EXHIBIT C

User Manual

ADSL Router AR-1150

User Manual

v. 1.0

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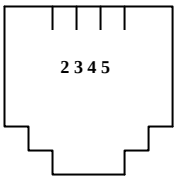
Environmental Requirements

- Operating Temperature: 0º C to 55º C with airflow
- Non-operating Temperature: -10º C to 85º C
- Operating Humidity: 10% to 90% non-condensing
- Non-operating storage humidity: 5% to 95% non-condensing

Power Requirements

- Input: 100-240V 0.3A 50-60Hz
- Output: +5V 1.4A



Connector Pin-out

The ADSL modem card is equipped with a RJ-11 jack for connection to the ADSL data Port. The center two pins, pins 3 and 4, are used for ADSL data. For the card to make a proper ADSL connection, the installed ADSL data port should also use pins 3 and 4 for data. If the ADSL data port installation uses pins 2 and 5 for data, then a wiring converter will be required. Do not alter or remove the wiring converter if present. Consult with your ADSL provider before attempting any wiring changes.

About This Manual

This manual provides a comprehensive user's guide and installation manual for Multi-mode ADSL Router. It has been organized in such a way to make it easy to follow by users worldwide. In the manual, there are many examples given in the commands, largely IP addresses and other values. Please realize that these are for example only and you must use the values provided by your ADSL service provider to achieve a connection. In order to ensure optimal comprehension, the following list provides brief descriptions of the formatting styles used throughout this manual.

Commands: Commands are always referred to by using the words "type" or "click" before them. These commands are always shown as bold-faced words. For example, click **Next**, click **OK**, or type: **command**.

Names of Windows (Dialog Boxes): The names of the windows (also referred to as dialog boxes) that appear on the PC screen are always referred to in quotes. For example, the "Setup Complete" window.

Names of Options in Windows: The names of options to choose from inside the windows that appear on the PC screen are always referred to in italics. For example, choose the *Yes, I want to restart my computer now option from the window.*

NOTES: In some cases, preparatory or cautionary information is needed before proceeding onto the next step in an installation process. This kind of information is provided in the form of notes, which are always referred to in bold-faced and italicized letters. For example, **NOTE:** ***To access the Control Panel Application, the driver must be running.***

Congratulations!

Your new ADSL router is a multi-functional piece of equipment. It conveniently interfaces with your computer system for configuration. The modem connects directly to your telephone line via a standard connector.

This guide is designed to walk you through installation of your ADSL Router in the easiest and quickest way possible. Please follow the instructions carefully in order to successfully install the Router.

System Requirements

- IBM PC/AT or compatible PC
- Pentium 100MHz or faster
- 32Mbytes system memory or more
- 30Mbytes available hard disk space or more
- 4X CD-ROM drive or better
- Windows 95, 98, 98SE, 98ME, 2000, NT4.0, Mac OS 8 and above, Unix, Linux
- Ethernet Network Interface Card (NIC) that supports TCP/IP

Product Features

- Ethernet interface
- Many popular router functions
- Five LED indicators
- Supports: ANSI T1.413 issue 2, G.992.1 (Full-Rate DMT), G.992.2 (G.Lite)
- Supported Protocols: Bridged RFC 1483, Routed RFC 1483, RFC 1577, RFC 2364
- ATM supports AAL5, AAL3/4 and AAL0. AATM Traffic shaping supports CBR and UBR
- Transparent Bridging features conformance to IEEE 802.1d and supports spanning tree protocol and bridge filters
- NAT functionality

Package Contents

- One (1) UAT Multi-Mode ADSL Router
- One (1) 5VDC Adapter
- One (1) RJ-11 ADSL cable
- One (1) standard Ethernet cable (straight connect)
- One (1) 9-pin to 9-pin RS-232 cable
- One (1) Installation CD include Installation driver & Guide

All packages have been carefully checked for completeness and functionality before shipping. If anything is missing or damaged, please contact the dealer/ service provider from whom the equipment was purchased.

Note: You must use the RJ-11 ADSL cable provided in the package to connect to the adaptor. UAT excludes itself from any liability for incidental, consequential, indirect, special, or punitive damages of any kind. UAT will not be liable for any legal issue related to EMI in this case.

Chapter 1 - Installing and Configuring your ADSL Router

The major functions of the ADSL Router are performed by using the Ethernet network interface. Your computer must have an Ethernet Network Interface Card (NIC) installed and set up with the TCP/IP protocol before beginning to use the router. The router also provides a serial console port for monitoring and configuring the router via the built-in command line interface. This will be covered largely in the rest of this manual.

Preparation

Before beginning the hardware installation, please gather the following materials for the setup you will be using.

You will need to know the Internet Protocol supported by your ADSL provider to successfully connect to the Internet. For future troubleshooting or reinstallation, it is important that you retain these details.

Setup 1 - Connecting directly to your PC

- ADSL service, provided by your ISP/NSP. Also have your connection information ready.
- Personal Computer running a supported operating system, with an Ethernet NIC installed.
- TCP/IP protocol installed for your NIC.
- Ethernet straight connect cable (included in package)
- Ethernet crossover adapter (included in package)
- RJ-11 ADSL cable (included in package)
- RS-232 serial cable (included in package)
- Power adapter (included in package)

Hardware Installation – Single PC Connection

Before configuring your ADSL router, you must complete the hardware installation using the following steps.

