

User Manual
ATU-R303 ADSL USB Modem

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About This Manual

This manual provides a comprehensive user's guide and installation manual for ATU-R303 ADSL USB Modem. 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 word “click” before them. These commands are always shown as bold-faced words. For example, click **Next**, click **OK**, or click **Cancel**.
- **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, the driver must be running. Also, make sure the USB cable is plugged into the modem.***

Preface

Xentrix X7005 ADSL USB Modem Manual

This manual contains information regarding the installation, operation, and configuration of the ATU-R303 ADSL USB Modem. Additionally, it outlines the use of the Control Panel Application.

The following chapters are included in this manual:

- **Chapter 1:** “Overview” offers a brief description of ADSL, protocol and device driver selection, and the features of the ADSL USB Modem.
- **Chapter 2:** “ADSL USB Modem Installation and Software Setup” describes the steps for installing the ADSL USB Modem and details the software installation procedure.
- **Chapter 3:** “Customizing Communication Settings” provides detailed steps for altering the ATM Virtual Path ID (VPI), ATM Virtual Circuit ID (VCI), Encapsulation type and/or Modulation type values previously defined.
- **Chapter 4:** “Control Panel Application” describes how to configure and check the performance of the ADSL USB Modem and the ADSL connection.
- **Chapter 5:** “Software Uninstall” provides detailed steps for removing the ADSL USB Modem software from the PC.

Chapter 1: Overview

About ADSL

Asymmetric Digital Subscriber Line (ADSL) technology provides high-speed data access across regular phone lines (copper wires) by making use of previously unused frequency bandwidth above the voice band. By placing the ADSL signal above the frequency of the voice signal, ADSL service is able to coexist on the same line with your telephone service. ADSL is asymmetric in the sense that it provides a higher data rate in the downstream (receive) direction than in the upstream (transmit) direction. Asymmetric operation is ideal for typical home and small office use where files and information are downloaded more frequently than uploaded.

There are several standard types of ADSL modulation techniques including Discrete MultiTone (DMT) and Carrierless Amplitude and Phase (CAP). The ADSL USB DSL Modem is capable of supporting the following DSL standards: ANSI T1.413 Issue 2, ITU G.992.1 (G.DMT), ITU G.992.2 (G.lite), CAP (T1 TR-59), and ITU G.992 Annexes A, B, and C as applicable.

Protocol and Device Driver Selection

The ATU-R303 ADSL USB Modem can be easily connected to a USB port on the PC via a standard USB cable. The ATU-R303 ADSL USB Modem is fully software upgradeable so that new features and updates may be added by simply loading a new version of the device driver onto your PC.

ADSL modems employ ATM (Asynchronous Transfer Mode) framing. ATM is a protocol that divides packets into small fixed sized cells for rapid transmission over high-speed networks. The ATM protocol allows various types of traffic (e.g. data, voice, and video) to be securely and efficiently carried over the same network. ATM is being widely deployed by telecommunications carriers in their backbone networks. Two type of ATM connections are possible, PVC (Permanent Virtual Circuit) and SVC (Switched Virtual Circuit).

Several different protocols are used on top of ATM. The protocol required in your configuration depends on the equipment deployed by your DSL service provider. There are several possibilities:

1. Point to Point Protocol (PPP) Over ATM (RFC 2364) - PPP provides session setup, user authentication (login), and encapsulation for upper layer protocols such as IP (Internet Protocol). The use of PPP makes the modem appear as a dial modem to the operating

system. Dial-Up Networking is used to establish a connection. PPP is supported by either the WAN (Wide Area Network) driver or the ATM driver.

2. Bridged/Routed Ethernet/IP over ATM (RFC 1483) – This protocol makes the modem appear as a local area network (LAN) device to the operating system.
3. RFC 1577 – this is another local area network like protocol for IP address and ATM address mapping.
4. PPP Over Ethernet (RFC 2516) - This protocol makes the modem appear as a LAN device to the operating system. It allows multiple computer users on an Ethernet to share a common DSL connection to the Internet.

Three types of device drivers are provided for the ATU-R303 ADSL USB Modem, WAN, LAN, and ATM. Note that all three drivers support ATM protocol. In addition, the ATM driver works with ATM services that are available in recent Windows operating systems. The proper choice of driver depends on the combination of Windows operating system and protocol.

1. WAN driver – this driver causes the modem to resemble a dial-up modem. Call establishment is performed through Dial-Up Networking. This driver supports RFC 2364 with PVC connections and PPPoE. It can be used with Windows 98, Windows 98 SE, Windows 2000, Windows XP and Windows ME.
2. LAN (RFC 1483) driver - this driver makes the modem appear as a LAN or Ethernet device. Connection establishment is automatic. This driver supports RFC 1483 with PVC connections. Additionally, RFC 1577 is supported. It can be used with Windows 98, Windows 98 SE, Windows 2000, Windows XP and Windows ME.
3. ATM driver – this driver works in conjunction with ATM services provided by Windows. RFC 2364 is supported. The ATM driver uses Dial-Up Networking to create a PVC or SVC connection to establish a PPP (RFC 2364) connection. This driver can be used with Windows 98 SE, Windows 2000, Windows XP and Windows ME.

The device driver choices are summarized in the table below:

Driver Type	Protocol	Windows OS
LAN	RFC 1483 RFC 1577	Windows XP, ME, 2000, 98, 98 SE
WAN	RFC 2364 PPPoE	Windows XP, ME, 2000, 98, 98 SE
ATM	RFC 2364	Windows XP, ME, 2000,98 SE

Features

The ATU-R303 ADSL USB Modem provides the following features:

- Compliant with Universal Serial Bus Specification Revision 1.1
- USB bus-powered; an external power supply is not required
- Supports three device drivers: Microsoft NDIS 4.0 WAN Miniport, NDIS 4.0 LAN Miniport or NDIS 5.0 ATM Miniport
- Compatible with all T1.413, G.DMT, and G.lite compliant CO DSLAM equipment as well as the vast majority of deployed CAP RADSL CO equipment
- Software upgradeable
- ATM driver supports up to sixteen simultaneous ATM virtual connections
- Includes a Microsoft Windows control panel monitoring program for configuring the adapter and checking the status of the connection
- Provides an RJ-11 connector for connection to the telephone line
- Supports DSL downstream data rates up to 8 Mbps (125 times faster than standard 56K modems)
- Supports DSL upstream data rates up to 1024 Kbps

Chapter 2: ATU-R303 ADSL USB Modem Installation and Software Setup

The following information may be required for software installation. Contact your DSL service provider before proceeding with software installation.

- IP Address Settings – the software installation process allows the server to dynamically assign IP Address settings. If your application requires static setting of specific address information you will need to know:
 - IP Address
 - Subnet Mask (for Bridged Ethernet applications only)
 - Default Gateway (for Bridged Ethernet applications only)
- Domain Name Server Information – the software installation process allows the server to dynamically assign Domain Name Server Address settings. If your application requires static setting of specific address information you will need to know:
 - Primary DNS Address
 - Secondary DNS Address
- Type of Driver to be Installed – WAN, LAN and ATM software drivers are supported.
Note: Required if not using default value
- ATM Virtual Path ID (VPI)
Note: Required if not using default value
- ATM Virtual Circuit ID (VCI)
Note: Required if not using default value
- Encapsulation type
Note: Required if not using default value
- Modulation type
Note: Required if not using default value
- User Name (for PPP applications only)
- Password (for PPP applications only).

System Requirements

Windows

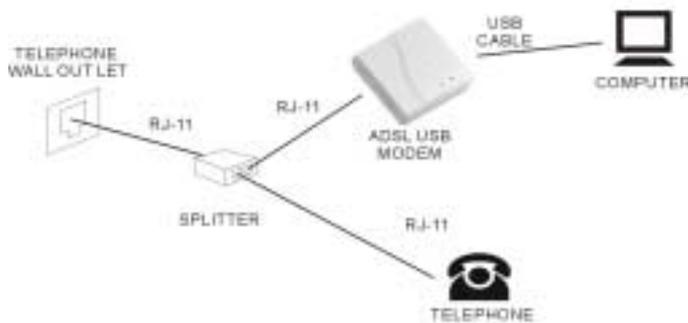
The following specifications are the minimum required for optimum performance of this ADSL modem:

- PC with Pentium, Celeron, Xeon or compatible processor
- USB V1.0 or V1.1-compliant bus
- At least 32 MB RAM
- 10 MB of free hard drive space
- TCP/IP protocol stack installed
- Microsoft Windows 98/98SE, Windows Millennium (ME), Windows 2000, Windows XP CD-ROM, or the appropriate CAB files.
- Internet Explorer 4.x (or later) or Netscape Navigator 4.x (or later) installed

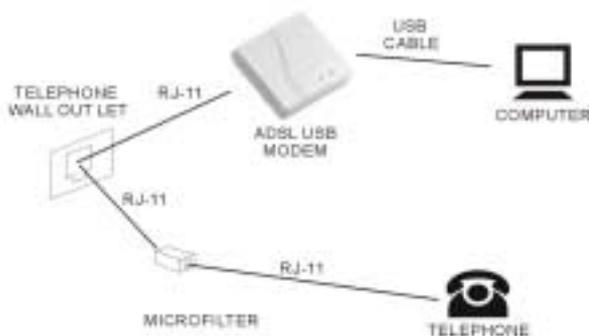
Modem Hardware Installation

IMPORTANT! Do NOT connect the USB modem to the computer until instructed to do so in the software driver installation procedure for your operating system.

WITH SPLITTER FOR G.DMT



WITH MICROFILTER FOR G.LITE



Install the Xentrix X7005 ADSL USB Modem by following steps with the PC running:

1. Locate a telephone wall outlet.
2. Unplug any telephone cable that is connected to the outlet.
3. Plug one end of the telephone/ADSL cable into the wall outlet.
4. Plug the other end into the ADSL jack of the modem.

5. Insert the Installation CD into your CD-ROM drive. If the installation doesn't automatically start, go to **Windows Explorer -> CD-ROM Drive -> SETUP.EXE** to run the setup program.
6. Insert the square end of the USB cable into the USB port of the ADSL USB Modem, when prompted.
7. Insert the rectangular end of a USB cable into the USB port of your PC.

Macintosh Users: The USB modem must be plugged into a USB port on the computer itself or a powered hub, not into keyboard port.

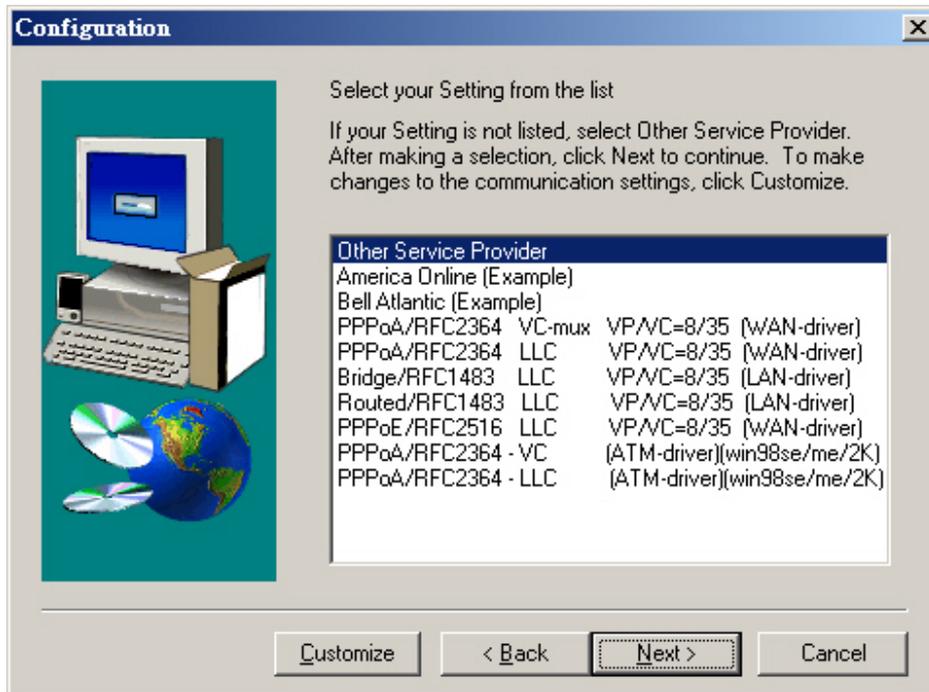
Software Setup for Windows XP

IMPORTANT! Do NOT connect the USB modem to the computer until instructed to do so in the software driver installation procedure for your operating system.

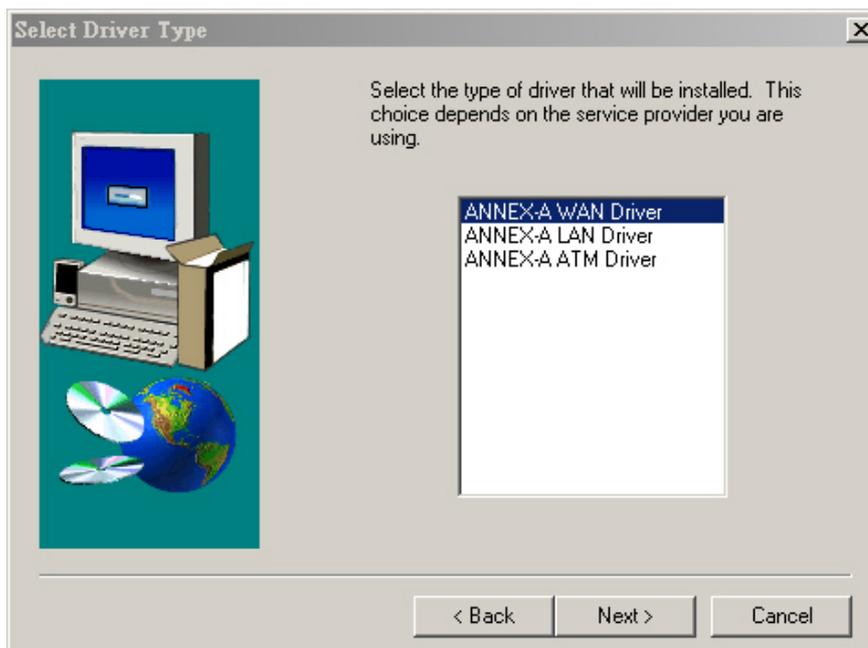
Note: In order to properly setup software, please strictly follow the procedure:

- 1) After Windows is running, first insert the installation CD,
- 2) Run the ADSL USB Modem installation driver. If the installation doesn't automatically start, go to **Windows Explorer** -> **CD-ROM Drive** -> **SETUP.EXE** to run the setup program.
- 3) Plug the USB modem into the PC to when install the basic USB driver.

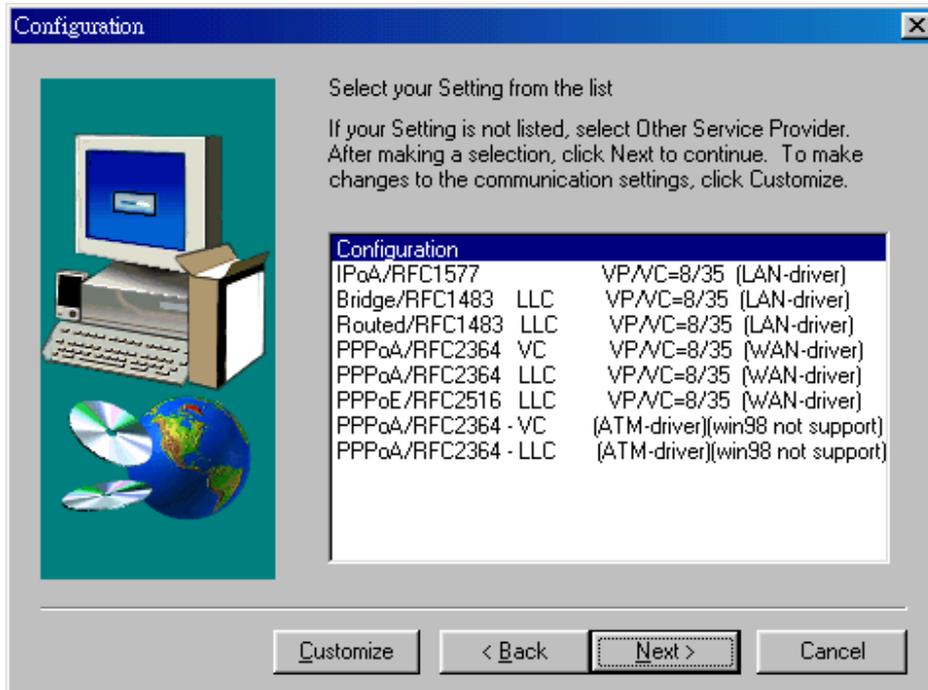
1. When the Installation CD is inserted, a **Configuration** window allows you to select different configurations. A list of pre-configured alternatives and Manual Configuration is displayed. Highlights the one you would like to choose and click **Next**.



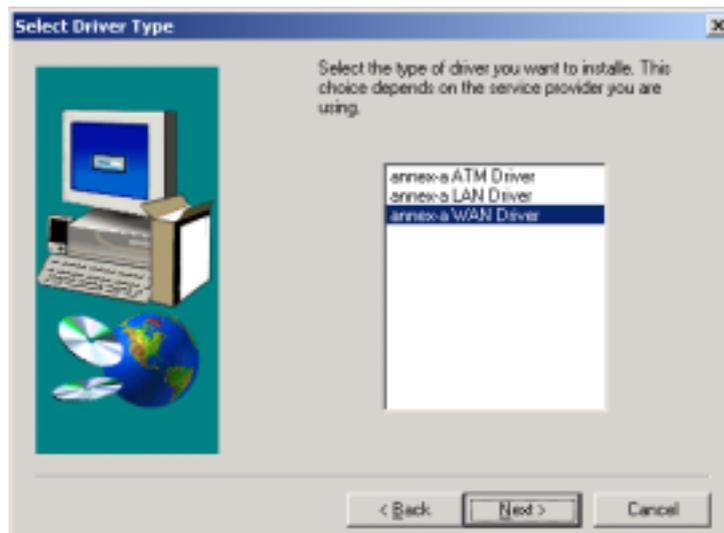
2. Select the driver type you want to install, you should get this information from your service provider. Highlights the driver type and click **Next**.



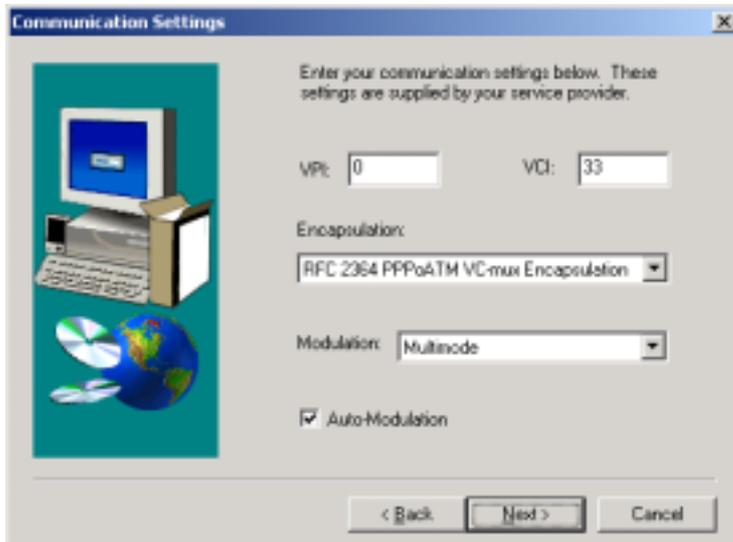
3. The “**Configuration**” window allows you to select different configurations. A list of pre-configured alternatives and Manual Configuration is displayed. Highlights the one you would like to choose and click **Next**.



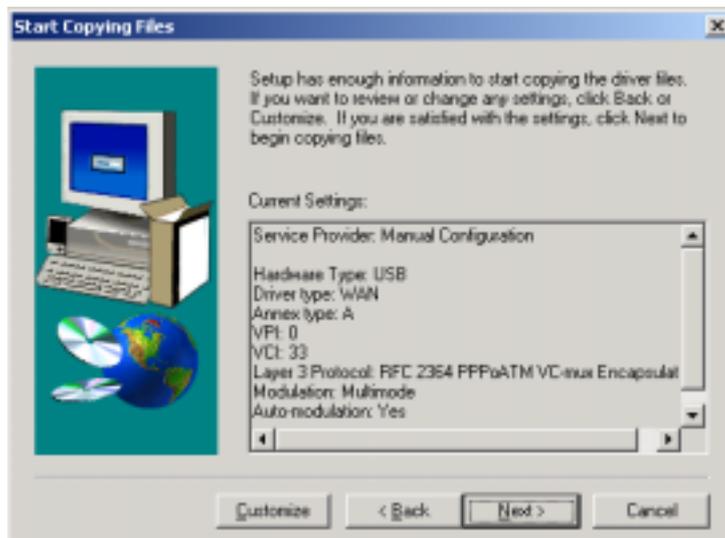
4. Select the driver type you want to install, you should get this information from your service provider. Highlights the driver type and click **Next**.



