5.2, the line status of ADSL, duration, connection speed, signal noise ratio, power and the line attenuation can be viewed on the Routing menu and DSL parameter page.

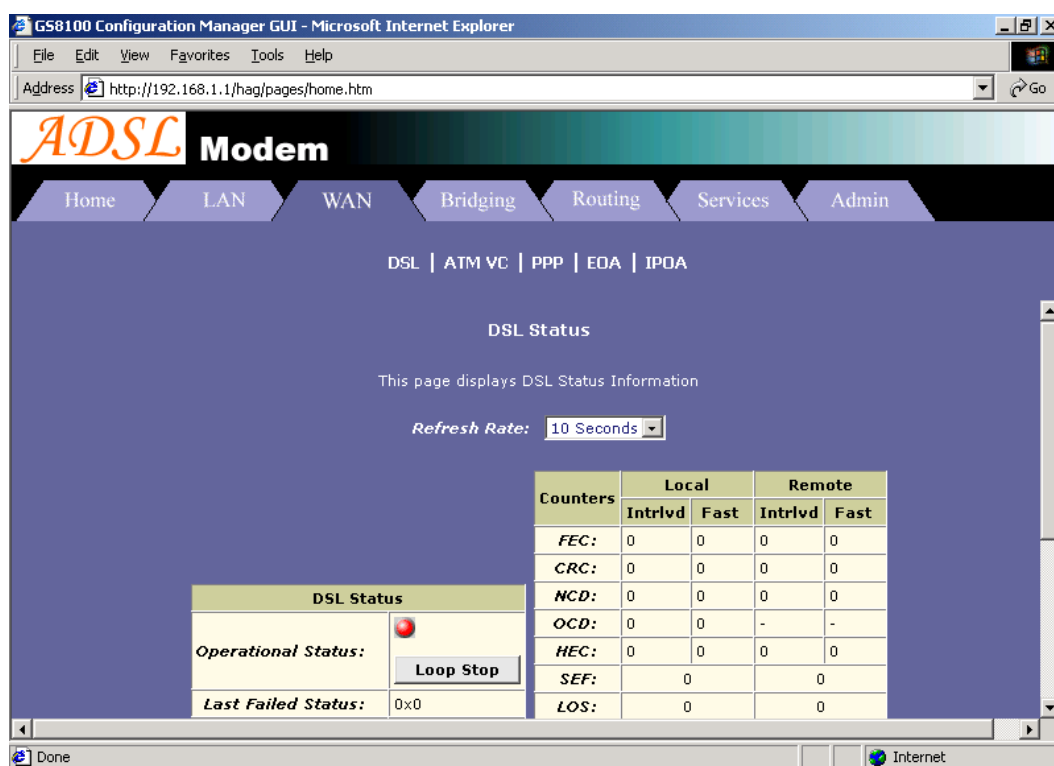


Figure 5.2

5.2 CONFIGURATION OF MODEM'S IP ADDRESS AND PASSWORD

1. CONFIGURATION OF MODEM'S IP ADDRESS

As a network device, ADSL Modem has its own IP address and MAC address. The factory sets the ADSL 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 configuration** tab on page **LAN**.

2. Configuration of administrator's password and user's password

When logging on the setting page of ADSL Modem, the system requires user name and password to verify for permission. The default administrator's account is "admin" and the default password for this account is "password". The user, through the user configuration tab on page **Admin**, can change the passwords. (**Attention: please remember the password after changing otherwise you will not be able to change configuration after saving.**)

RESET TO DEFAULT SETTING

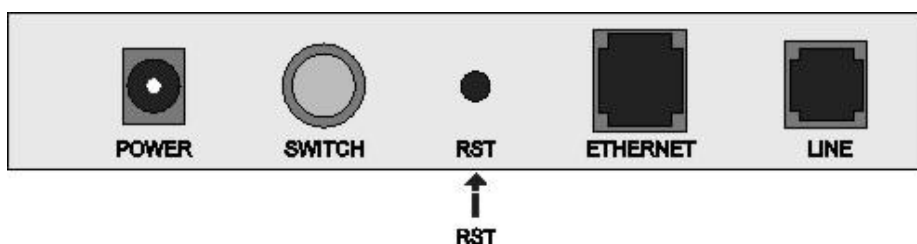
6

6. RESET TO DEFAULT SETTING

If you are experiencing difficulty logging on to the configuration page (For example: you forget the password), you can reset the ADSL MODEM to the default configuration. Then you will be able to log on with the default username and password.

Method:

Turn on the ADSL MODEM, put a pin into the eyelet, and press only once.