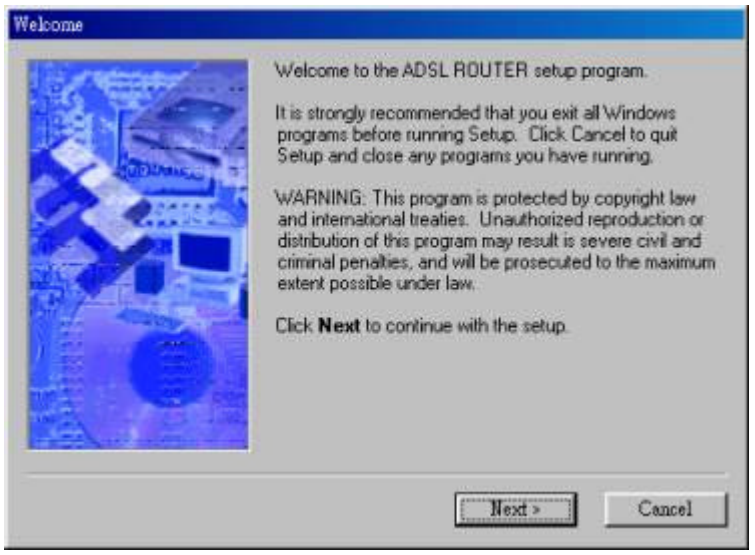
1. Be sure the power switch, marked **ON/OFF**, on the rear of the unit is depressed, in the OFF position.
2. Connect the power adaptor to power receptacle on the rear of the unit marked **PWR**, then plug the AC end into the wall electrical outlet.
3. You will now connect the Ethernet cable. Connect one end of the Ethernet straight connect cable to the Ethernet jack on the NIC in the back of your PC.
4. Then connect the cable to the rear marked **Ethernet** on the back of the router.
5. Connect one end of RJ-11 ADSL cable to the ADSL line jack, marked **Line**, on the rear of the router. Then connect the other end to the ADSL line outlet that your ADSL service provider has installed.
6. Connect the male (9-pin) end of the RS-232 serial cable to the connector marked **RS-232** on the rear of the router.
7. Then plug the other end of RS-232 cable into the serial port of your computer.
8. Turn the power on by pressing the power switch. The router will perform a self-test then will be ready for use.

Chapter 2 - Software Installation

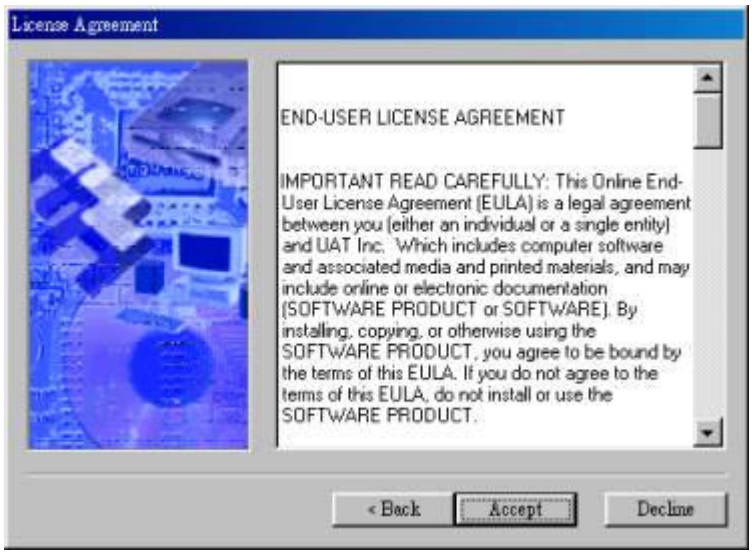
Auto install Setup program:

Please insert the CD coming with your package into your computer's CD-ROM first. As a user-friendly interface, it will detect the OS and run the program automatically for the detected OS. Please follow the following procedures to complete the setup.

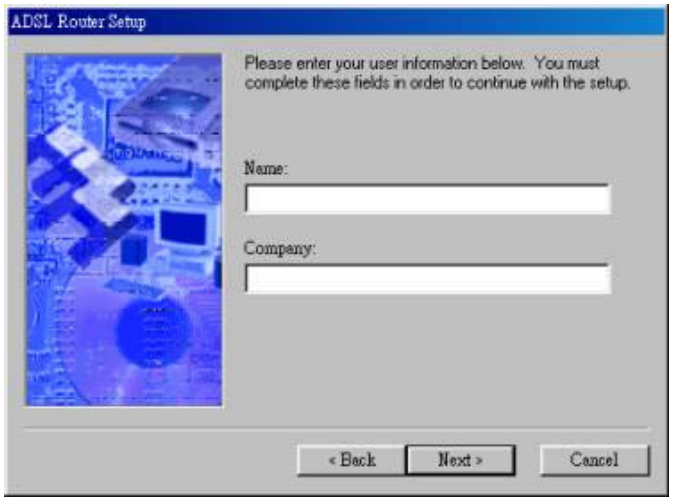
1. When the OS is auto detected, the system will pop up the following window automatically. Click on "**Next**" to continue.