5. On the “**Communication Settings**” window, ATM VPI, ATM VCI, Encapsulation type and Modulation type are displayed. Check them and correct them if you use different values. Click **Next**.



6. The “**Start Copying Files**” window will be displayed. You may review the current settings and click **Customize** or **Back** to change the settings, or click **Next** to accept it. A message will be displayed indicating that files are being copied.



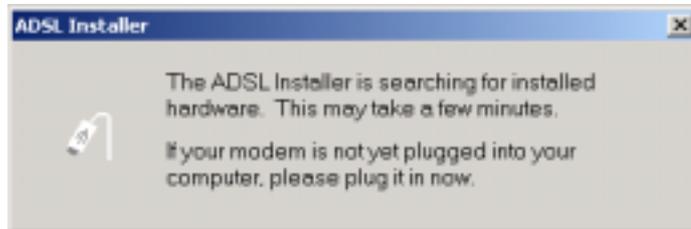
7. The “**Start Copying Files**” window may appear warning that the installation software is not passed Windows Logo testing. It is not necessary; The ADSL USB Modem has been tested the software with Windows XP. Click **Continue Anyway** to allow the installation to continue.



8. The “**Setup Complete**” window indicates that files have been copied. Click **Finish** to complete the installation.



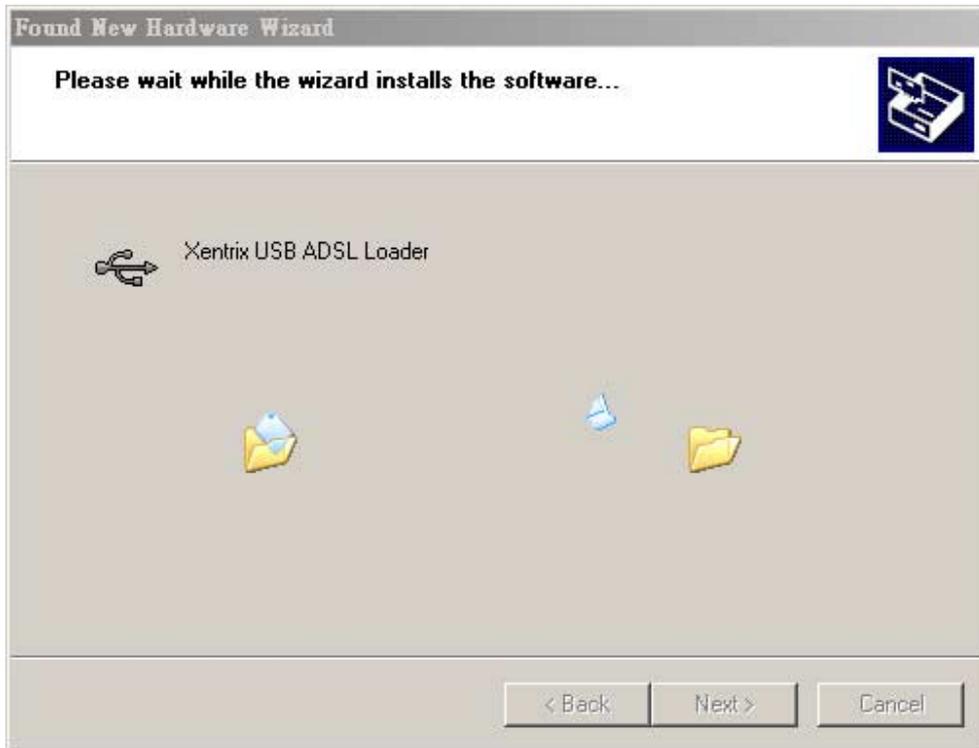
9. Installation program searches the USB modem now, and “**ADSL Installer**” window prompts you to plug in the USB modem. Plug it in now.



10. The “**Found New Hardware Wizard**” Windows XP found Xentrix USB ADSL Loader. Chose “Install the software automatically and Click **Next** to allow the installation to continue.



11. The “**Found New Hardware Wizard**” window may appear warning that the installation software is not passed Windows Logo testing. It is not necessary; The ATU-R303 ADSL USB Modem has been tested the software with Windows XP. Click **Continue Anyway** to allow the installation to continue.



12. A message will confirm that the device driver software has been installed; click **Finish**.



13. The “**Found New Hardware Wizard**” Windows XP found Xentrix USB ADSL Modem. Chose “Install the software automatically and Click **Next** to allow the installation to continue.



14. The “**Found New Hardware Wizard**” window may appear warning that the installation software is not passed Windows Logo testing. It is not necessary; The ATU-R303 ADSL USB Modem has been tested the software with Windows XP. Click **Continue Anyway** to allow the installation to continue.



15. A message will confirm that the device driver software has been installed; click **Finish**.



16. Now you have successfully installed the modem software!

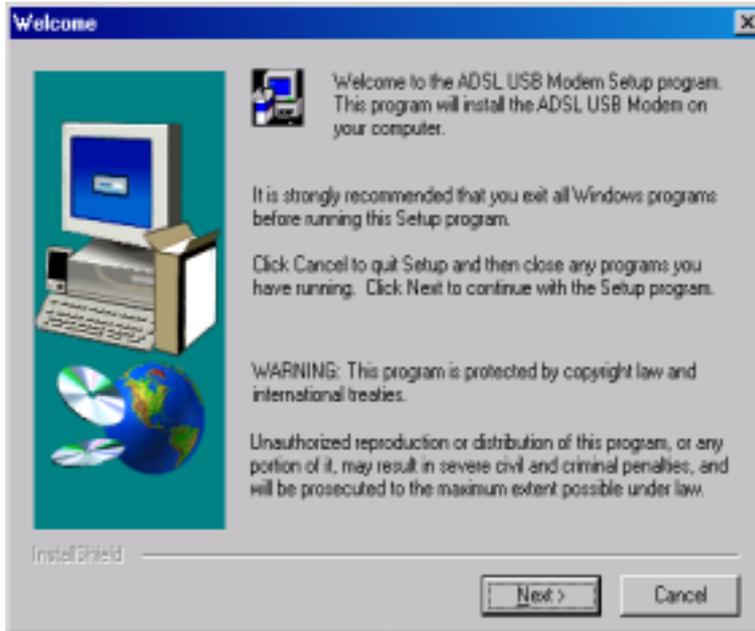
Software Setup for Windows 2000

IMPORTANT! Do NOT connect the USB modem to the computer until instructed to do so in the software driver installation procedure for your operating system.

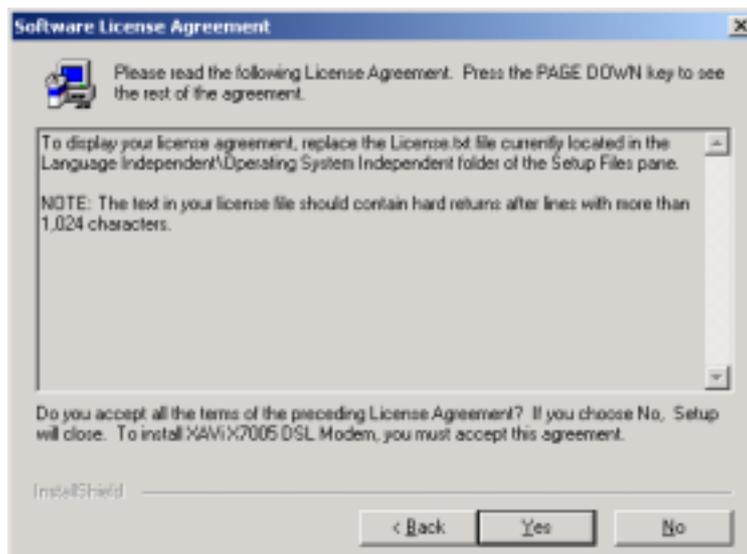
Note: In order to properly setup software, please strictly follow the procedure:

- 1) After Windows is running, first insert the installation CD,
- 2) Run the ATU-R303 ADSL USB Modem installation driver. If the installation doesn't automatically start, go to **Windows Explorer -> CD-ROM Drive -> SETUP.EXE** to run the setup program.
- 3) Plug the USB modem into the PC to when install the basic USB driver.

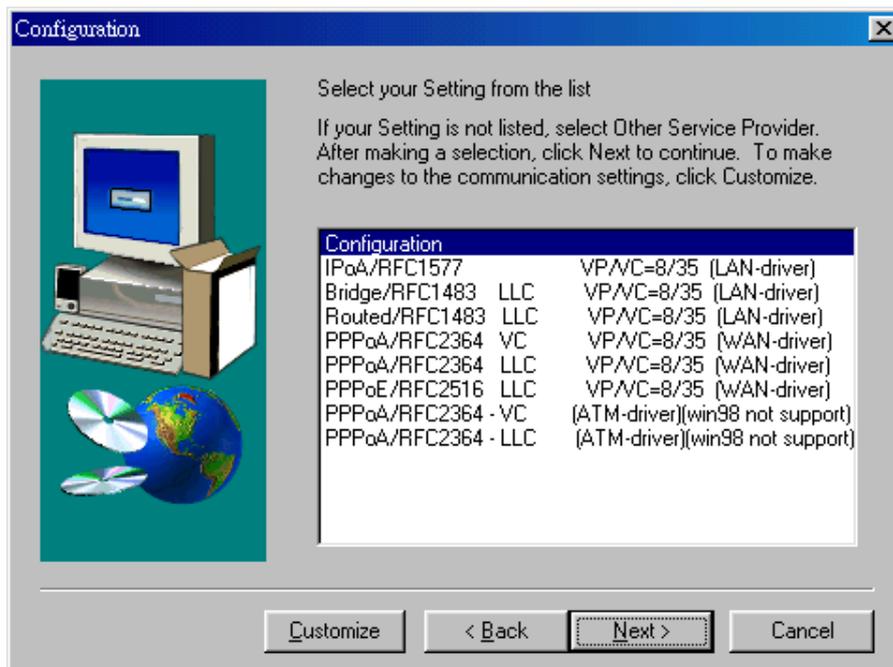
17. When the Installation CD is inserted, a **“Welcome”** message will appear. Click **Next**.



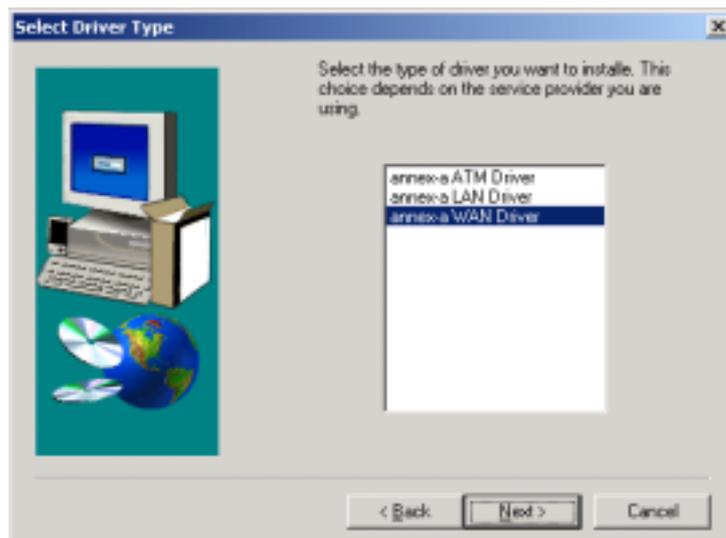
18. A **“Software License Agreement”** message will be displayed; click **Yes**.



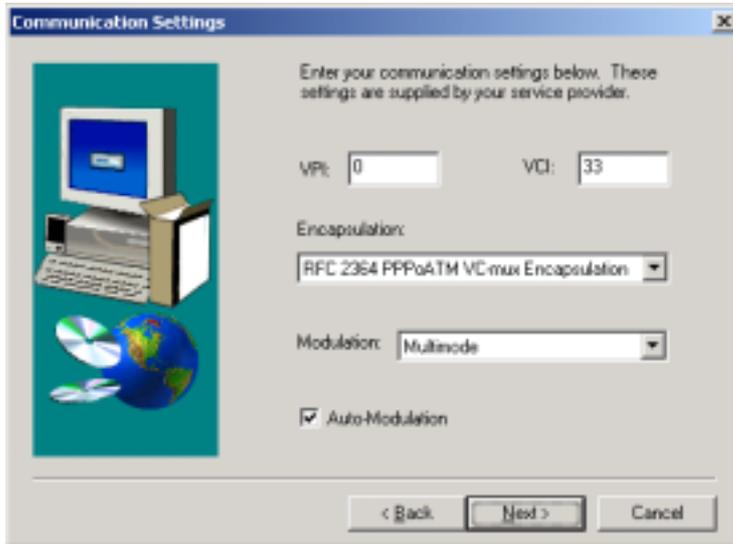
19. The “**Configuration**” window allows you to select different configurations. A list of pre-configured alternatives and Manual Configuration is displayed. Highlights the one you would like to choose and click **Next**.



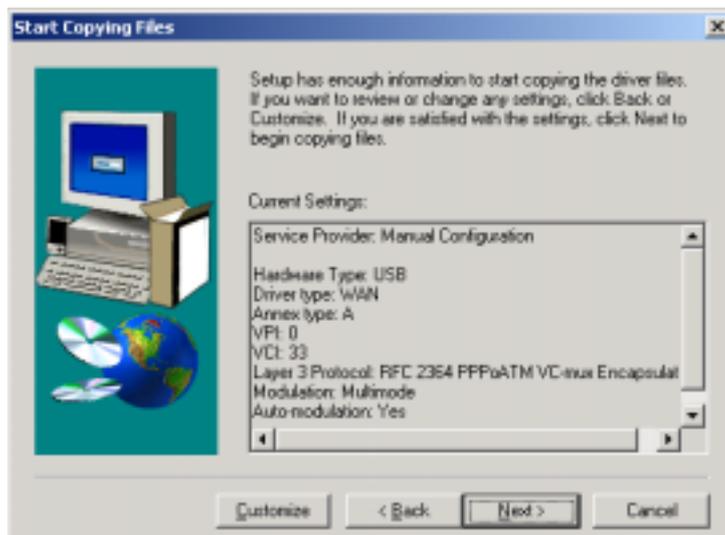
20. Select the driver type you want to install, you should get this information from your service provider. Highlights the driver type and click **Next**.



21. On the “**Communication Settings**” window, ATM VPI, ATM VCI, Encapsulation type and Modulation type are displayed. Check them and correct them if you use different values. Click **Next**.



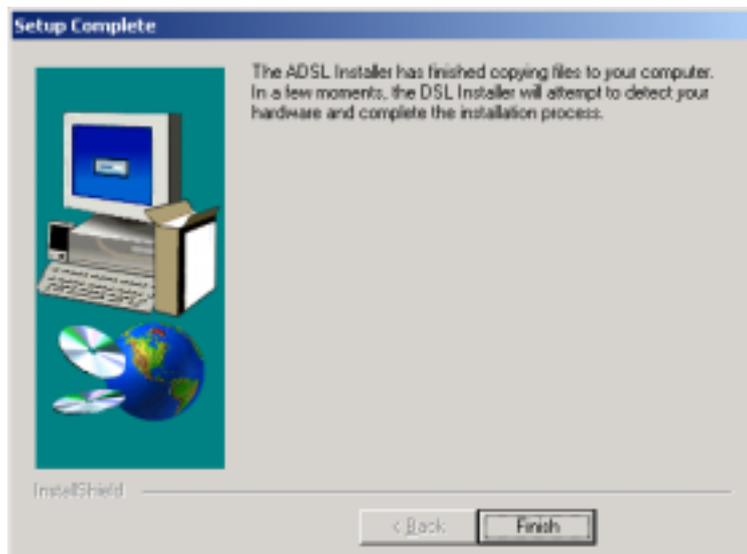
22. The “**Start Copying Files**” window will be displayed. You may review the current settings and click **Customize** or **Back** to change the settings, or click **Next** to accept it. A message will be displayed indicating that files are being copied.



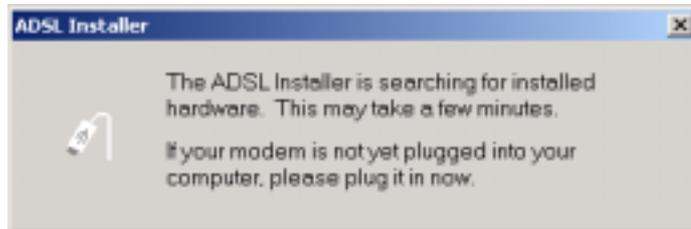
23. The “**Digital Signature Not Found**” window may appear warning that the installation software is not a digitally signed version. A digital signature is not necessary; The ADSL USB Modem has been tested the software with Windows 2000. Click **Yes** to allow the installation to continue.



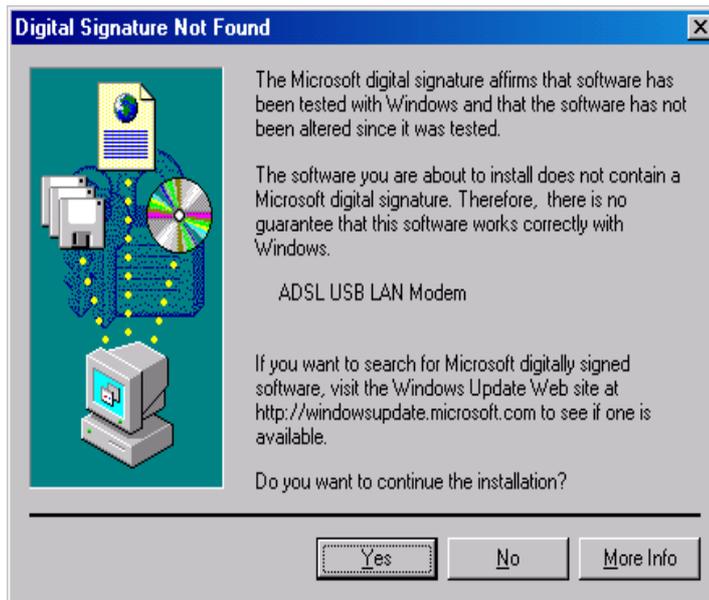
24. The “**Setup Complete**” window indicates that files have been copied. Click **Finish** to complete the installation.



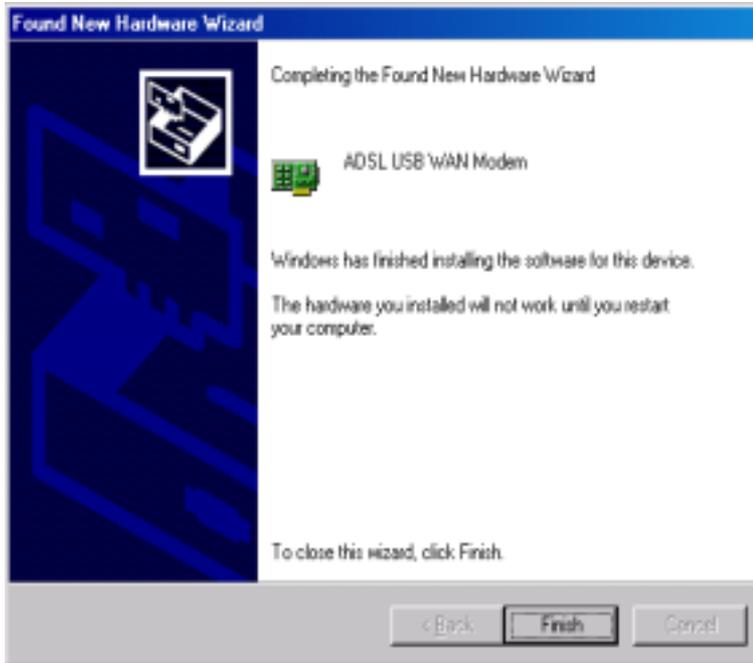
25. Installation program searches the USB modem now, and “**ADSL Installer**” window prompts you to plug in the USB modem. Plug it in now.



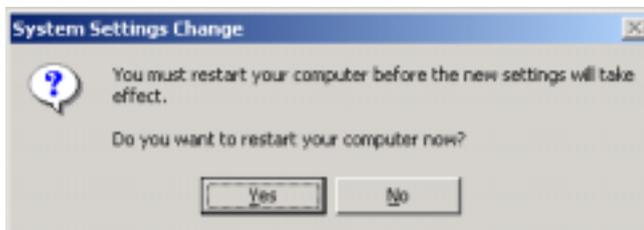
26. The “**Digital Signature Not Found**” window may appear warning that the installation software is not a digitally signed version. A digital signature is not necessary; The ADSL USB Modem has tested the software with Windows 2000. Click **Yes** to allow the installation to continue.