SPECIFICATION

7

7. SPECIFICATION

7.1 POWER SUPPLY

- Exterior power adapter
- Input: 220VAC, 50Hz
- Output: 5. 2VDC, 1000mA.
- Polarity: 

7.2 STANDARDS

- EMI/Immunity: FCC Part 15 Class B, CE Mark (EN55022 Class B/EN50082)
- Safety Standard: UL, EN60950, 3C
- Communication: FCC Part 68, CYR21
- Electromagnetic: in accordance with FCC, ETSI and CISPR standard

7.3 ENVIRONMENT REQUIREMENTS

- Temperature: 5°C — 40°C (41F — 104F)
- Relative humidity: 0% — 95%
- Electromagnetic disturbance: FCC PART15&68

APPENDIX

8

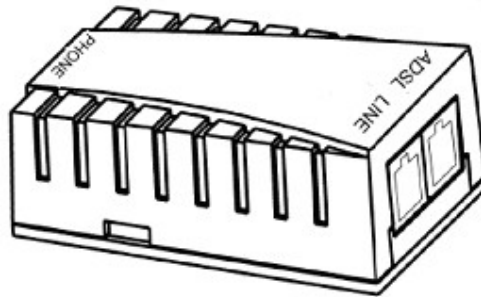
APPENDIX

APPENDIX A. TROUBLESHOOTING

Phenomena	Solution
The indicator of power supply is not on	1. Make sure the connection of power supply is good. 2. Make sure the switch of power supply is turned on. 3. Make sure the output of power supply is correct.
The indicator of PC is not on	1. Check the connection between the cable and the network card. 2. Make sure that the correct cable is used. 3. Make sure the cable works fine by pinging the host IP address.
Can not access Internet or remote networks	1. Make sure the problems listed above are eliminated. 2. Make sure the software configuration of the ADSL Modem is correct. 3. Make sure you have restarted the ADSL Modem after configuration change. 4. Check IP connection using ping command. 5. Make sure the DNS of the computer is correct.
Can't access some web server	1. The MTU of operating system might be too large. 2. Some operating systems might need to be patched.
Can not log on to the configuration page	1. Make sure the PC indicator is on. 2. Make sure the configuration of TCP/IP is correct. 3. Make sure the data indicator of Modem is on when using Ping command. 4. Make sure the user name and password is correct. 5. Reset the device.

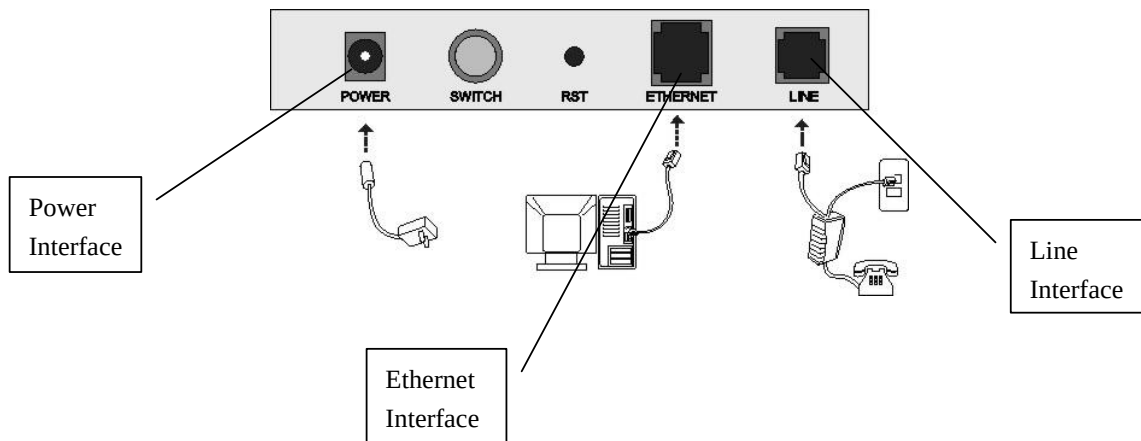
APPENDIX B. SPLITTER CONNECTION

1. Splitter



2. Connection

Firstly, use a telephone cord to connect the LINE port of the splitter and the RJ-11 port (the phone jack) on the wall. Then use another telephone cord to connect the ADSL port of the splitter and the LINE port of the ADSL Modem. Finally, use another telephone cord to connect the telephone set and the PHONE port of the splitter.



APPENDIX C. CONFIGURATION OF TCP/IP PROTOCOL

Here we will explain the configuration which using Windows 2000 operation system as an example. For other operation systems the process is similar.

1. Right click on the “**Local Area Connection**”, click “**Properties**” on the pop up menu, as shown in Figure C.1.

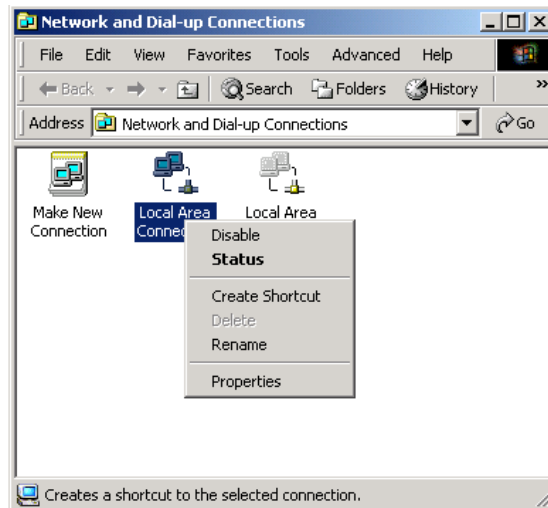


Figure C.1

2. The dialog box of networks is shown in Figure C.2. On the “**General**” property page select “**Internet Protocol(TCP/IP)**”, and then click the “**Properties**” button.