2. Click on "**Accept**" to go on the setup procedure.

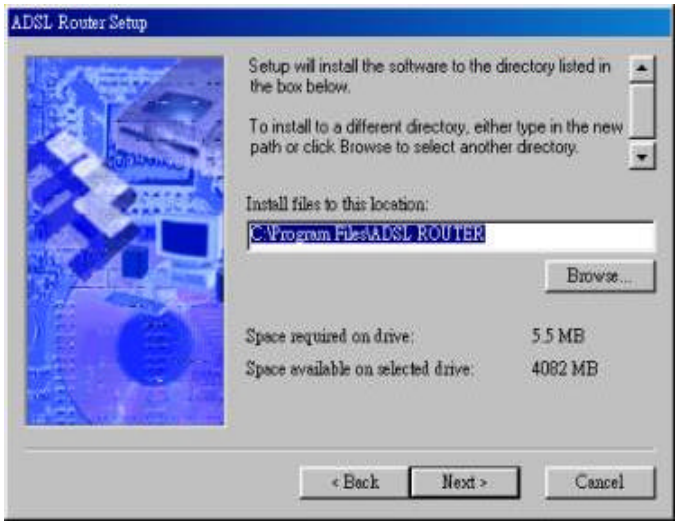


3. After filling in the Name and Company click on "**Next**" to continue.

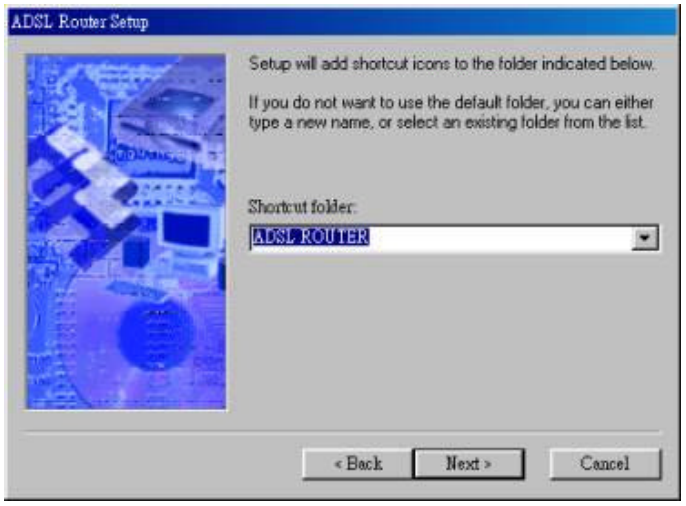


4. Click on "**O.K**" to continue.

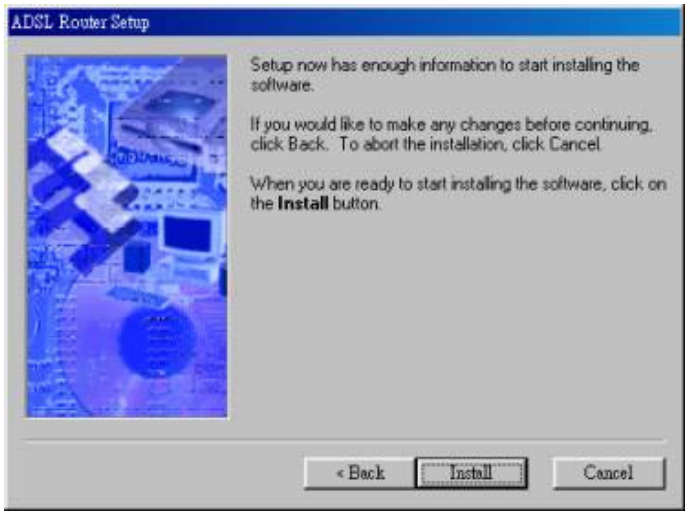
5. Select the Location of "**C:/Program Files/ADSL ROUTER**" and click on "**Next**" to continue.



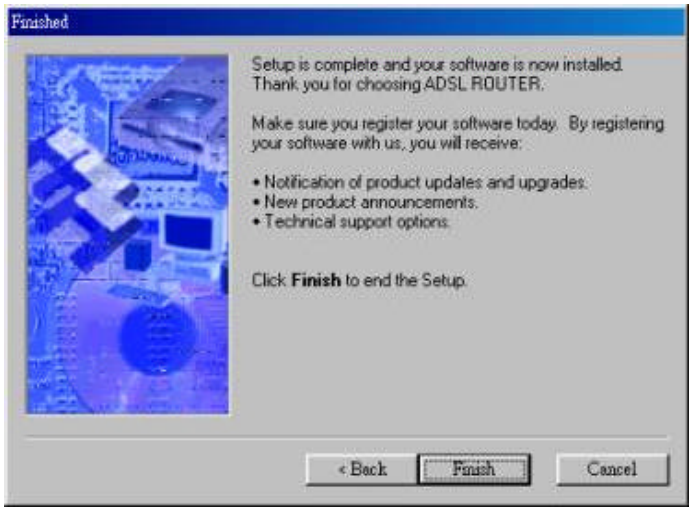
6. Click on "**Next**" to add shortcut icons to the folder shown in the Window.