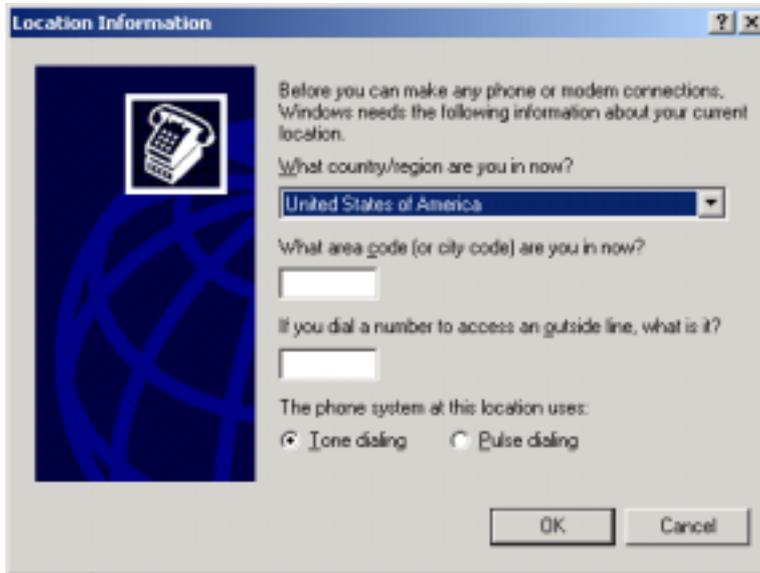
27. A message will confirm that the device driver software has been installed; click **Finish**.



28. After informational messages are displayed, the “**System Settings Change**” window will give you the opportunity to reboot the system. Remove all disks from their drives; click **Yes**, and the PC will be automatically restarted.



29. WAN and ATM applications may ask you to provide location information when the PC has rebooted. Enter the information and click **OK**.



30. Now you have successfully installed the modem software!

Software Setup for Windows 98 and 98

Second Edition

IMPORTANT! Do NOT connect the USB modem to the computer until instructed to do so in the software driver installation procedure for your operating system.

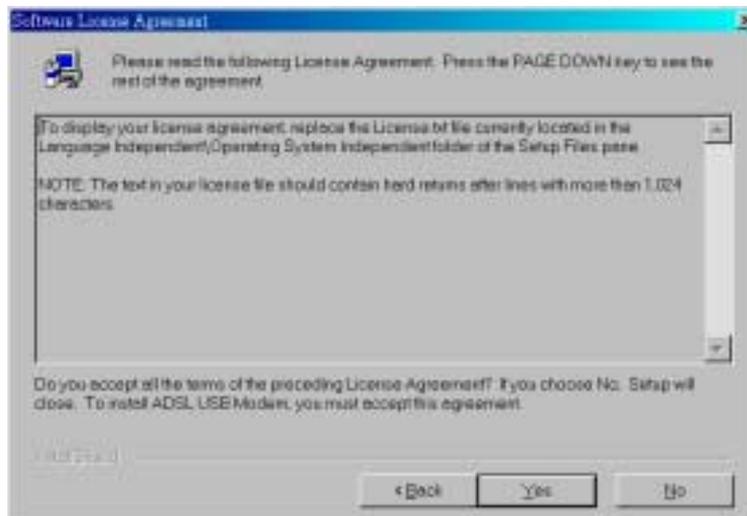
Note: *In order to properly setup software, please strictly follow the procedure:*

- 1) *After Windows is running, first insert the installation CD,*
- 2) *Run the ADSL USB Modem installation driver. If the installation doesn't automatically start, go to **Windows Explorer** -> **CD-ROM Drive** -> **SETUP.EXE** to run the setup program.*
- 3) *Plug the USB modem into the PC to install the basic USB driver.*

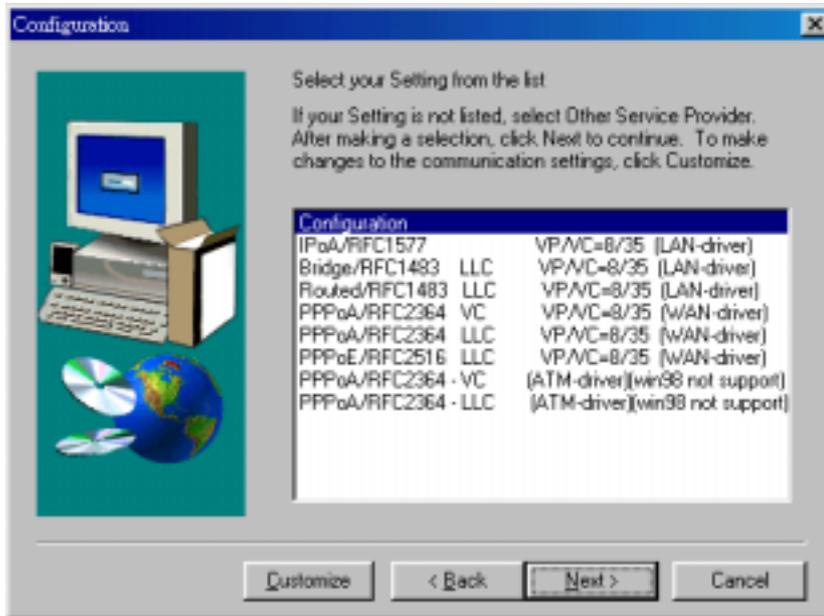
1. When the Installation CD is inserted, a **“Welcome”** message will appear. Click **Next**.



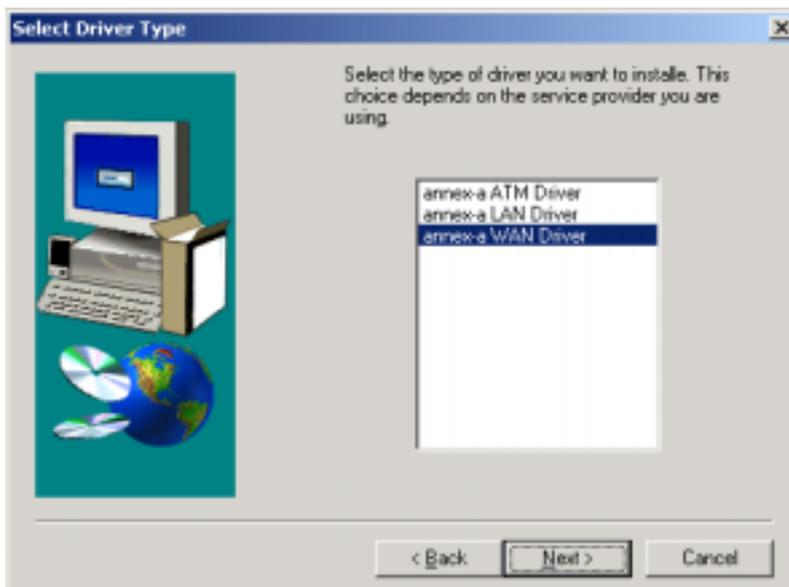
2. A **“Software License Agreement”** message will be displayed. Click **Yes**.



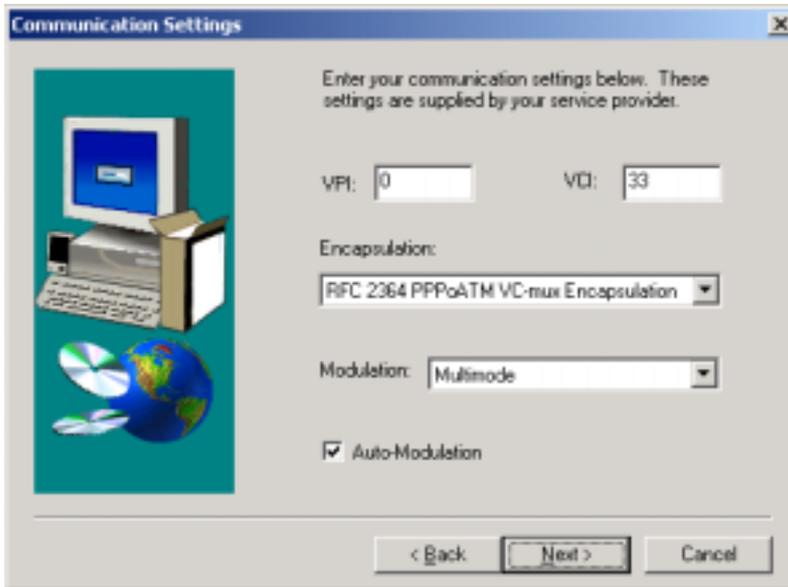
3. The “**Configuration**” window allows you to select different configurations. A list of pre-configured alternatives and Manual Configuration is displayed. Highlight the one you would like to choose and click **Next**.



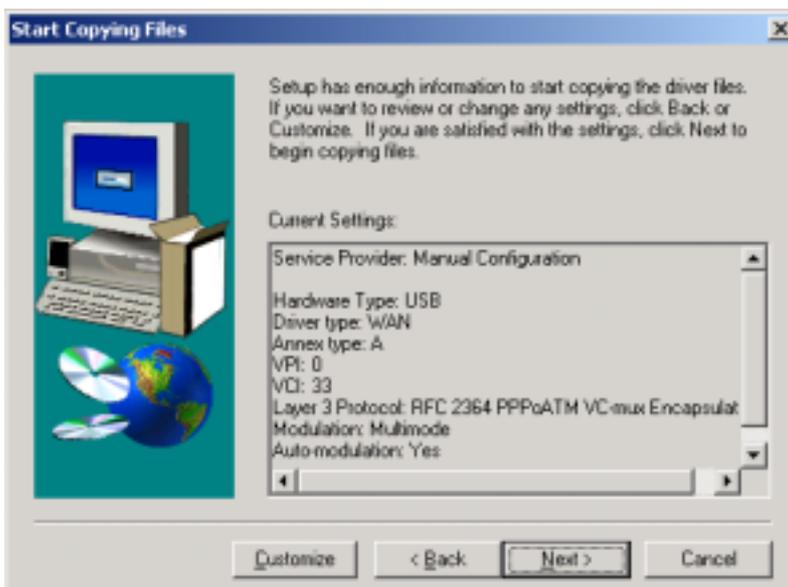
4. Select the driver type you want to install, you should get this information from your service provider. Highlights the driver type and click **Next**.



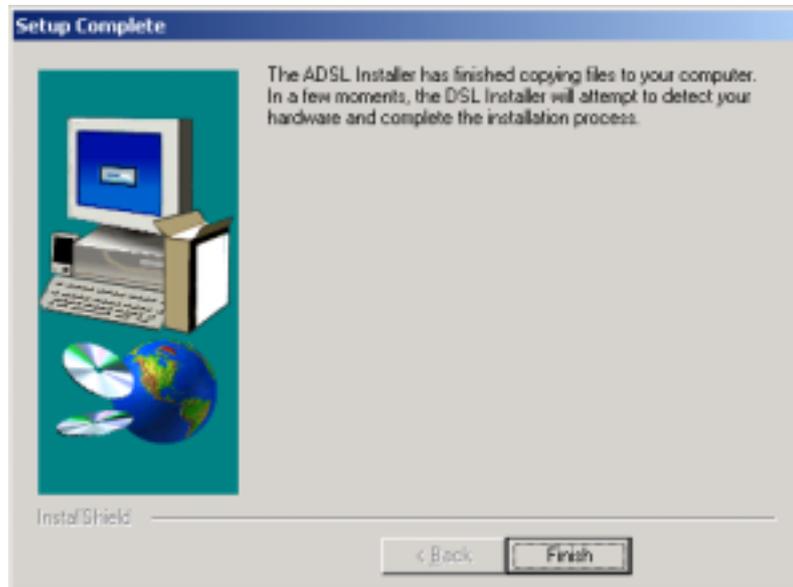
5. On the “**Communication Settings**” window, ATM VPI, ATM VCI, Encapsulation type and Modulation type are displayed. Check them and correct them if you use different values. Click **Next**.



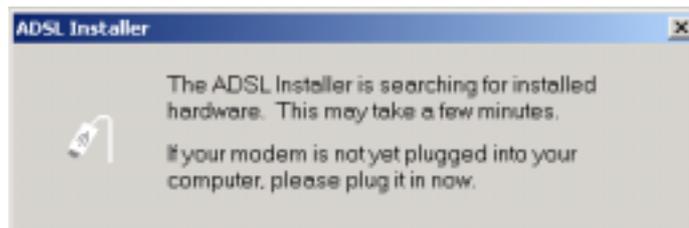
6. The “**Start Copying Files**” window will be displayed. You may review the current settings and click **Customize** or **Back** to change the settings, or click **Next** to accept it. A message will be displayed indicating that files are being copied.



7. The “**Setup Complete**” window indicates that files have been copied. Click **Finish** to complete the installation.

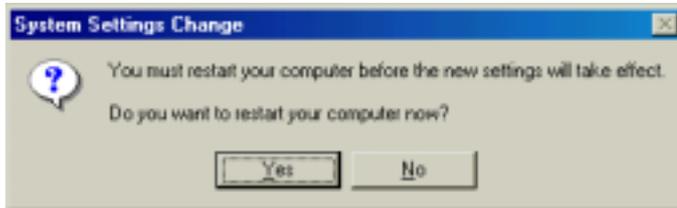


8. Installation program searches the USB modem now, and “**ADSL Installer**” window prompts you to plug in the USB modem. Plug it in now.



Note: You may need the Windows CD to complete the installation

9. After informational messages are displayed, the **"System Settings Change"** window will give you the opportunity to reboot the system. Remove all disks from their drives; click **Yes**, and the PC will be automatically restarted.



10. WAN and ATM applications may ask you to provide location information when the PC has rebooted. Enter the information and click **Close**.



11. Now you have successfully installed the modem software.

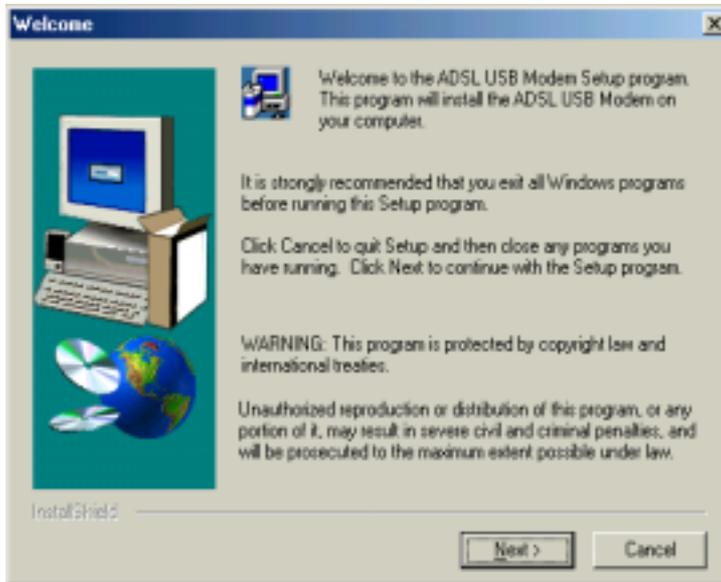
Software Setup for Windows ME

IMPORTANT! Do NOT connect the USB modem to the computer until instructed to do so in the software driver installation procedure for your operating system.

Note: In order to properly setup software, please strictly follow the procedure:

- 1) After Windows is running, first insert the installation CD,
- 2) Run the ADSL USB Modem installation driver. If the installation doesn't automatically start, go to **Windows Explorer -> CD-ROM Drive -> SETUP.EXE** to run the setup program.
- 3) Plug the USB modem into the PC to install the basic USB driver.

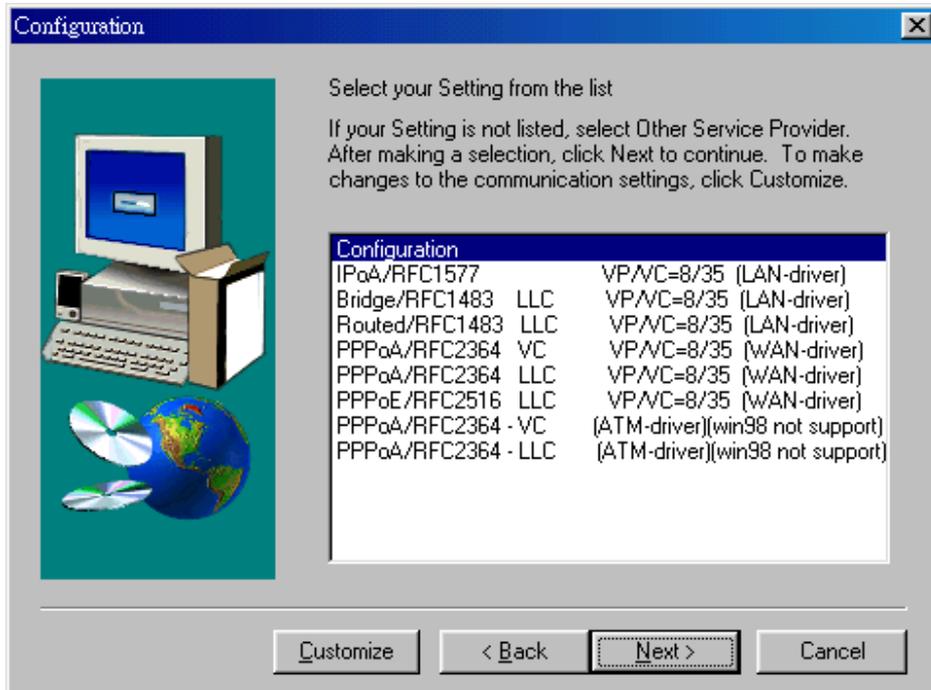
1. When the Installation CD is inserted, a **“Welcome”** message will appear. Click **Next**.



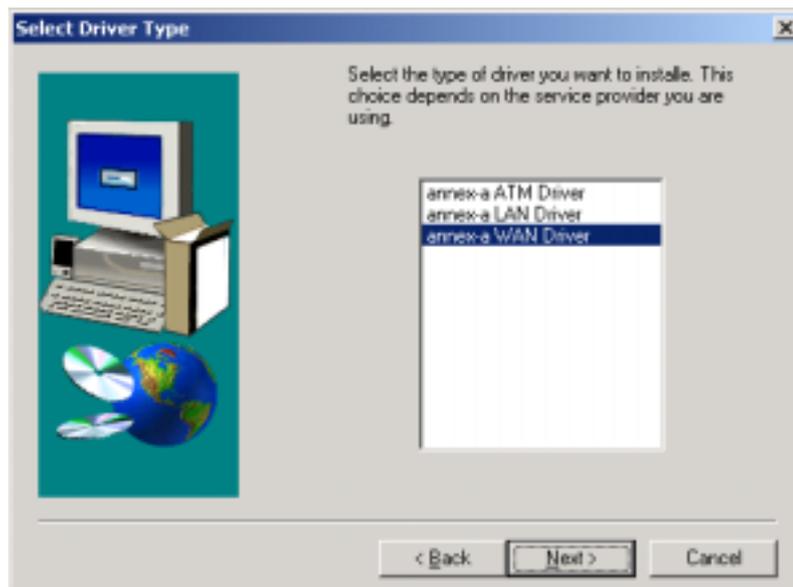
2. A **“Software License Agreement”** message will be displayed; click **Yes**.



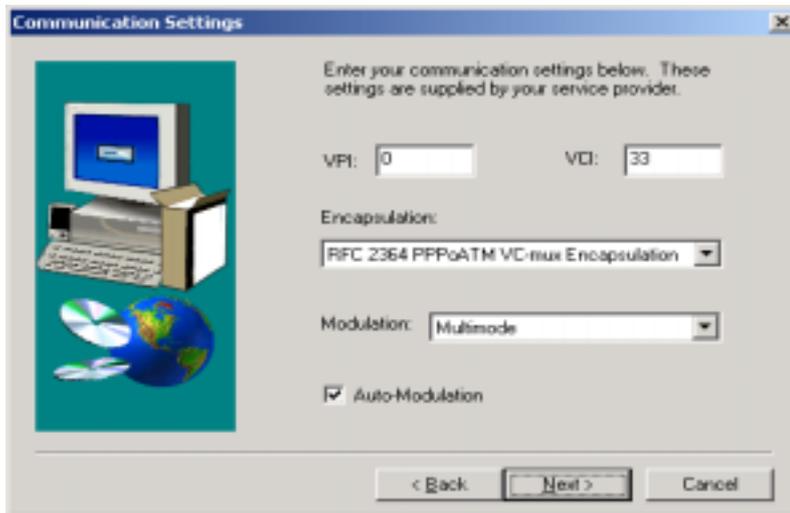
3. The “**Configuration**” window allows you to select different configurations. A list of pre-configured alternatives and Manual Configuration is displayed. Highlights the one you would like to choose and click **Next**.