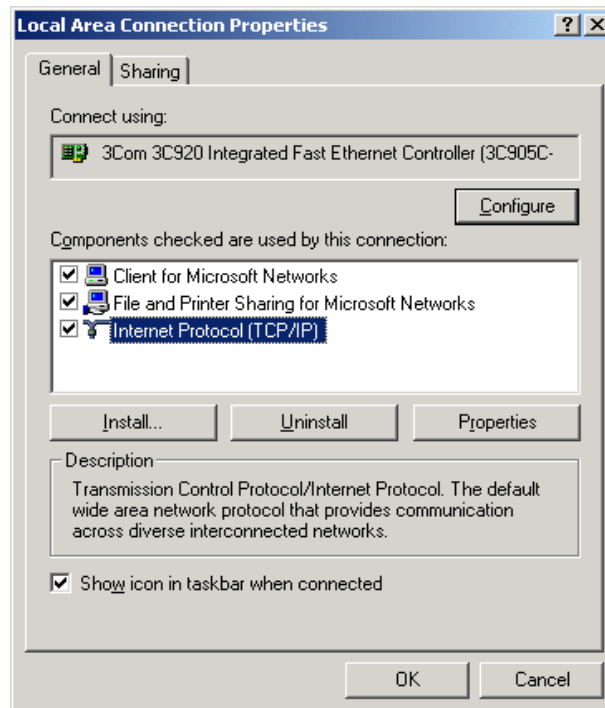


Figure C.2

3. The “**Internet Protocol (TCP/IP) properties**” pop up window is shown as Figure C.3. Select “**Use the following IP address**”. Input the following IP address: 192.168.1.11 and subnet mask: 255.255.255.0 (These addresses and subnet mask are similar with the factory default setting. The user can set different IP address and subnet mask whenever necessary). Select “Gateway”, input the default IP address of the gateway: 192.168.1.1 and IP address of Preferred DNS server: 202.96.209.133 (you can use your ISP’s address), IP address of Alternate DNS server: 202.96.209.5 (you can use your ISP’s address). The result is shown in Figure C.3.

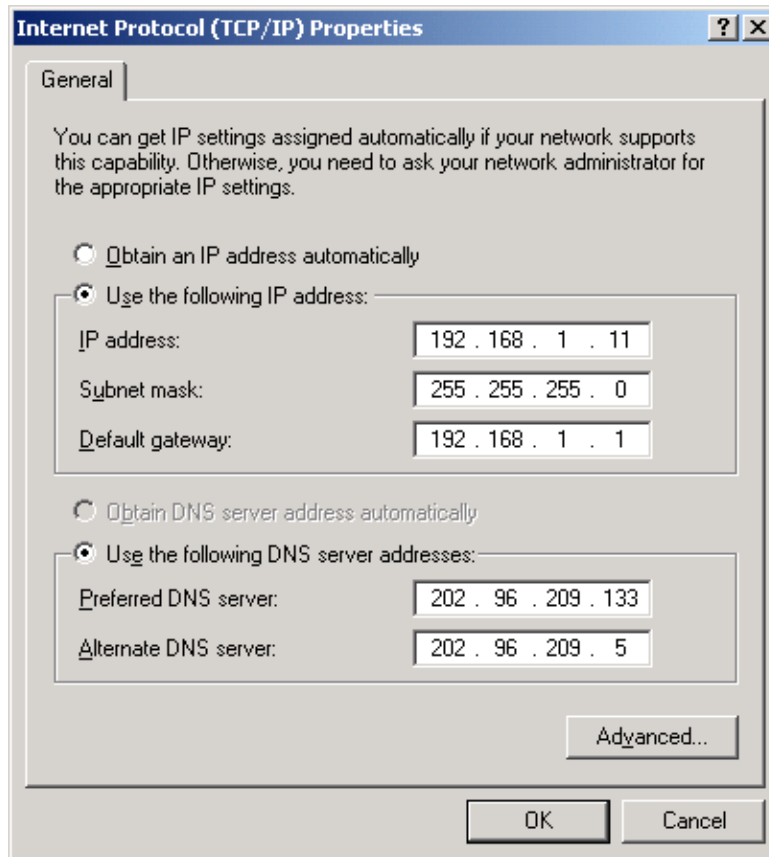


Figure C.3

4. Click “OK” button to return to the “**Local Area Connection Property**” dialog box.
5. Click “OK” button to close the Network property dialog box.

APPENDIX D. SHIPPING LIST

Make sure the following items are included in the box. If any one of them is missing, please contact the vendor immediately.

ADSL MODEM	× 1
User Manual	× 1
TelephoneLine(RJ-11)	× 2
Power Adapter	× 1
Cable Cat5 RJ45	× 1
Splitter	× 1



Please use the factory recommended power supply.

FCC Warning:

Note: 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.

Modifications not authorized by the manufacturer may void users authority to operate this device.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.