7. Click on "**Install**" to go on the install procedure.



8. Click "**Finish**" to complete the installation procedure.



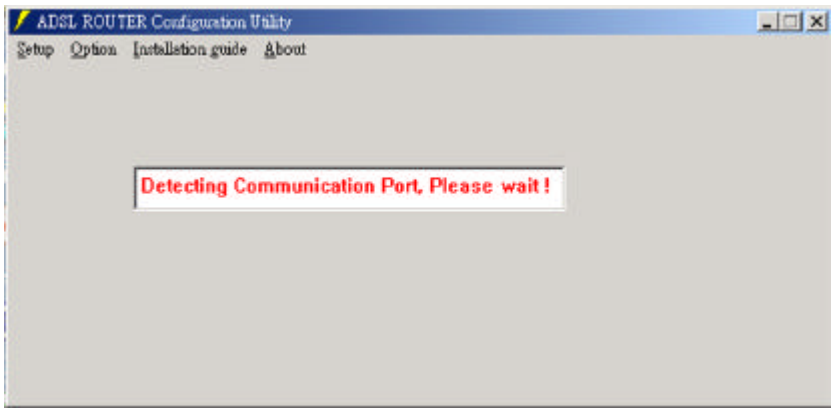
Chapter 3 - Quick Guide for ADSL Router Configuration Tool

For installation in Windows 98/98se/2000

It is essential to configure your ADSL Router before connecting it to the Internet. Please follow this quick guide for configuration under each individual encapsulation mode.

After the software has been successfully installed, ADSL Router Configuration Utility can be opened from **Start Manu->Program->ADSL ROUTER->ADSL EXE.**

1. The green flashing text "please wait" indicating that the program is detecting the COM. port automatically. Please click on **"Setup"** to select the Protocol required when the green flashing text is gone.



1. ADSL Bridge Modem Parameter Configuration

1.1 In Figure 1

In bridge mode, the ADSL Router provides 2 encapsulation methods, "**Bridged Ethernet Over ATM (RFC 1483)" & "Bridged PPP over Ethernet".**

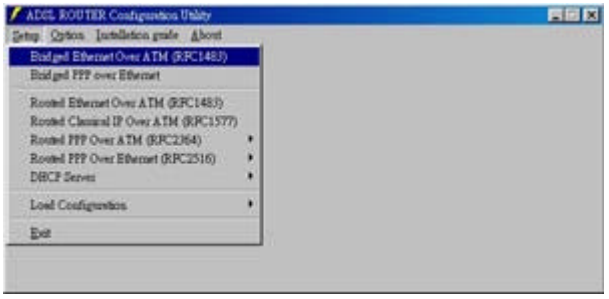


Figure 1.1

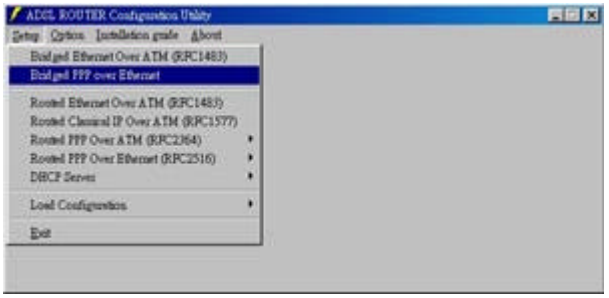


Figure1.2

1.2 In Figure 2

To enter either of the protocols, a configuration window with "**PVC Setup**", "**TFTP/Telnet**" and "**ADSL Standard**" tabs will display as the followings:

1. Enter the proper VPI, VCI numbers for connection.

2. Choose an encapsulation mode for the connection.

Note: ***The VPI and VCI numbers will be provided by your Internet Service Provider.***

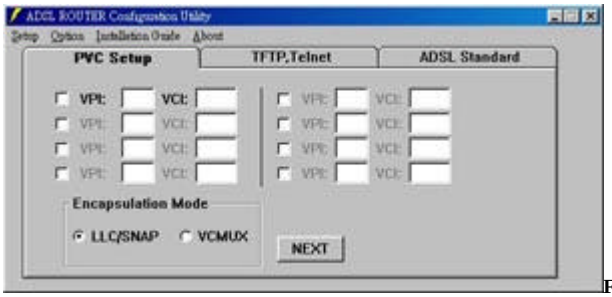


Figure 2

1.3 In Figure 3

1. The Default mode for **TFTP/Telnet** is set in **" Disable TFTP/Telnet."**

Note: ***Please refer to your Network Supervisor for the IP information if to enable "TFTP/Telnet" function.***