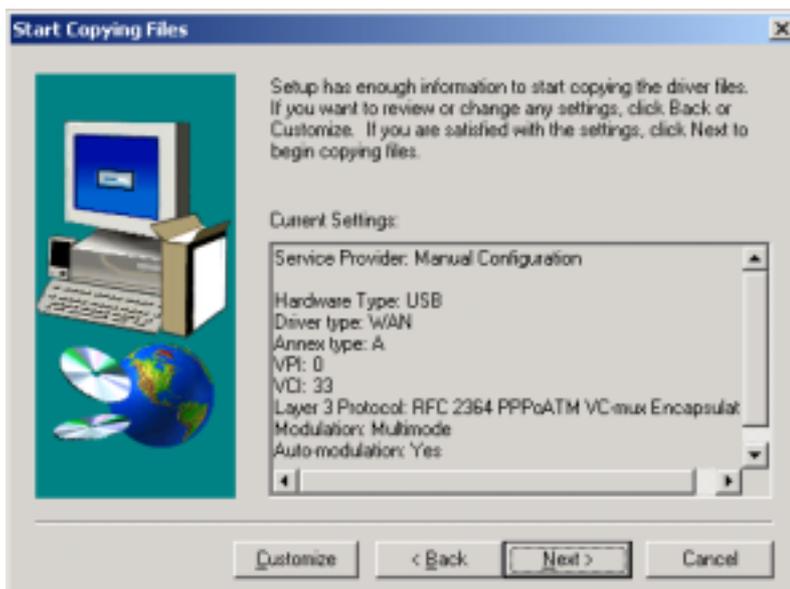
4. Select the driver type you want to install, you should get this information from your service provider. Highlights the driver type and click **Next**.



5. On the “**Communication Settings**” window, ATM VPI, ATM VCI, Encapsulation type and Modulation type are displayed. Check them and correct them if you use different values. Click **Next**.



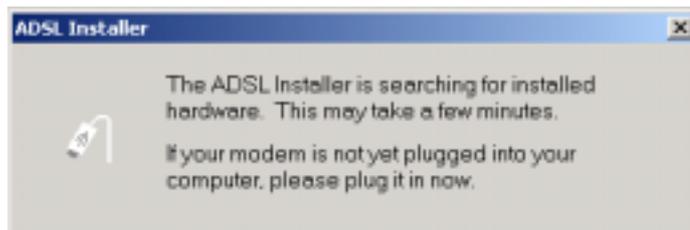
6. The “**Start Copying Files**” window will be displayed. You may review the current settings and click **Customize** or **Back** to change the settings, or click **Next** to accept it. A message will be displayed indicating that files are being copied.



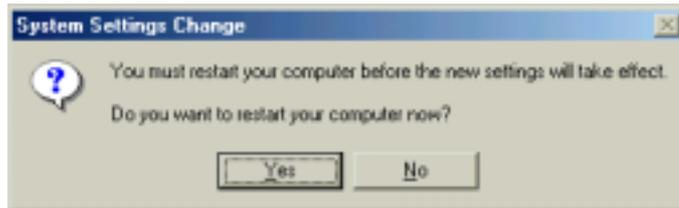
7. The “**Setup Complete**” window indicates that files have been copied. Click **Finish** to complete the installation.



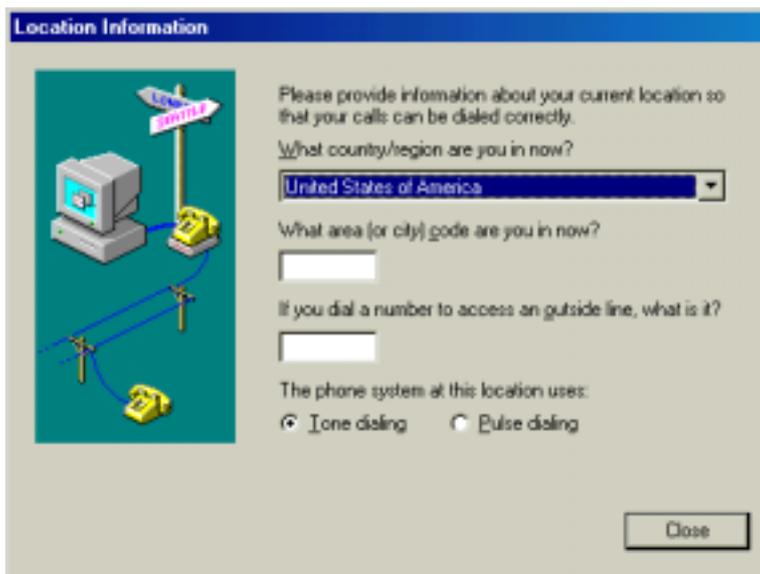
8. Installation program searches the USB modem now, and “**ADSL Installer**” window prompts you to plug in the USB modem. Plug it in now.



9. After informational messages are displayed, the “**System Settings Change**” window will give you the opportunity to reboot the system. Remove all disks from their drives; click **Yes**, and the PC will be automatically restarted.



10. WAN and ATM applications may ask you to provide location information when the PC has rebooted. Enter the information and click **Close**.



11. Now you have successfully installed the modem software.

If USB Modem is plugged in first

Important: We strongly recommend that you plug in the USB modem **AFTER** the software installation.

Note: If you plug USB modem into the PC prior to insert the installation CD, you may follow the installation procedure below.

Windows XP

1. After USB modem is plugged into the PC, a “**Found New Hardware Wizard**” window will be displayed indicating that new drivers are required; Choose the **Install from a list or specific location (Advanced)** option by clicking the check box; click **Next**.



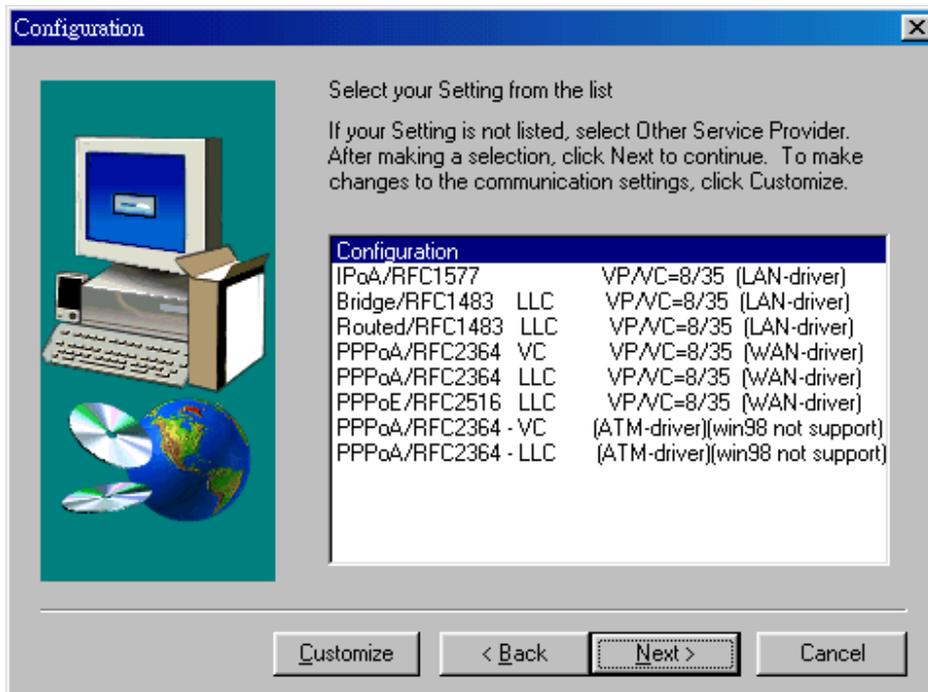
2. You will be required to specify a location or the new driver software. Click the *CD-ROM drives* check box. Insert the ADSL USB Modem Installation CD into the CD drive and click **Next**.



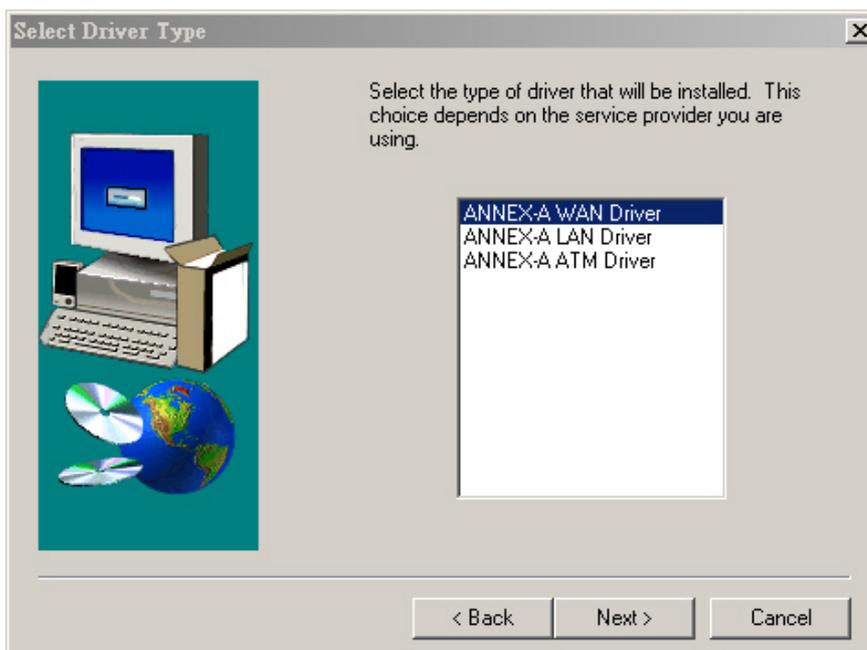
3. Found ADSL Modem and click **Finish**.



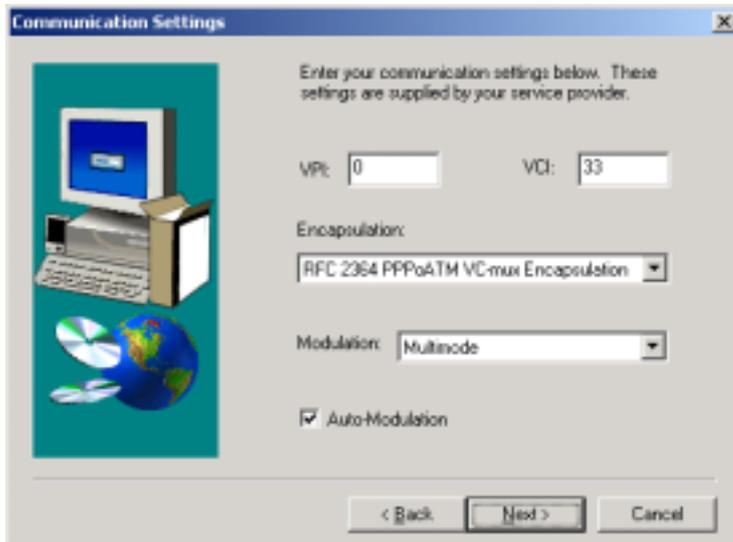
4. The “**Configuration**” window allows you to select different configurations. A list of pre-configured alternatives and Manual Configuration is displayed. Highlights the one you would like to choose and click **Next**.



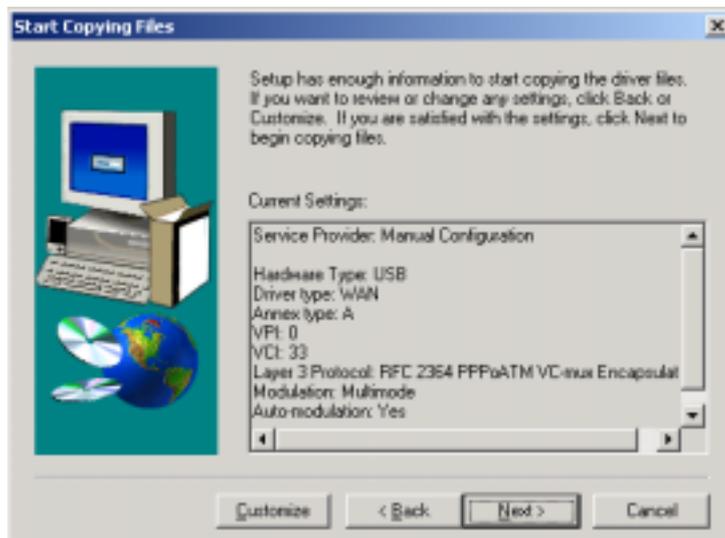
5. Select the driver type you want to install, you should get this information from your service provider. Highlights the driver type and click **Next**.



6. On the “**Communication Settings**” window, ATM VPI, ATM VCI, Encapsulation type and Modulation type are displayed. Check them and correct them if you use different values. Click **Next**.



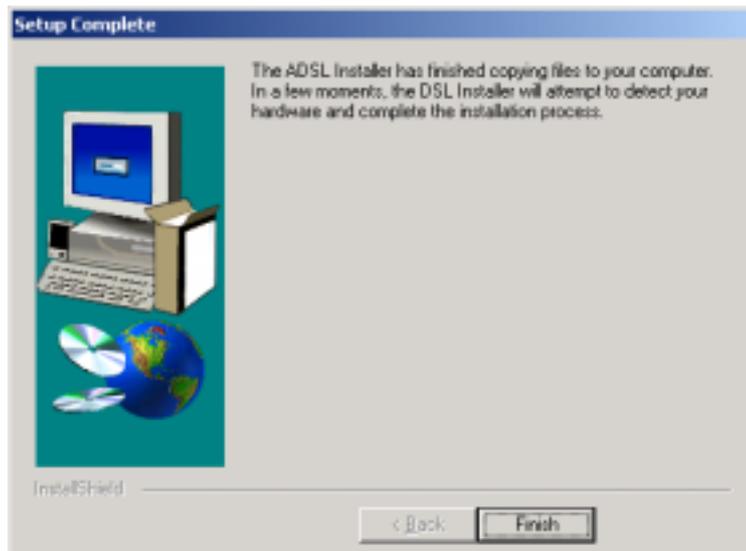
7. The “**Start Copying Files**” window will be displayed. You may review the current settings and click **Customize** or **Back** to change the settings, or click **Next** to accept it. A message will be displayed indicating that files are being copied.



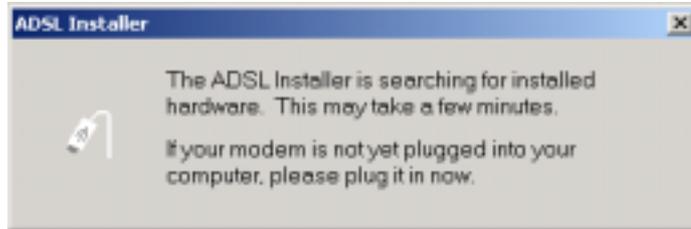
8. The “**Start Copying Files**” window may appear warning that the installation software is not passed Windows Logo testing. It is not necessary; The ADSL USB Modem has been tested the software with Windows XP. Click **Continue Anyway** to allow the installation to continue.



9. The “**Setup Complete**” window indicates that files have been copied. Click **Finish** to complete the installation.



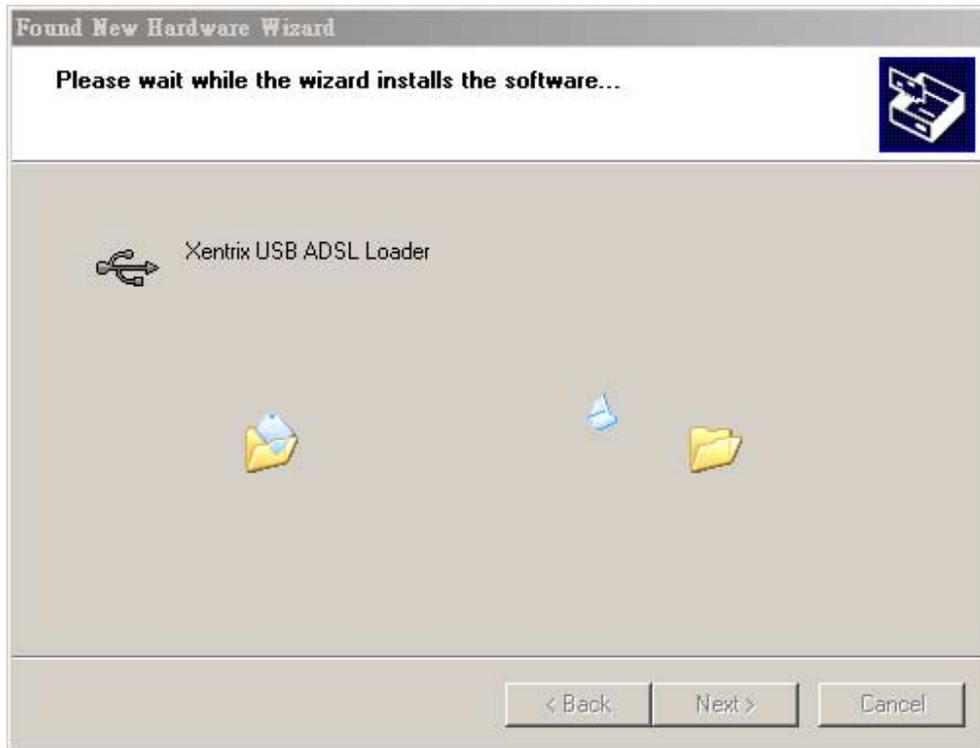
10. Installation program searches the USB modem now, and “**ADSL Installer**” window prompts you to plug in the USB modem. Plug it in now.



11. The “**Found New Hardware Wizard**” Windows XP found USB ADSL Loader. Chose “Install the software automatically and Click **Next** to allow the installation to continue.



12. The “**Found New Hardware Wizard**” window may appear warning that the installation software is not passed Windows Logo testing. It is not necessary; The ADSL USB Modem has been tested the software with Windows XP. Click **Continue Anyway** to allow the installation to continue.



13. A message will confirm that the device driver software has been installed; click **Finish**.



14. The “**Found New Hardware Wizard**” Windows XP found USB ADSL Modem. Chose “Install the software automatically and Click **Next** to allow the installation to continue.



15. The “**Found New Hardware Wizard**” window may appear warning that the installation software is not passed Windows Logo testing. It is not necessary; The ADSL USB Modem has been tested the software with Windows XP. Click **Continue Anyway** to allow the installation to continue.



16. A message will confirm that the device driver software has been installed; click **Finish**.



17. Now you have successfully installed the modem software!

Note: For WAN and ATM applications, will connect to the Internet. Go to **Desktop** and click **ADSL Dial-Up ppp Connection** to enter your user name & password and click **Dial** .

Windows 2000

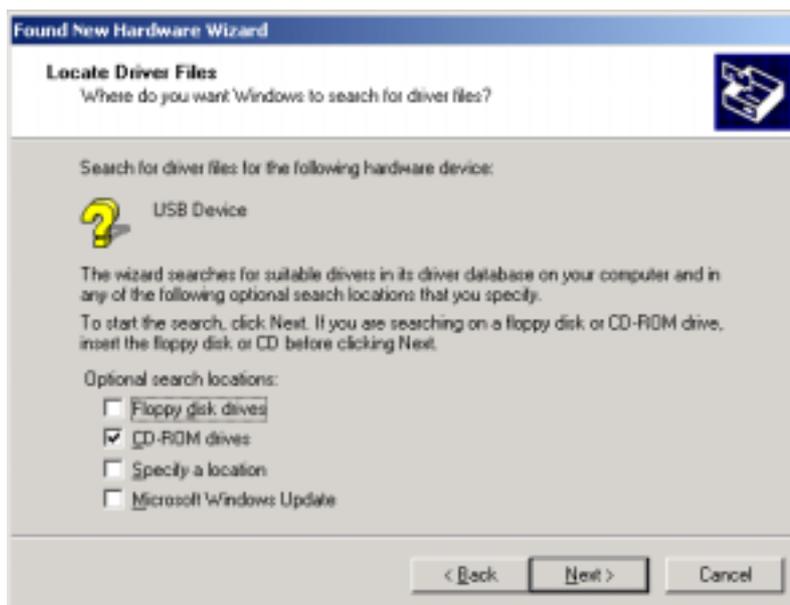
1. After USB modem is plugged into the PC, a “**Found New Hardware Wizard**” window will be displayed indicating that new drivers are required; click **Next**.



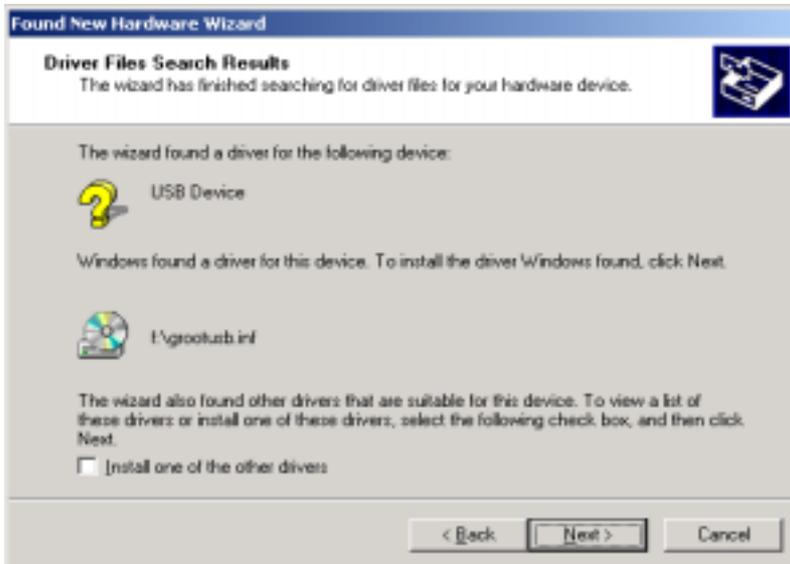
2. A window will be displayed which allows you to specify the location of the driver software to be installed. Choose the **Search for a suitable driver for my device (recommended)** option by clicking the check box; click **Next**.