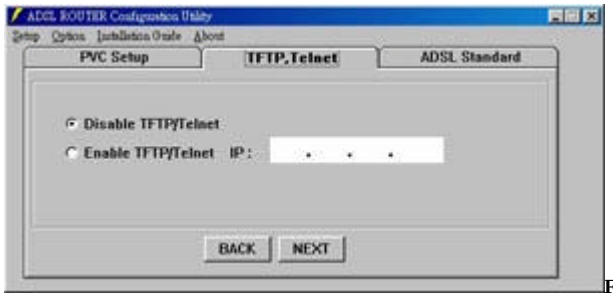


Figure 3

1.4 In Figure 4

1. The default **ADSL Standard** setting is **"Multi Mode"**

Note: ***Please check with your Internet Service Provider for the actual setting.***

2. Click Config Modem to activate your parameter settings

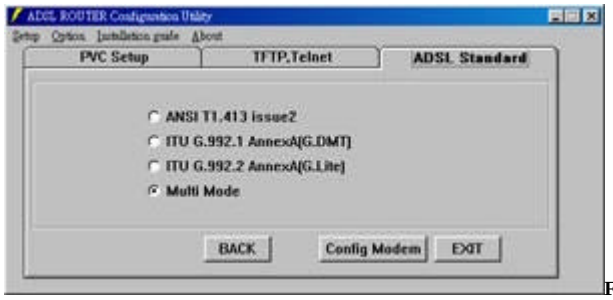
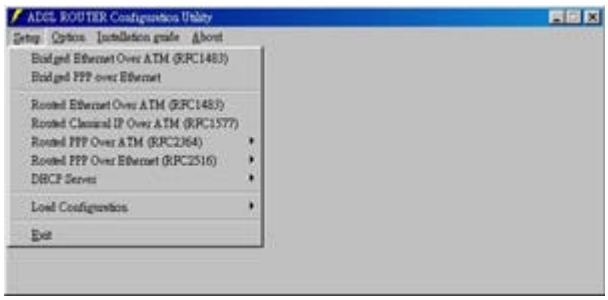


Figure 4

2. ADSL Router Parameter Configuration

In Router mode, the ADSL Router provides 5 encapsulation methods, "**Routed Ethernet Over ATM (RFC 1483)", "Routed Classical Over ATM (RFC 1577)", "Routed PPP over ATM (RFC2364) " Routed PPP Over Ethernet (RFC2516) & "DHCP Server".**



2.1 Routed Ethernet Over ATM (RFC1483) & Routed Classical Over ATM (RFC 1577)

2.1.1 In Figure 1

1. Enter the "Ethernet IP", "ADSL IP" and "NetMask" Addresses provided by your Internet Service Provider.

Note: ***If your Internet Service Provider does not provide the Ethernet IP address, please remember to click to enable the "NAT" function.***

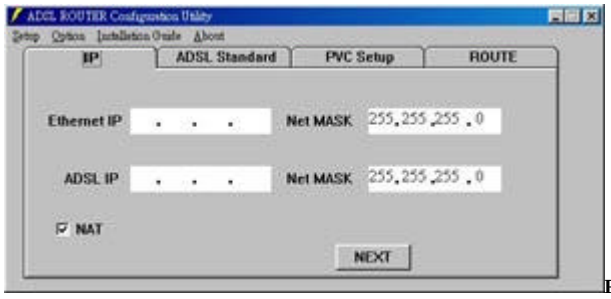


Figure 1

2.1.2 In Figure 2

1. The default mode for "**ADSL Standard**" set in "**Multi Mode.**"

Note: ***Please check your Internet Service Provider for the actual setting.***

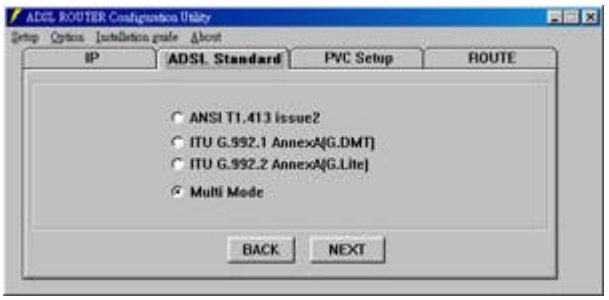


Figure 2

2.1.3 In Figure 3

1. Enter the proper VPI, VCI numbers for connection.

2. Choose "**LLC/SNNP**" or "**VCMUX**" for connection.

Note: ***The VPI and VCI will be provided by your Internet Service Provider.***

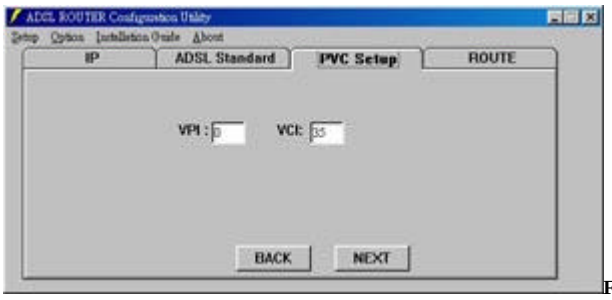


Figure 3

2.1.4 In Figure 4

1. Enter the Remote IP Address provided by your Internet Service Provider.

2.Click on **"Config Modem"** to activate the parameter settings.