3. You will be required to specify a location or the new driver software. Click the *CD-ROM* drives check box. Insert the ADSL USB Modem Installation CD into the CD drive and click **Next**.



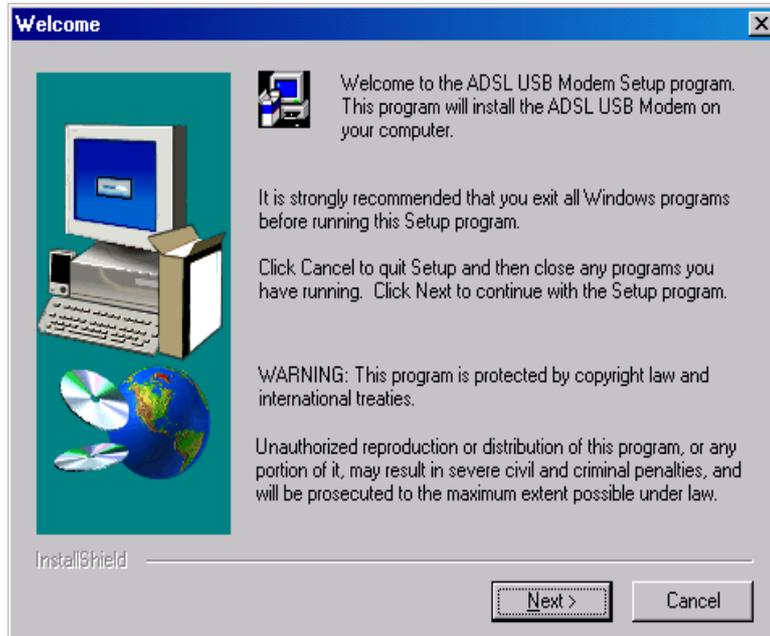
4. A message will indicate that the system finds the installation file and is ready to install the device driver; click **Next**.



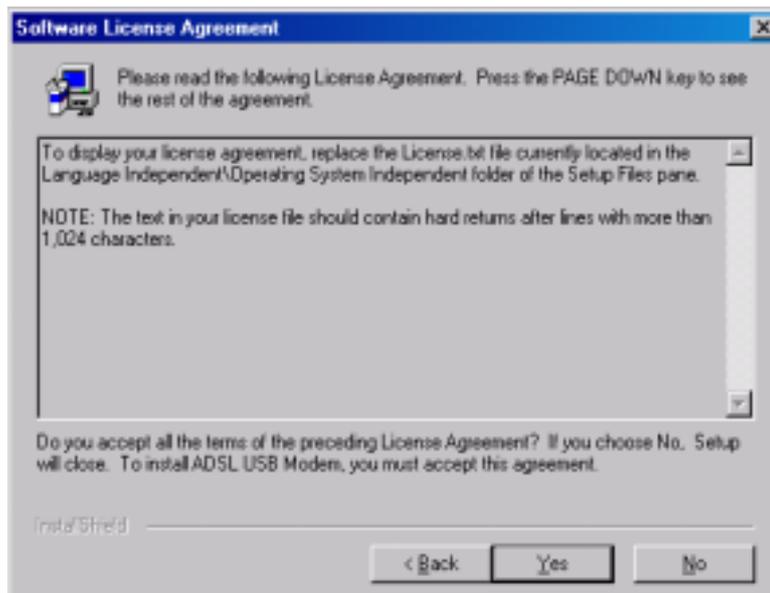
5. A message will confirm that the device driver software has been installed; click **Finish**.



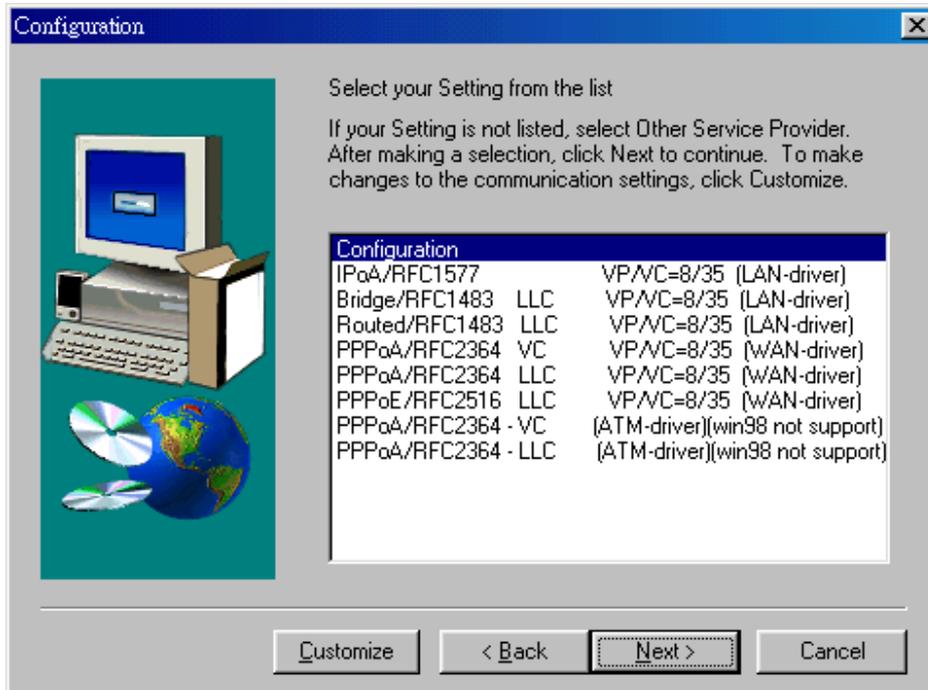
- Then the PC will automatically run the SETUP.EXE in the root directory of installation CD. If the installation doesn't automatically start, go to **Windows Explorer -> CD-ROM Drive -> SETUP.EXE** to run the setup program. A "Welcome" message will be displayed; click **Next**.



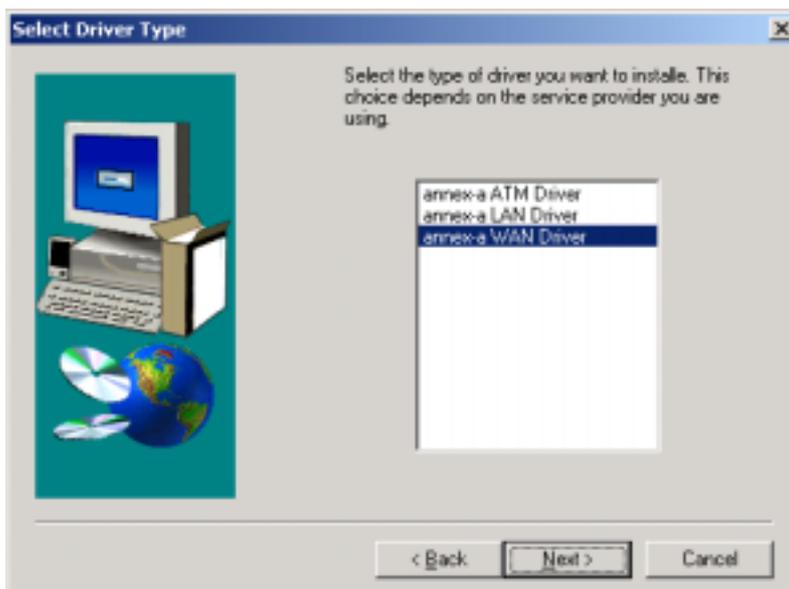
- A "Software License Agreement" message will be displayed; click **Yes**.



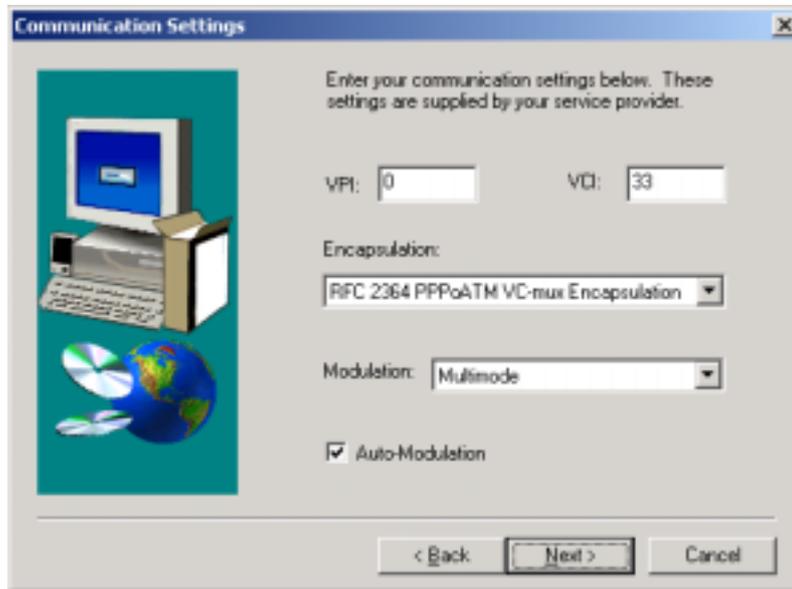
8. The “**Configuration**” window allows you to select different configurations. A list of pre-configured alternatives and Manual Configuration is displayed. Highlights the one you would like to choose and click **Next**.



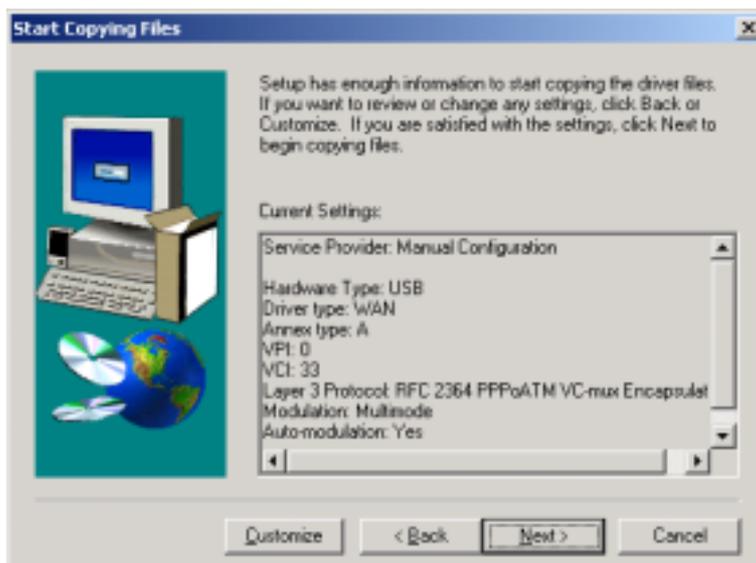
9. Select the driver type you want to install, you should get this information from your service provider. Highlights the driver type and click **Next**.



10. On the “**Communication Settings**” window, ATM VPI, ATM VCI, Encapsulation type and Modulation type are displayed. Check them and correct them if you use different values. Click **Next**.



11. The “**Start Copying Files**” window will be displayed. You may review the current settings and click **Customize** or **Back** to change the settings. Click **Next** to accept the current settings; a message will be displayed indicating that files are being copied.



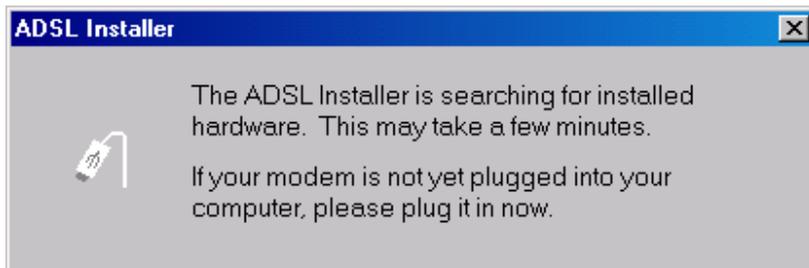
- The “**Digital Signature Not Found**” window may appear warning that the installation software is not a digitally signed version. A digital signature is not necessary; The ADSL USB Modem has tested the software with Windows 2000. Click **Yes** to allow the installation to continue.



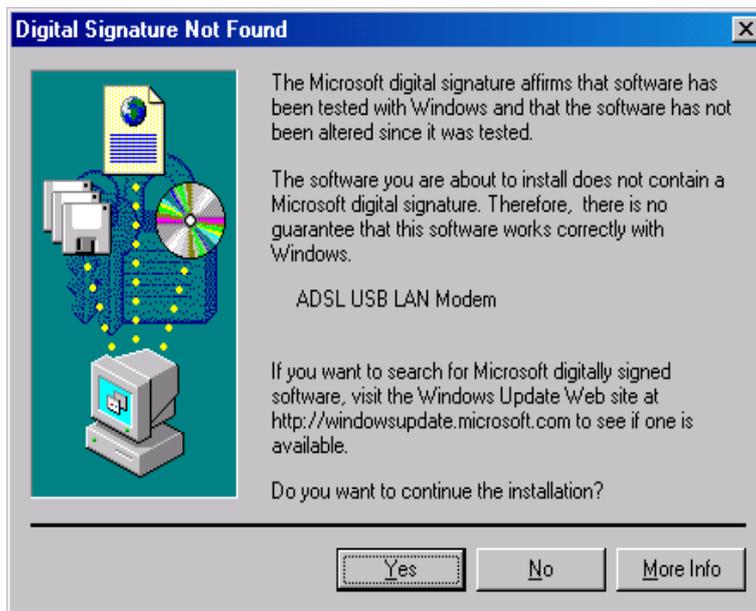
- The “**Setup Complete**” window indicates that files have been copied. Click **Finish** to complete the installation.



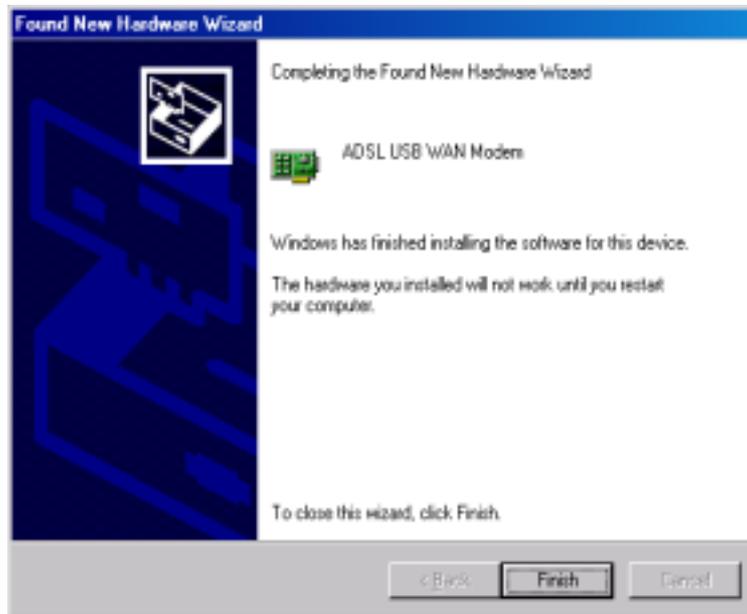
14. Installation program searches the USB modem now, and “**ADSL Installer**” window automatically installs USB driver.



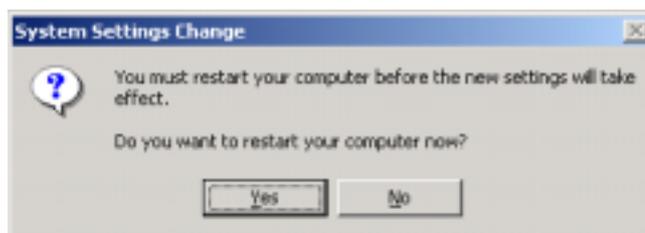
15. The “**Digital Signature Not Found**” window may appear warning that the installation software is not a digitally signed version. Click **Yes** to allow the installation to continue.



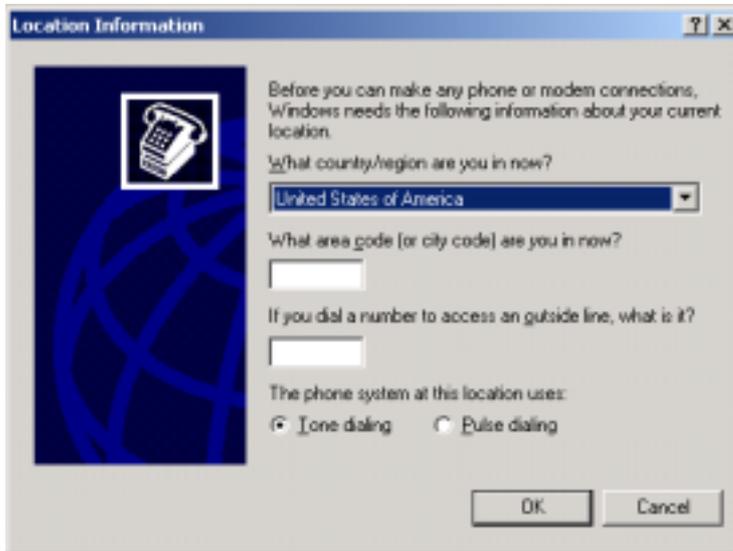
16. A message will indicate that the system must be rebooted for the new settings to take effect.
Click **Finish**.



17. After informational messages are displayed, the “**System Settings Change**” window will give you the opportunity to reboot the system. Remove all disks from their drives; click **Yes**.



18. WAN and ATM applications may ask you to provide location information when the PC has rebooted. Enter the information and click **OK**.



Note: For WAN and ATM applications, will connect to the Internet. Go to **Desktop** and click **ADSL Dial-Up ppp Connection** to enter your user name & password and click **Dial** .

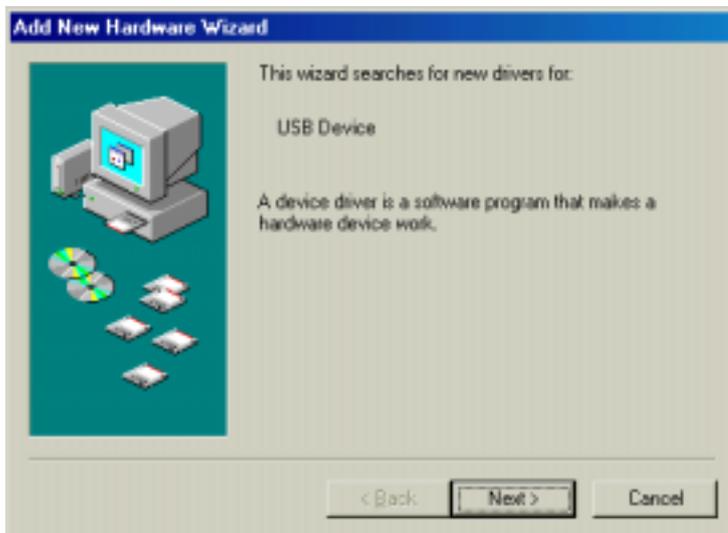
If USB Modem is plugged in first...

Important: We strongly recommend that you plug in the USB modem **AFTER** software installation.

Note: If you plug USB modem into the PC prior to insert the installation CD, you may follow the installation procedure below.

Windows 98 and Windows 98 Second Edition (SE)

1. After USB modem is plugged into the PC, an “Add New Hardware Wizard” window will be displayed indicating that new drivers are required, click **Next**.



2. A window will be displayed which allows you to specify the location of the driver software to be installed. Choose the *Search for the best driver for your device. (Recommended)* option by clicking the check box; click **Next**.



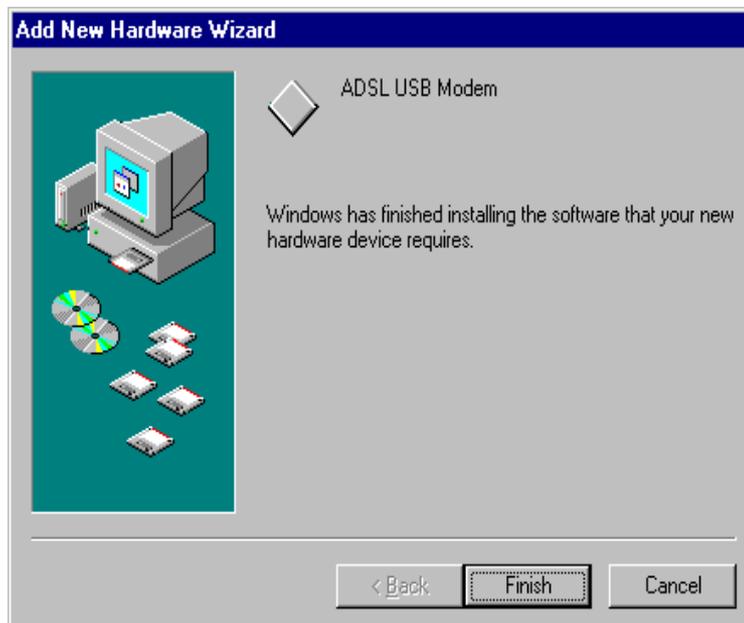
3. You will be required to specify a location or the new driver software. Click the *CD-ROM* drives check box. Insert the ADSL USB Modem Installation CD into the CD drive and click **Next**.