Figure 4

2.2 Routed PPP Over ATM (RFC2364)

2.2.1 In Figure 1

Note: *Please enter "Config PPPOA" for parameter settings for the first time before proceeding to "Enable PPPOA" or "Disable PPPOA"*

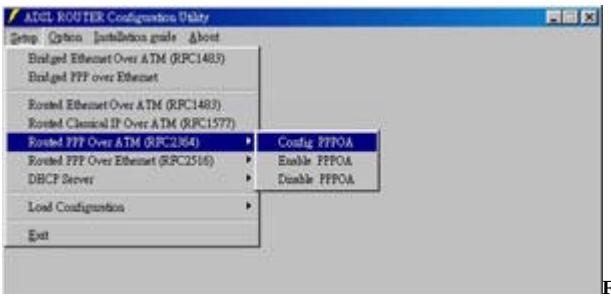


Figure 1

2.2.2 In Figure 2

1. Please enter the **"Ethernet IP"** and **"NetMask"** addresses provided by your Internet Service Provider.

Note: ***If the Internet Service Provider doesn't provide you the Ethernet IP, please click to enable "NAT" function.***

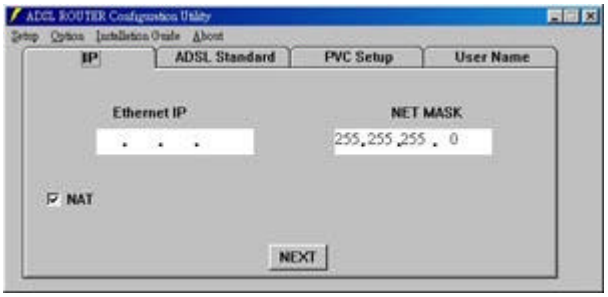


Figure 2

2.2.3 In Figure 3

1. The default mode for **"ADSL Standard"** is set in **"Multi Mode."**

Note: ***Please check with your Internet Service Provider for the actual setting.***

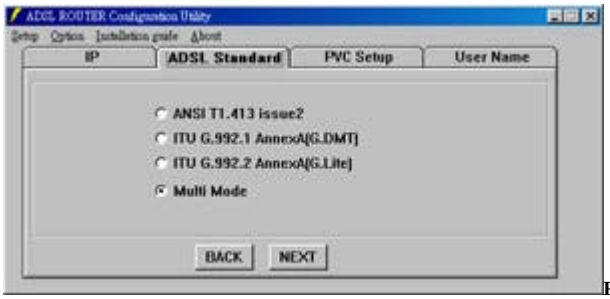


Figure 3

2.2.4 In Figure 4

1. Enter the Proper VPI, VCI number for connection.

2. Select "LLC/SNAP" or "VCMUX" for the connection.

Note: ***The VPI and VCI will be provided by your Internet Service Provider.***

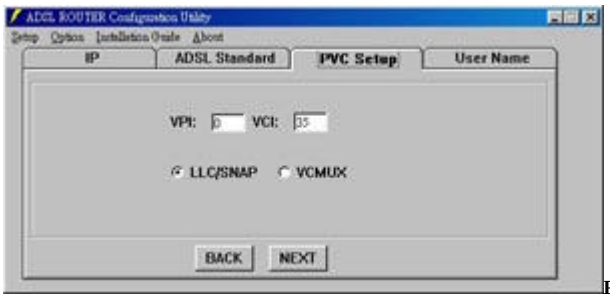


Figure 4

2.2.5 In Figure 5

1. Enter the appropriate information for **"Username" & "Password".**

2. Select CHAP or PAP authentation

3. Click **" Config Modem "** the activate the parameter settings.

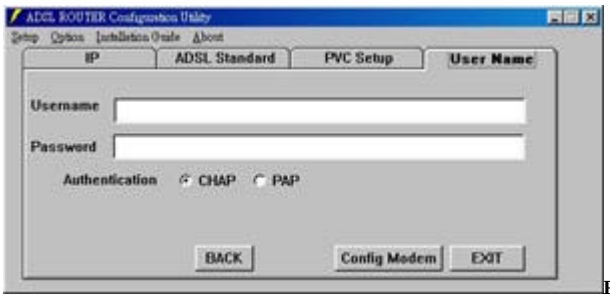


Figure 5

3.PPP OVER ETHERNET(RFC2516)

3.1 In Figure 1

Note: ***Please enter "Config PPPOE" for parameter settings for the first time before proceeding to "Enable PPPOA" or "Disable PPPOA".***

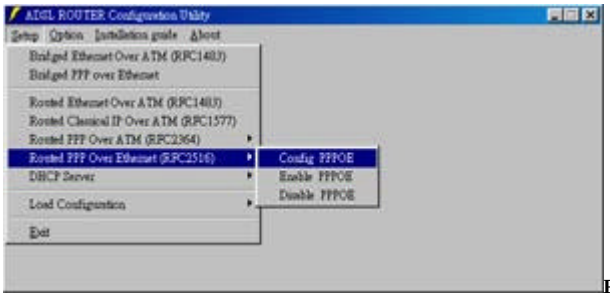


Figure 1

3.2 In Figure 2

Enter the **"Ethernet IP"** & **"NET Mask"** IP addresses provided by your Internet provider.