4. A message will indicate that the system finds the installation file and is ready to install the device driver; click **Next**.



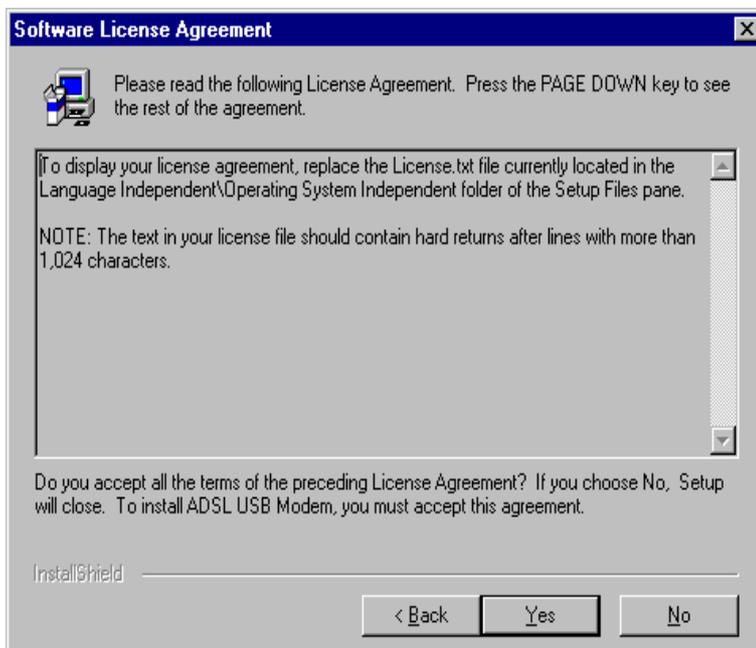
5. A message will confirm that the device driver software has been installed; click **Finish**.



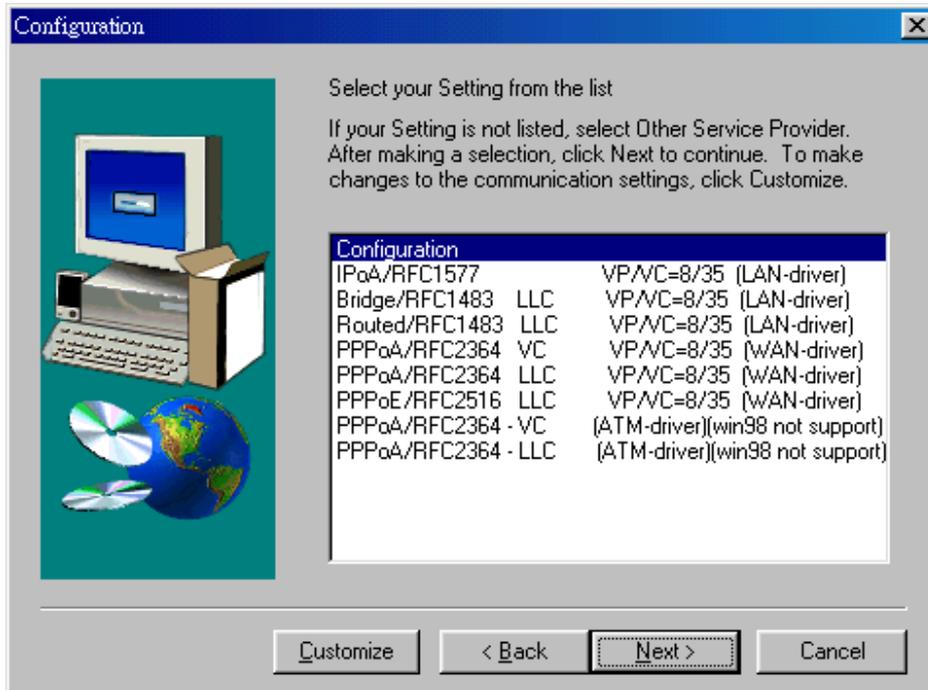
6. Then the PC will automatically run the SETUP.EXE in the root directory of installation CD. If the installation doesn't automatically start, go to **Windows Explorer -> CD-ROM Drive -> SETUP.EXE** to run the setup program. A "Welcome" message will be displayed; click **Next**.



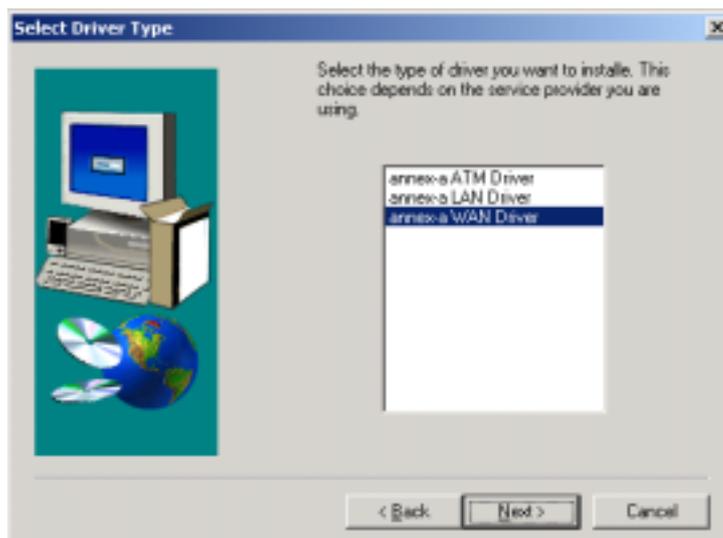
7. A "**Software License Agreement**" message will be displayed; click **Yes**.



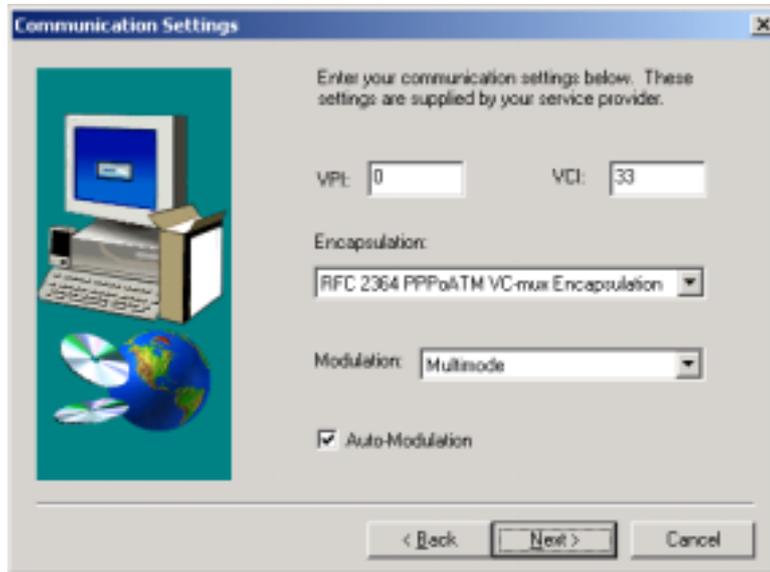
- The “**Configuration**” window allows you to select different configurations. A list of pre-configured alternatives and Manual Configuration is displayed. Highlight the one you would like to choose and click **Next**.



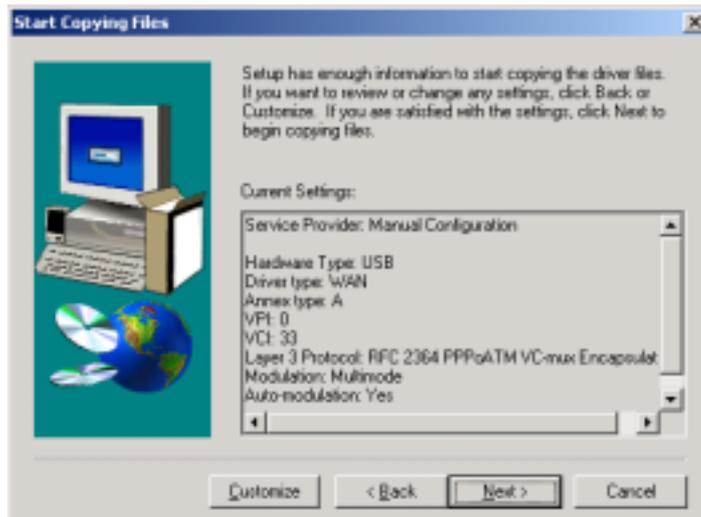
- To select the driver type you want to install, you should get this information from your service provider. Highlights the driver type and click **Next**.



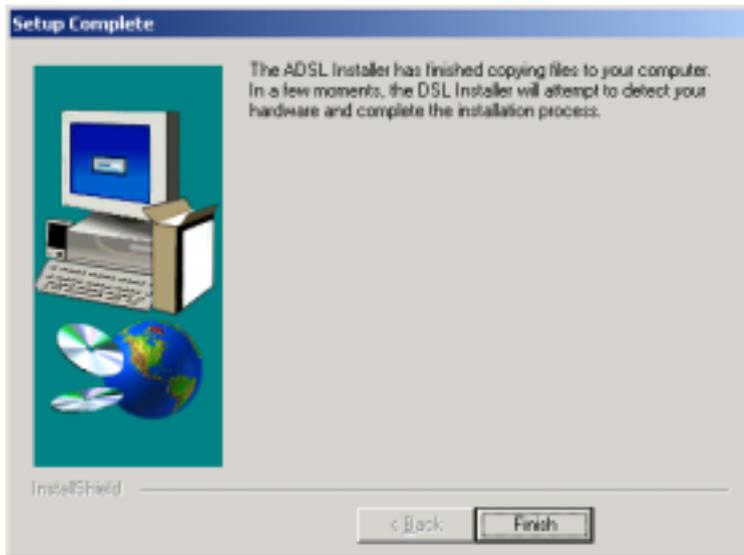
10. On the “**Communication Settings**” window, ATM VPI, ATM VCI, Encapsulation type and Modulation type are displayed. Check them and correct them if you use different values. Click **Next**.



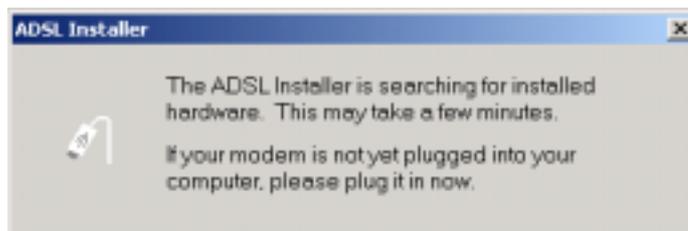
11. The “**Start Copying Files**” window will be displayed. You may review the current settings and click **Customize** or **Back** to change the settings. Click **Next** to accept the current settings; a message will be displayed indicating that files are being copied.



12. The “**Setup Complete**” window indicates that files have been copied. Click **Finish** to complete the installation.

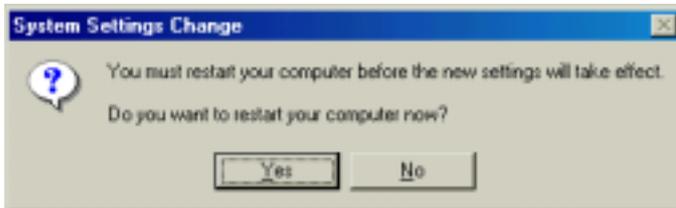


13. Installation program searches the USB modem now, and “**ADSL Installer**” window automatically installs USB driver.



Note: You may need the Windows CD to complete the installation

14. After informational messages are displayed, the “**System Settings Change**” window will give you the opportunity to reboot the system. Remove all disks from their drives; click **Yes**.



15. WAN and ATM applications may ask you to provide location information when the PC has rebooted. Enter the information and click **Close**.

Note: For WAN and ATM applications, dial-up is connect to the Internet. Go to **My Computer -> Network and Dial-up Connections -> Dial-Up PPP Connection** to enter your user name & password and click **Connect**. Please keep the default value in “Phone number” box.

If USB Modem is plugged in first...

Important: We strongly recommend that you plug in the USB modem **AFTER** the software installation.

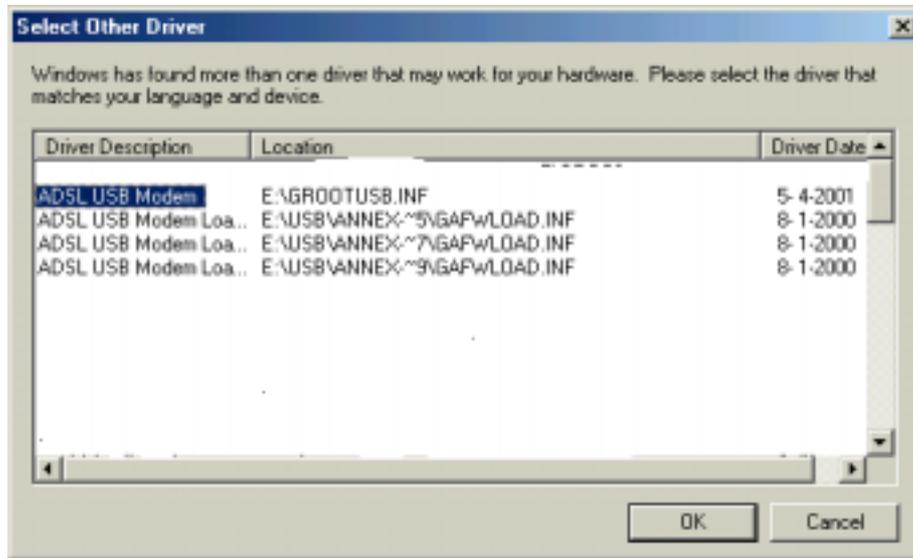
Note: If you plug USB modem into the PC prior to insert the installation CD, you may follow the installation procedure below.

Windows ME

1. After USB modem is plugged into the PC, an “**Add New Hardware Wizard**” window will be displayed indicating that new drivers are required. Choose the *Automatic search for a better driver (Recommended)* option by clicking the check box and insert the Xentrix X7005 ADSL USB Modem Installation CD into the CD drive; click **Next**.



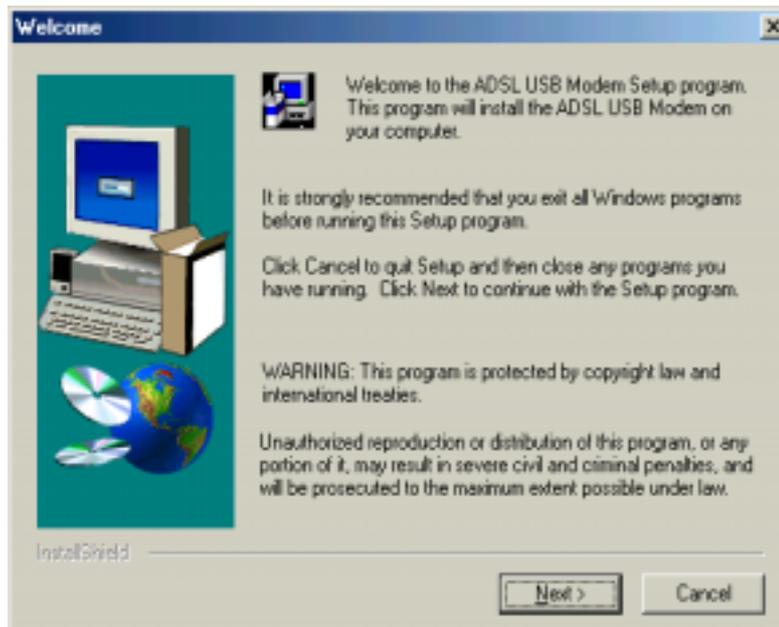
- The “**Select Other Driver**” window may ask you to select the driver from a list of drivers. If asked, highlight the root directory *GROOTUSB.INF* in the “Location” column, and click **OK**.



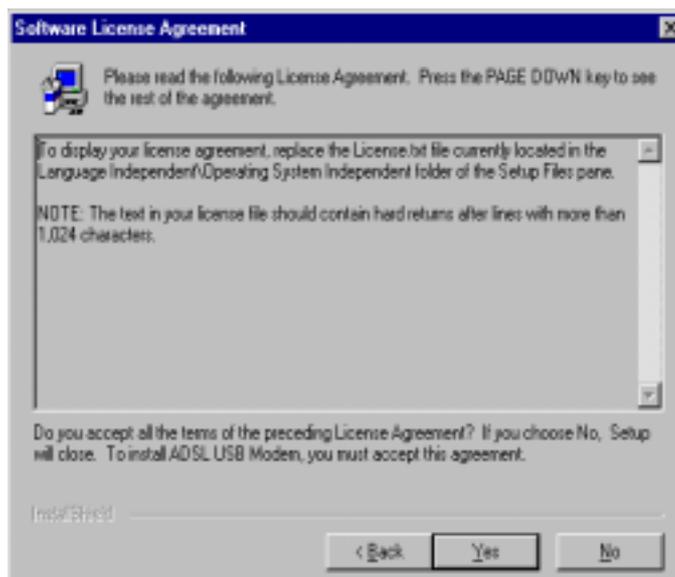
- A message will confirm that the device driver software has been installed; click **Finish**.



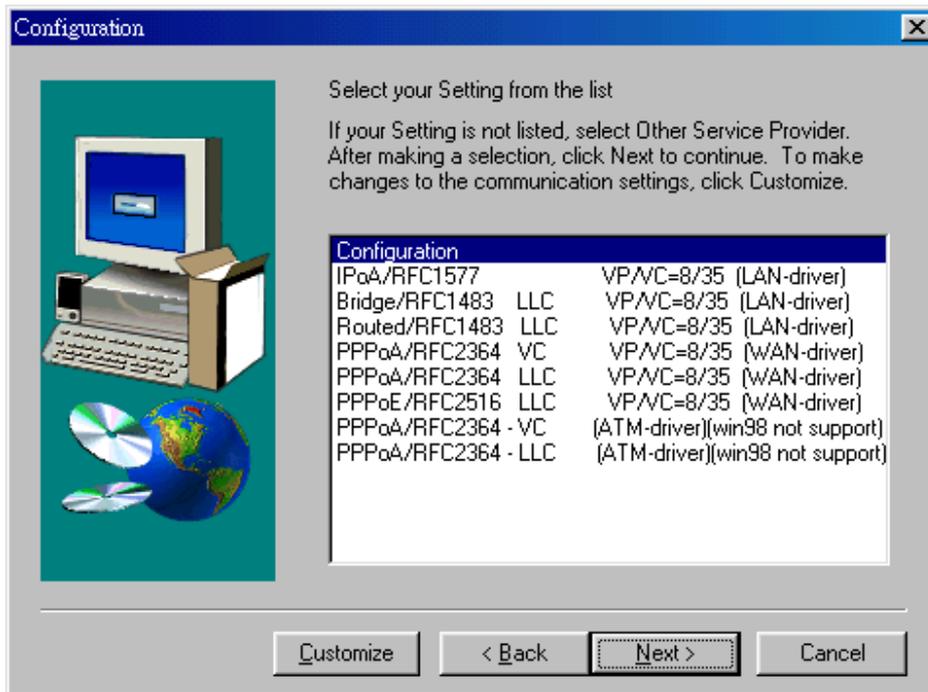
- Then the PC will automatically run the SETUP.EXE in the root directory of installation CD. If the installation doesn't automatically start, go to **Windows Explorer -> CD-ROM Drive -> SETUP.EXE** to run the setup program. A **"Welcome"** message will be displayed; click **Next**.



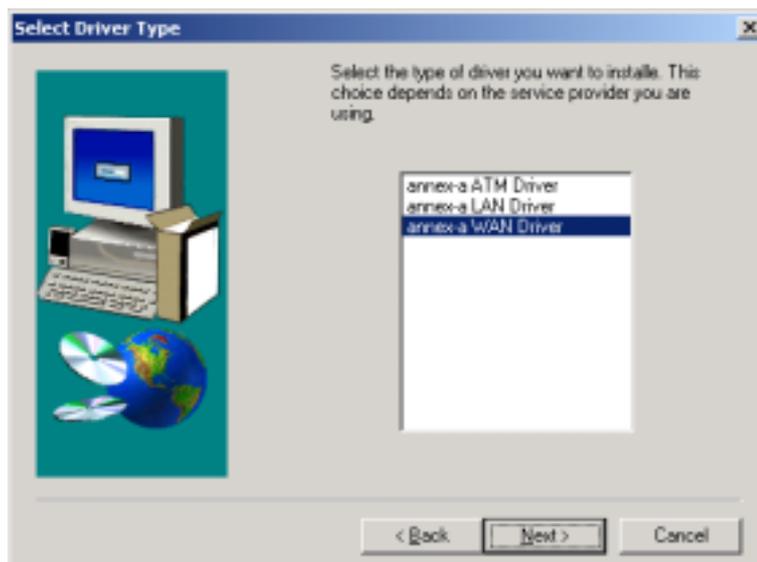
- A **"Software License Agreement"** message will be displayed; click **Yes**.



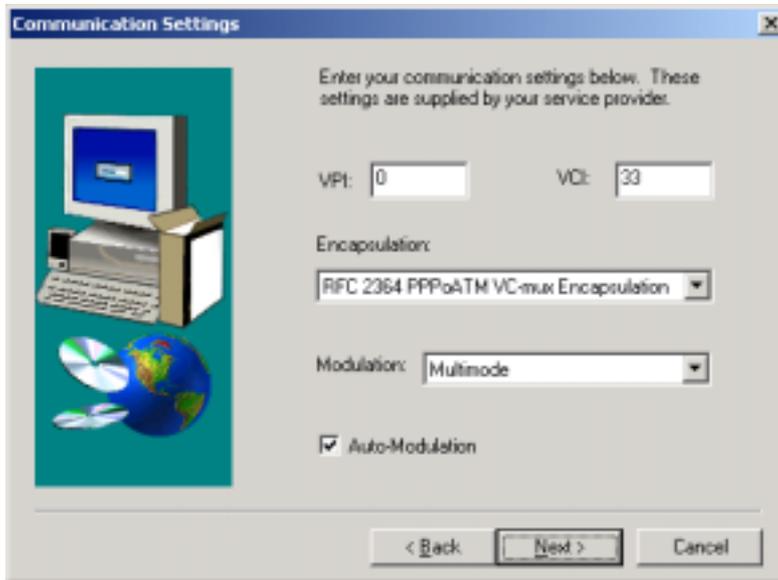
- The “**Configuration**” window allows you to select different configurations. A list of pre-configured alternatives and Manual Configuration is displayed. Highlight the one you would like to choose and click **Next**.



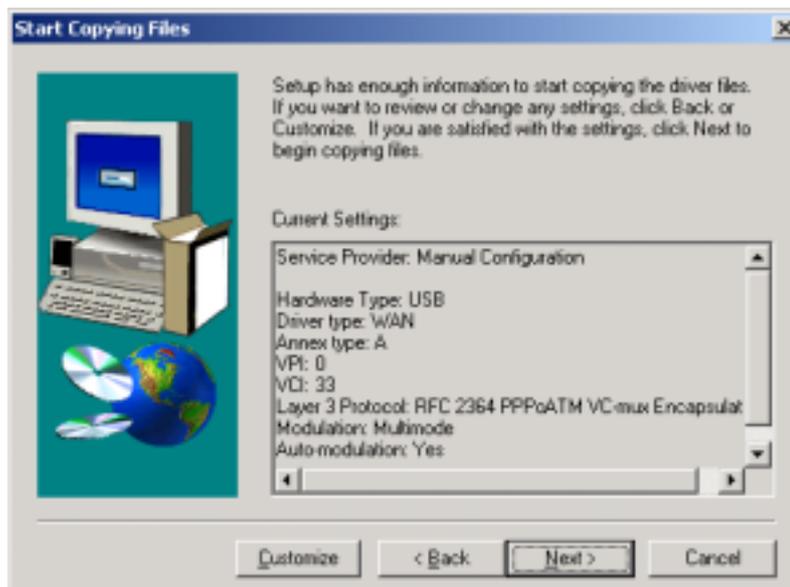
- Select the driver type you want to install, you should get this information from your service provider. Highlights the driver type and click **Next**.



8. On the “**Communication Settings**” window, ATM VPI, ATM VCI, Encapsulation type and Modulation type are displayed. Check them and correct them if you use different values. Click **Next**.



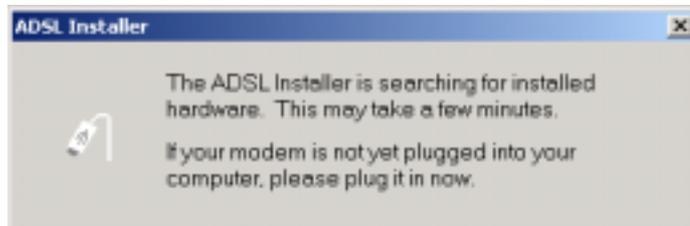
9. The “**Start Copying Files**” window will be displayed. You may review the current settings and click **Customize** or **Back** to change the settings. Click **Next** to accept the current settings; a message will be displayed indicating that files are being copied.



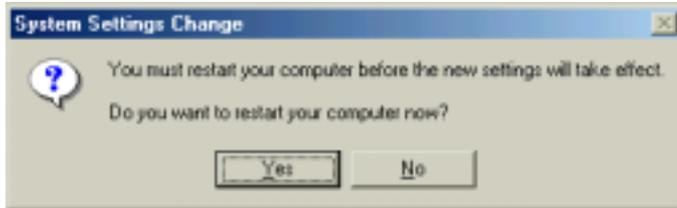
10. The “**Setup Complete**” window indicates that files have been copied. Click **Finish** to complete the installation.



11. Installation program searches the USB modem now, and “**ADSL Installer**” window automatically installs USB driver.



12. After informational messages are displayed, the “**System Settings Change**” window will give you the opportunity to reboot the system. Remove all disks from their drives; click **Yes**.



13. WAN and ATM applications may ask you to provide location information when the PC has rebooted. Enter the information and click **Close**.

Note: For WAN and ATM applications, dial-up is required to connect to the Internet. Go to **My Computer -> Network and Dial-up Connections -> Dial-Up PPP Connection** to enter your user name & password and click **Connect**. Please keep the default value in “Phone number” box.

Chapter 3: Customizing Communication Settings

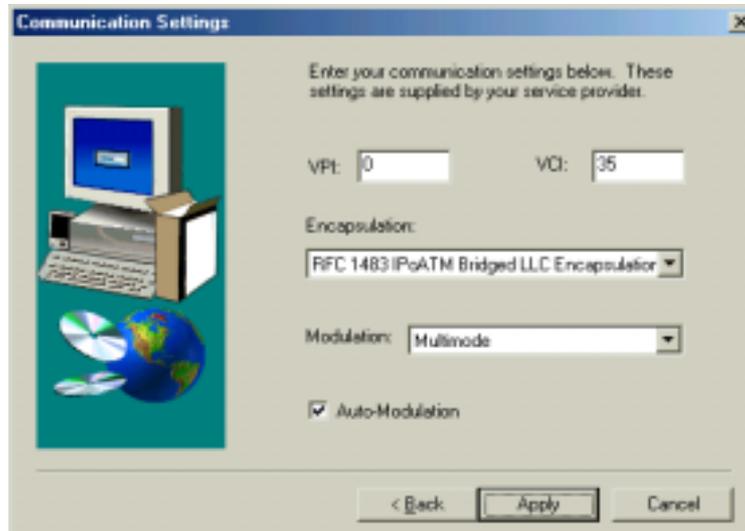
Settings

Once the ATU-R303 ADSL USB Modem and software have been installed, the communication settings may be easily updated by performing the following steps:

1. From your PC desktop click **Start -> Programs -> Xentrix ADSL Modem -> Configure**. A notification message will appear indicating that the setup process has begun.
2. Click **Settings** from the “ADSL Modem Configuration Panel” window.



3. The “**Communication Settings**” window will be displayed. Make the necessary changes to the VPI, VCI, Encapsulation type and/or Modulation type and click **Apply**.



4. The “**Setup Complete**” window indicates successful completion of the customization process. Select the **Yes, I want to restart my computer now** option, remove any disks from their drives, and click **Finish**. Your PC will reboot.



Chapter 4: Control Panel Application For Windows

The ATU-R303 ADSL USB Modem control panel program provides a quick and easy way to configure and check the performance of the modem and the ADSL connection. When open, the monitor window updates the performance every 2 seconds.

Note: The following screen shots of the ATU-R303 ADSL USB Modem Control Panel are preliminary as the Control Panel functionality is continually being upgraded and improved.

- There are two methods to access the ATU-R303 ADSL USB Modem control panel:
 - From the “Control Panel” window (**Start -> Settings -> Control Panel**), double click the **Xentrix ADSL USB Modem** icon.
 - From the PC Toolbar, double click the ATU-R303 ADSL USB Modem icon in the system tray.



Note: To access the Xentrix X7005 ADSL USB Modem Control Panel, the driver must be running. Also, make sure the USB cable is plugged into the modem.

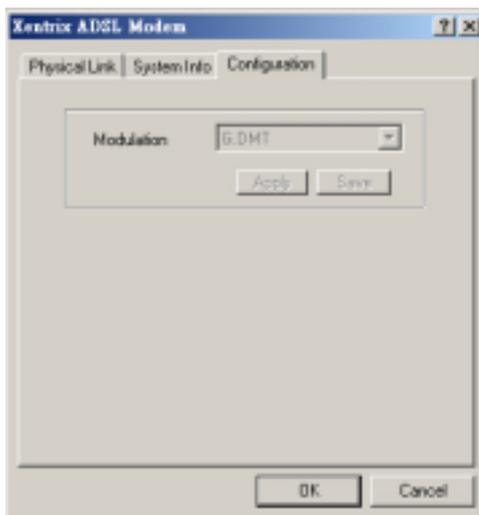
- The “Physical Link” tab of the “Xentrix X7005 ADSL USB Modem” window (Control Panel) allows you to review the current state of the ATU-R303 ADSL USB Modem and connection. The green indicator in the *Link Status* field signifies that a connection has been made. This indicator blinks while a connection is being established. Individual flashing yellow indicators show the *Transmitting* and *Receiving* data activity separately.



3. The “**System Info**” tab displays the release number of the ATU-R303 ADSL USB Modem driver, the firmware release number, and the control panel version that you are currently using.



4. The “**Configuration**” tab offers driver appropriate Modulation, Encapsulation, and VPI and VCI values. If you are using a WAN or ATM driver, only the Modulation type will be displayed and may be modified. LAN driver applications will be able to view and modify the Modulation type, Encapsulation type, and VPI and VCI values.



Chapter 5: Software Uninstall

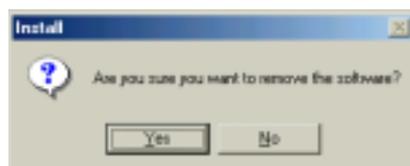
Software Uninstall for Windows

Note: The USB cable should not be unplugged until after the uninstall process has been completed. For Windows 98 applications, the cable must be unplugged immediately following Step 6 as below.

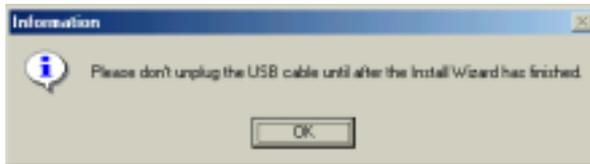
1. From your PC desktop click **Start -> Programs -> Xentrix ADSL Modem -> Uninstall**. A notification message will appear indicating that the setup process has begun.



2. Click **Remove** from the “**ADSL Modem Configuration Panel**” window.
3. A message will be displayed asking you to confirm the removal of the USB ADSL modem software, click **Yes**.



- The “**Information**” window will be displayed reminding you **not** to unplug the USB cable until the uninstall process has been completed. Click **OK**.



- A message will be displayed indicating the software is being removed.
- The “**Setup Complete**” window indicates successful completion of the uninstall process. Remove any disks from the drives, select the **Yes, I want to restart my computer now** option by clicking in the circle to the left, and click **Finish**.



Note: The screen for Windows 2000 applications will not ask the user to reboot the system. Click **Finish** to complete the Uninstall process.

- Unplug the USB cable from the PC. The uninstall process is complete.

Note: The USB cable must be unplugged before the system is rebooted. For Windows 98 applications the cable must be unplugged immediately as the reboot process was begun in Step

Appendix A: Modifying TCP/IP Networking Options

WAN USB Driver

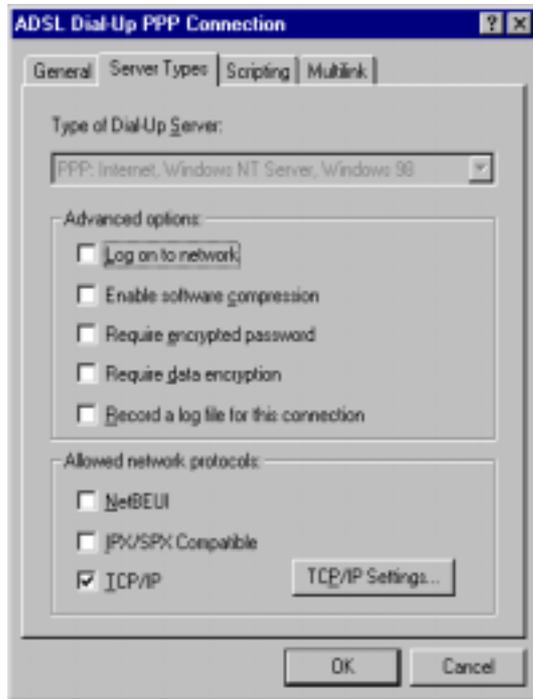
Windows 98 and Windows 98 Second Edition

TCP/IP settings are automatically set up during the software installation process. The following procedure may be used to change TCP/IP settings, if necessary.

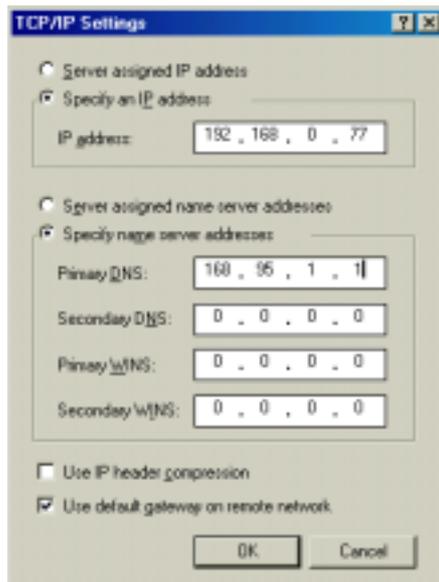
1. From your PC desktop, double click the **My Computer** icon.
2. From the “**My Computer**” window, double click the **Dial-Up Networking** icon.
3. From the “**Dial-Up Networking**” window, right click on the **Dial-Up PPP Connection** icon and click **Properties**.



-
- From the “**Server Types**” tab of the “**Dial-Up PPP Connection**” window, select **TCP/IP** (marked with a check in the box to the left) and click **TCP/IP Settings**.



- The “**TCP/IP Settings**” window is used to modify the IP address, Domain Name Server addresses and/or default gateway as follows:



-
- Change the IP address to a user defined address by selecting **Specify an IP address** (click inside the circle to the left of it) and typing the address in the space provided
 - Change the Domain Name Server addresses to user defined addresses by selecting **Specify domain name server addresses** (click inside the circle to the left of it) and typing the addresses in the spaces provided
 - Change the default gateway by leaving the box blank to the left of **Use default gateway on remote network**.

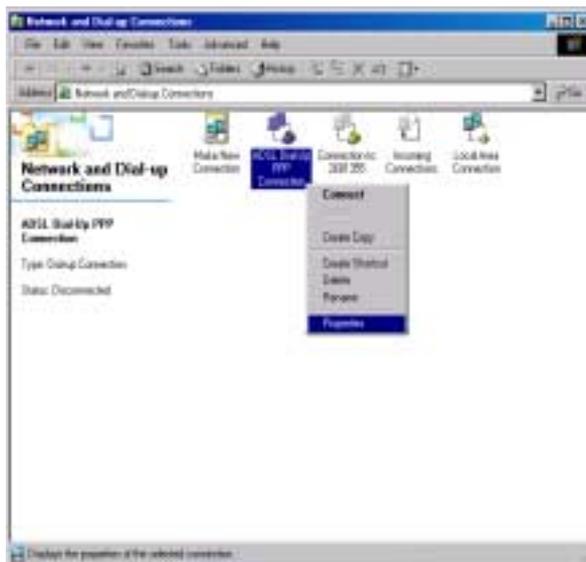
Click **OK**.

6. The “ **ADSL Dial-Up PPP Connection**” window will be redisplayed. Click **OK** to end the modifying TCP/IP options session.

Windows XP & 2000

TCP/IP settings are automatically set up during the software installation process. The following procedure may be used to change TCP/IP settings, if necessary.

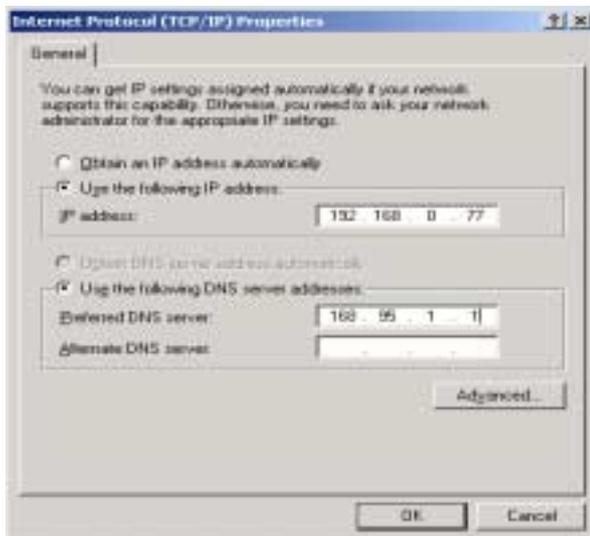
1. From your PC desktop, right click the **My Network Places** icon and select **Properties**.



2. From the “Networking” tab of the “ADSL Dial-Up PPP Connection Properties” window, select **Internet Protocol (TCP/IP)** and click **Properties**.



-
3. The “**Internet Protocol (TCP/IP) Properties**” window is used to modify the IP address and DNS Server addresses:



- Change the IP address to a user defined address by selecting **Use the following IP address** (click inside the circle to the left of it) and typing the address in the space provided
- Change the DNS Server addresses to user defined addresses by selecting **Use the following DNS server addresses** (click inside the circle to the left of it) and typing the addresses in the spaces provided.

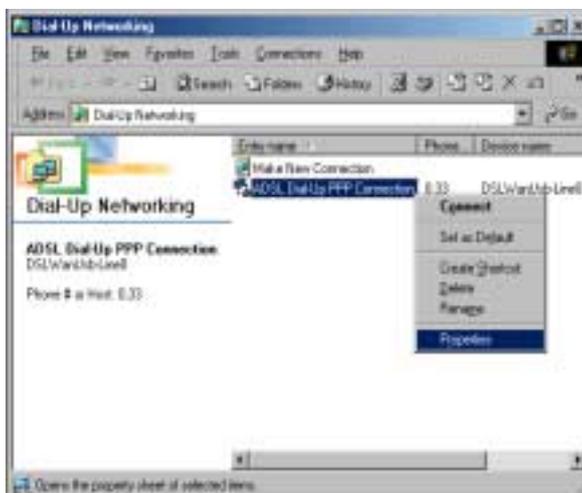
Note: The “Advanced” button of the “Internet Protocol (TCP/IP) Properties” window may be used to alter DNS addresses, WINS addresses and IP security settings.

7. Click **OK** from the “**Internet Protocol (TCP/IP) Properties**” window.
8. The “**ADSL Dial-Up PPP Connection Properties**” window will reappear. Click **OK** to end the modifying TCP/IP options session.

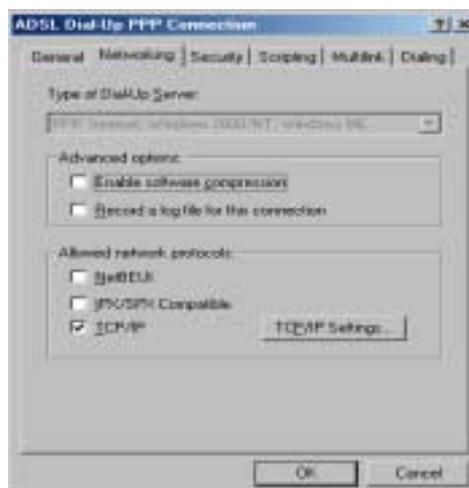
Microsoft Windows ME

TCP/IP settings are automatically set up during the software installation process. The following procedure may be used to change TCP/IP settings, if necessary.