Note: ***If your Internet Service Provider does not provide the Ethernet IP address, please remember to click to enable the "NAT" function.***

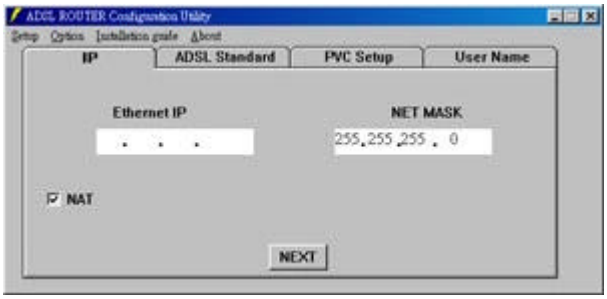


Figure 2

3.3 In Figure 3

The default mode for **"ADSL Standard"** set in **"Multi-mode"**.

Note: ***Please check with your Internet Service Provider for the Actual settings if necessary.***

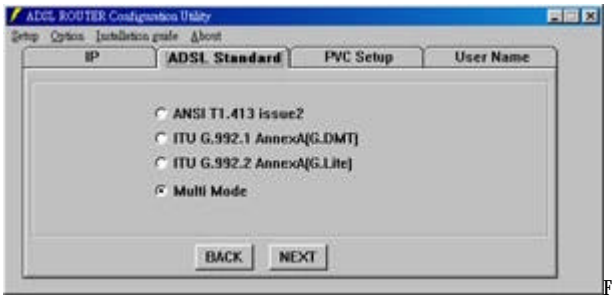


Figure 3

3.4 In Figure 4

1. Enter the Proper VPI, VCI number for connection.

2. Select "LLC/SNAP" or "VCMUX" for the connection.

Note: ***The VPI and VCI will be provided by your Internet Service Provider.***

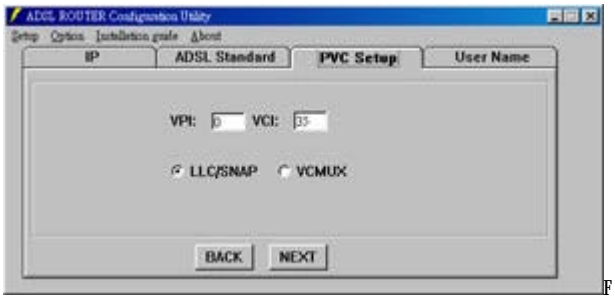


Figure 4

3.5 In Figure 5

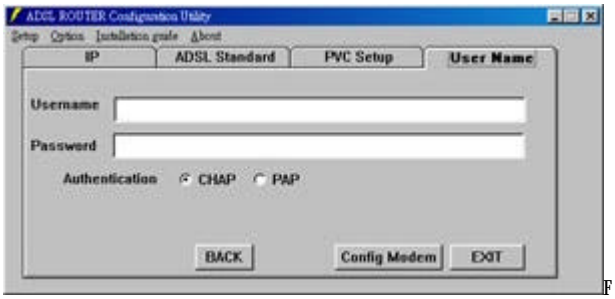


Figure 5

4. DHCP Server

4.1 In Figure 1

Note: For technical concerns, it requires password for **"Config DHCP Server."**

Note: ***Please check with your network supervisor if you would like to set this function.***

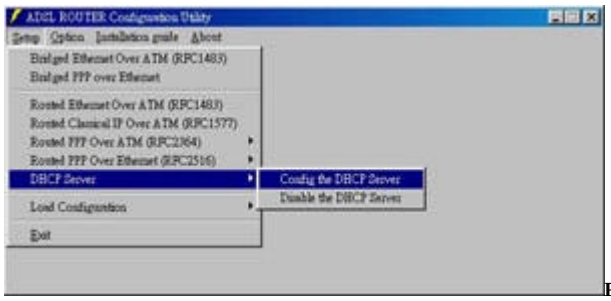


Figure 1

4.2 In Figure 2

1. Enter the Password.(The default Password is "**adsl**")

Figure 2

4.3 In Figure 3

1. Enter the appropriate Max. Lease Time.

Figure 3

4.4 In Figure 4

1. Enter the appropriate IP addresses for **"Range1", "Range 2", "Subnet",** and **"Netmask"**.

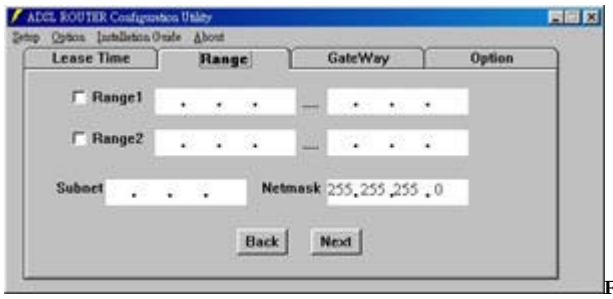


Figure 4

4.5 In Figure 5

1. Enter the appropriate Gateway IP addresses.

Figure 5

4.6 In Figure 6

1. Enter the appropriate IP addresses for **" Subnet Mask", "Broadcast Address"**, and **"DNS".**

2. Click on "**Config. Modem**" to activate the parameter settings.

Figure 6

5. Option for ADSL Router Configuration Tool

5.1 Command Line

5.1.1 Figure 1

1. It requires Password to enter the Command Line Configuration Window.

Figure 1

5.1.2 Figure 2

1.Please enter the default password "adsl" to get into the Configuration Window.

Figure 2

5.1.3 Figure 3

1. Enter the proper commands into the command line.

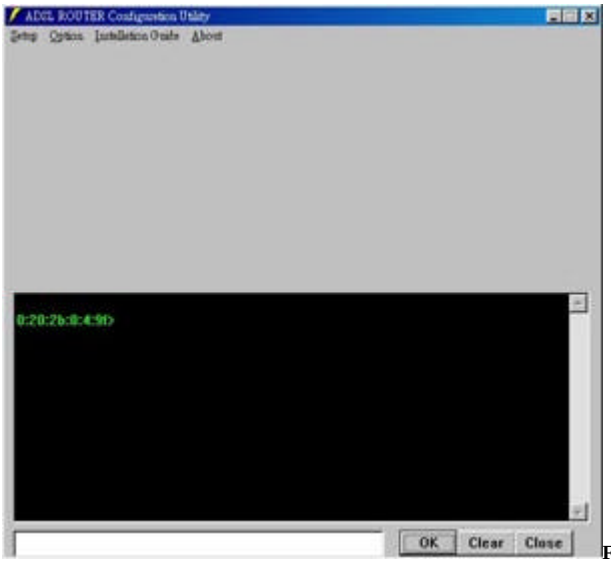


Figure 3

5.2 Setup Password

5.2.1 Figure 1

1. If to change the password, please enter "Setup Password".

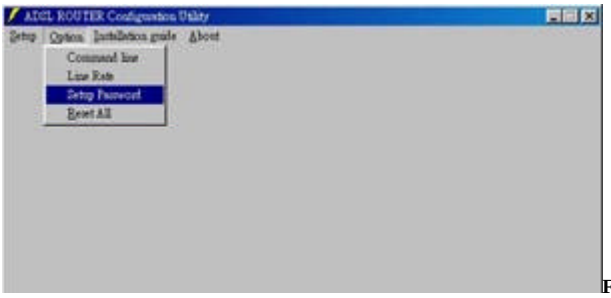


Figure 1

5.2.2 Figure 2

1. Enter the default Old Password "adsl".

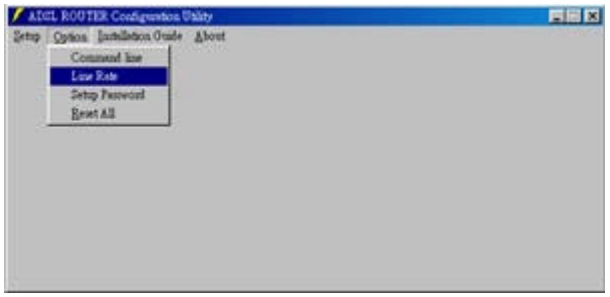
2. Enter the new password.

3. Re-enter the new Password for confirmation.

Figure 2

5.3 Line Rate

5.3.1 To check the current line rate, select " Line Rate" and an indicator as in Figure 2 will show the current line rate status.



6 Reset all

6.1 Figure 1 & Figure 2

1. To re-set all the existing configurations, select "Reset all". Enter password "adsl" as show in Figure 2.

Figure 1

Figure2

2. The indicator on the left will keep on running until the reset is totally completed.

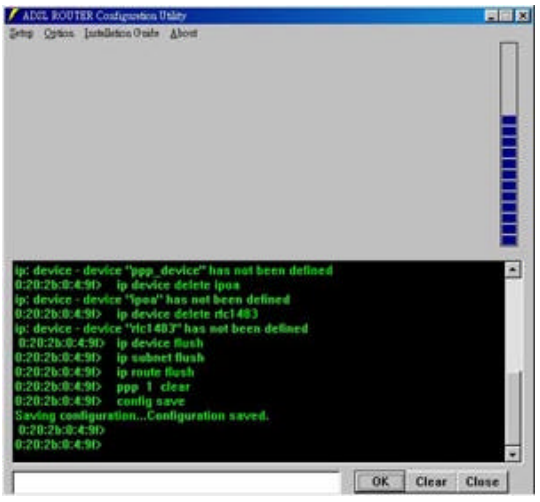


Figure1

Figure2

About

To get more information of the ADSL Configuration Utility, please select "About" to get the following window.

Click on System Info [s] a dialogue box of Micro Soft System Data will appear. The system information of your computer will show the system information of your computer.

Copyright & Regulatory Information

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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 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 measure:

- Reorient or relocated the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into a different outlet circuit from than the receiver.
- Consult an experienced radio/TV technician for help.

CAUTION: Any changes of modifications not expressly approved by the grantee of this device could void the users authority to operate the equipment.

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