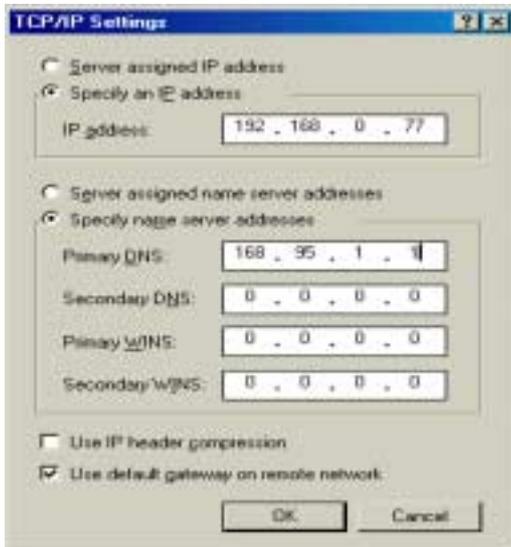
1. From your PC desktop, open the **Dial-Up Networking** window (**Start -> Settings -> Dial-Up Networking**).
2. From the “**Dial-Up Networking**” window, right click on the **ADSL Dial-Up PPP Connection** icon and click **Properties**.



3. From the “**Networking**” tab of the “**ADSL Dial-Up PPP Connection**” window, select **TCP/IP** (marked with a check in the box to the left) and click **TCP/IP Settings**.



-
4. The “**TCP/IP Settings**” window is used to modify the IP address, Domain Name Server addresses and/or default gateway as follows:



- Change the IP address to a user defined address by selecting **Specify an IP address** (click inside the circle to the left of it) and typing the address in the space provided
- Change the Domain Name Server addresses to user defined addresses by selecting **Specify name server addresses** (click inside the circle to the left of it) and typing the addresses in the spaces provided
- Change the default gateway by leaving the box blank to the left of **Use default gateway on remote network**.

Click **OK**.

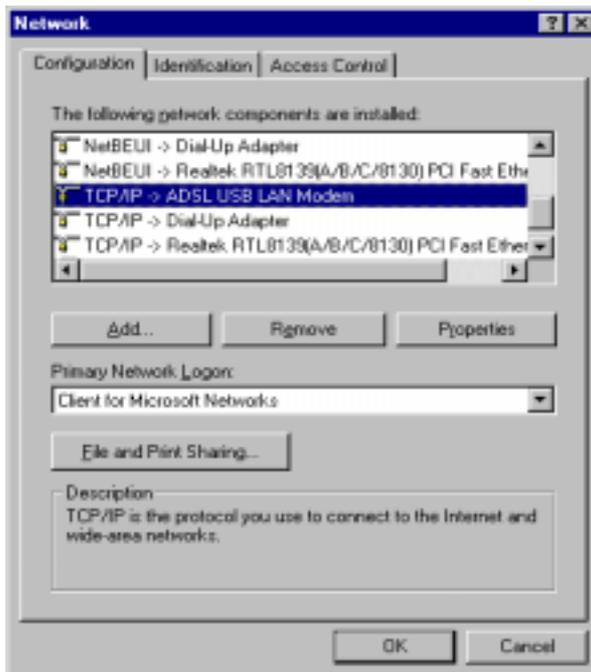
5. The “**Dial-Up PPP Connection**” window will be redisplayed. Click **OK** to end the modifying TCP/IP options session.

LAN USB Driver

Microsoft Windows 98, First and Second Editions

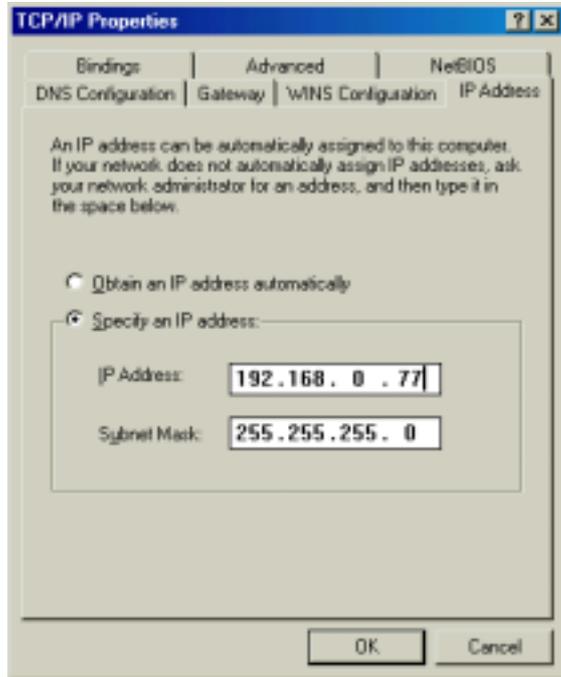
TCP/IP settings are automatically set up during the software installation process. The following procedure may be used to change TCP/IP settings, if necessary.

1. From the “**Control Panel**” window (**Start -> Settings -> Control Panel**) double click on the **Network** icon.
2. Select **TCP/IP -> ADSL USB LAN Modem** from the “Configuration” tab of the “**Network**” window. Click **Properties**.



3. From the “**IP Address**” tab of the “**TCP/IP Properties**” window, select either the *Obtain an IP address Automatically* or *Specify an IP Address* option, depending on your network setup. If you select *Specify an IP address*, type the *IP Address* and *Subnet Mask* in the spaces provided. Consult with your network administrator to determine which option best suits your

individual needs.



4. The “**Gateway**” tab allows you to add or remove gateways. Consult with your network



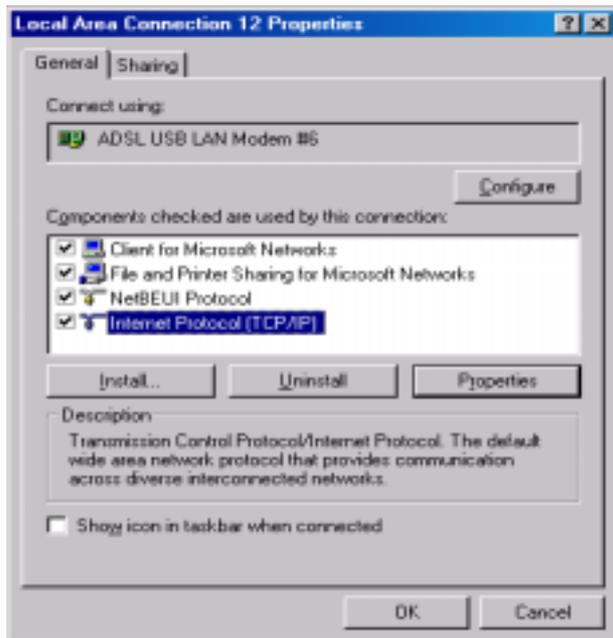
administrator to determine the appropriate addresses for your individual needs.

- To add a new gateway, type the address in the *New gateway* field and click **Add**. The new gateway will appear in the **Installed gateways** list.
 - To remove a previously installed gateway, highlights the entry to be removed in the **Installed gateways** list and click **Remove**. The gateway will no longer appear in the **Installed gateways** list.
5. Click **OK** from the “**TCP/IP Properties**” window.
 6. The “**Network**” window will reappear. Click **OK** to end the modifying TCP/IP options session.
 7. If you have made changes to TCP/IP properties, you will be asked to restart/reboot your PC. Click **Yes**, and your PC will restart.

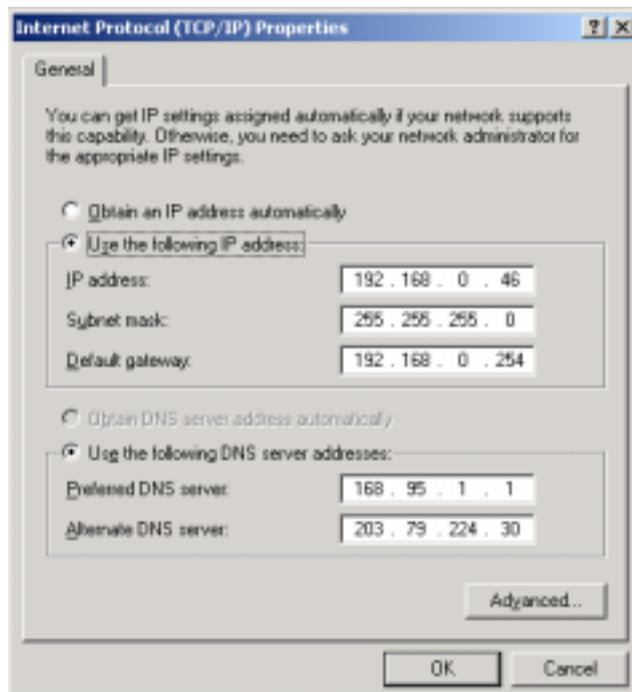
Microsoft Windows XP & 2000

TCP/IP settings are automatically set up during the software installation process. The following procedure may be used to change TCP/IP settings, if necessary.

1. From the PC desktop, right click the **My Network Places** icon and select **Properties**.
2. Double click the **Local Area Connection** icon from the “**Network and Dial-Up Connections**” window.
3. Select **Internet Protocol (TCP/IP)** from the “**General**” tab of the “**Local Area Connection Properties**” window. Click **Properties**.



4. The “**Internet Protocol (TCP/IP) Properties**” window is used to modify the IP addresses and DNS Server addresses:



- Change the IP address to a user defined address by selecting **Use the following IP address** option (click inside the circle to the left of it) and typing the addresses in the spaces provided
- Change the DNS Server addresses to user defined addresses by selecting **Use the following DNS server addresses** (click inside the circle to the left of it) and typing the addresses in the spaces provided.

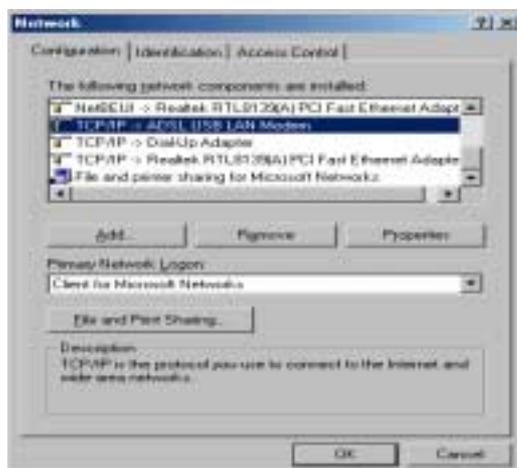
Note: The Advanced button of the “**Internet Protocol (TCP/IP) Properties**” window may be used to alter IP settings, DNS server addresses, WINS addresses, IP security options, and TCP/IP filtering options.

5. Click **OK** from the “**Internet Protocol (TCP/IP) Properties**” window.
6. The “**Local Area Connection Properties**” window will reappear. Click **OK** to end the modifying TCP/IP options session.

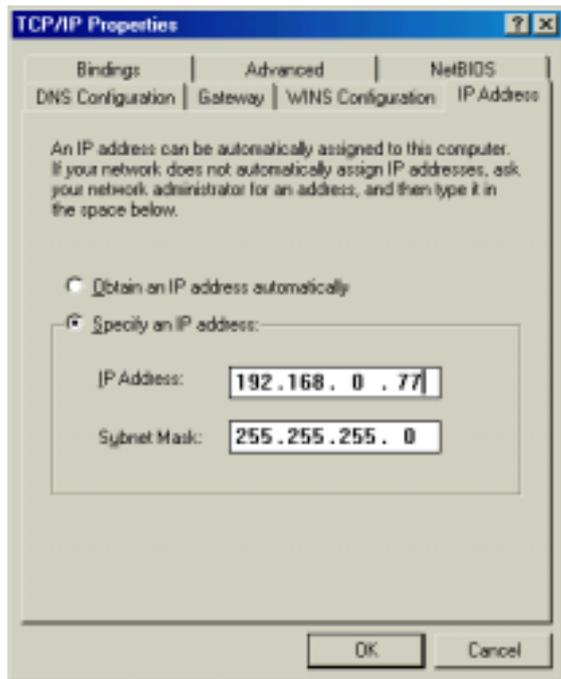
Microsoft Windows ME

TCP/IP settings are automatically set up during the software installation process. The following procedure may be used to change TCP/IP settings, if necessary.

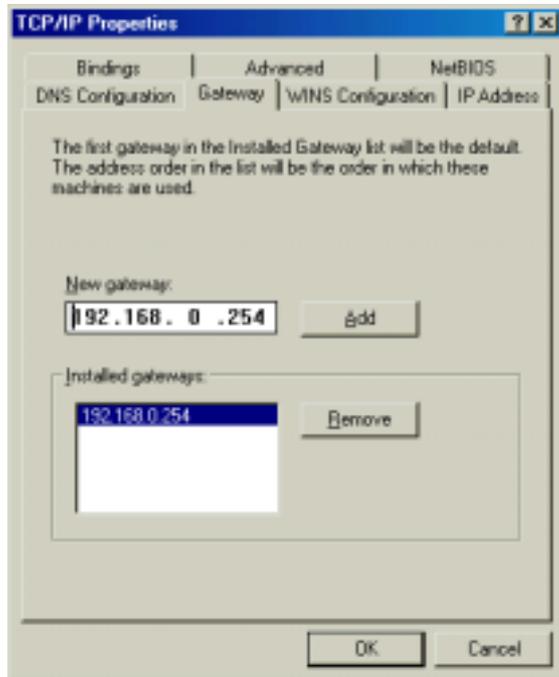
1. From the PC desktop, right click the **My Network Places** icon and select **Properties**.
2. Select **TCP/IP -> ADSL USB LAN Modem** from the “**Configuration**” tab of the “**Network**” window. Click **Properties**.



-
3. From the “IP Address” tab of the “**TCP/IP Properties**” window, select either the **Obtain an IP address Automatically** or **Specify an IP Address** option, depending on your network setup. If you select *Specify an IP address*, type the *IP Address* and *Subnet Mask* in the spaces provided. Consult with your network administrator to determine which option best suits your individual needs.



-
4. The “**Gateway**” tab allows you to add or remove gateways. Consult with your network administrator to determine the appropriate addresses for your individual needs.

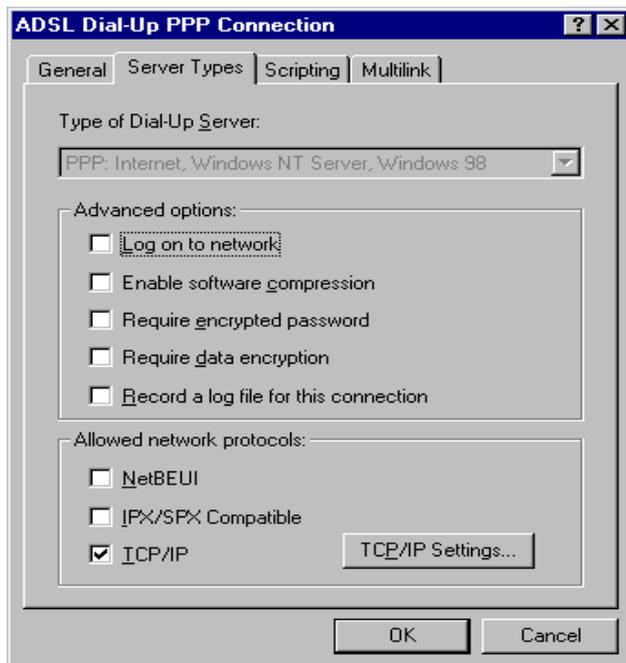


- To add a new gateway, type the address in the *new gateway* field and click **Add**. The new gateway will appear in the **Installed gateways** list.
 - To remove a previously installed gateway, highlight the entry to be removed in the **Installed gateways** list and click **Remove**. The gateway will no longer appear in the **Installed gateways** list.
5. Click **OK** from the “TCP/IP Properties” window.
6. The “**Network**” window will reappear. Click **OK** to end the modifying TCP/IP options session.
7. If you have made changes to TCP/IP properties, you will be asked to restart/reboot your PC. Click **Yes**, and your PC will restart.

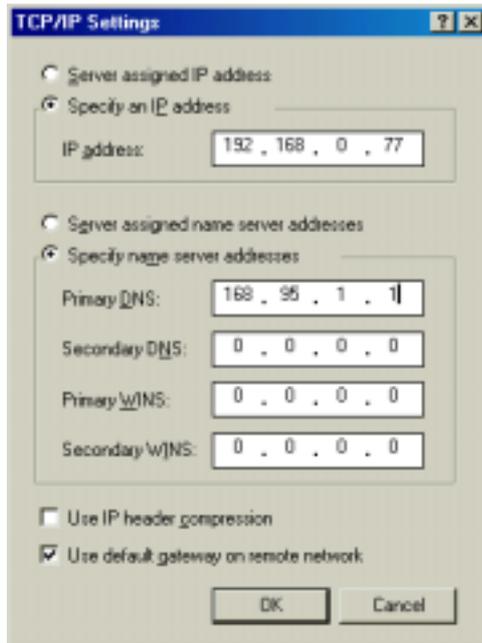
ATM USB Driver for Microsoft Windows 98 Second Edition

TCP/IP settings are automatically set up during the software installation process. The following procedure may be used to change TCP/IP settings, if necessary.

1. From your PC desktop, double click the **My Computer** icon.
2. From the “**My Computer**” window, double click the **Dial-Up Networking** icon.
3. From the “**Dial-Up Networking**” window, right click on the **ADSL Dial-Up PPP Connection** icon and click **Properties**.
4. From the “**Server Types**” tab of the “**ADSL Dial-Up PPP Connection**” window, select **TCP/IP** (marked with a check in the box to the left) and click **TCP/IP Settings**.



-
5. The “**TCP/IP Settings**” window is used to modify the IP address, Domain Name Server addresses and/or default gateway as follows:



- Change the IP address to a user defined address by selecting **Specify an IP address** (click inside the circle to the left of it) and typing the address in the space provided
- Change the Name Server addresses to user defined addresses by selecting **Specify name server addresses** (click inside the circle to the left of it) and typing the addresses in the spaces provided
- Change the default gateway by leaving the box blank to the left of **Use default gateway on remote network**.

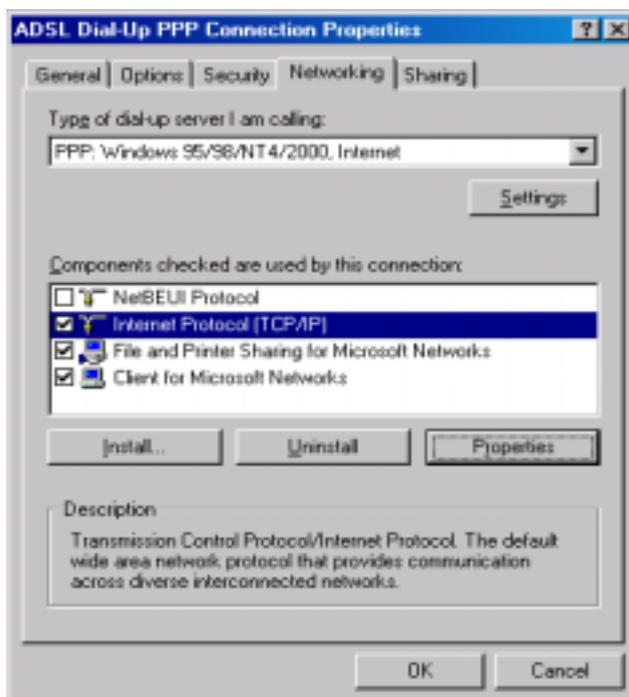
Click **OK**.

6. The “ **ADSL Dial-Up PPP Connection**” window will be redisplayed. Click **OK** to end the modifying TCP/IP options session.

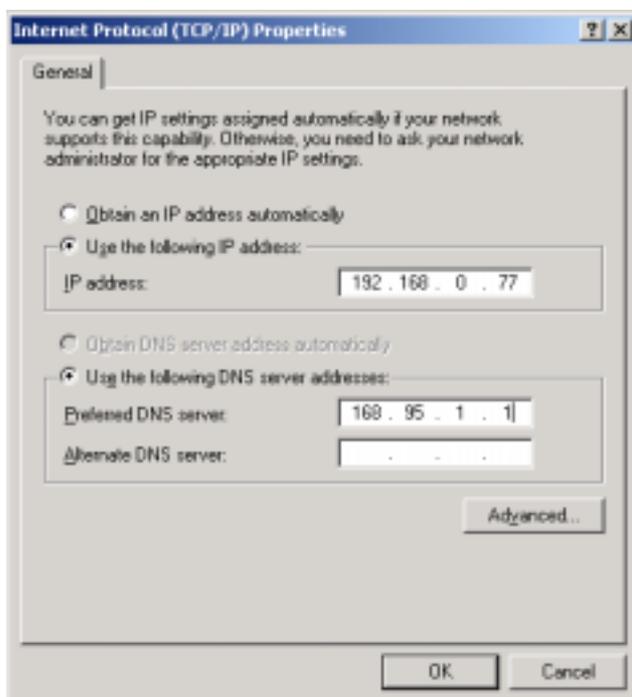
ATM USB Driver for Microsoft Windows XP & 2000

TCP/IP settings are automatically set up during the software installation process. The following procedure may be used to change TCP/IP settings, if necessary.

1. From your PC desktop, right click the **My Network Places** icon and select **Properties**.
2. From the “**Network and Dial-Up Connections**” window, right click on the **ADSL Dial-Up PPP Connection** icon and click **Properties**.
3. From the “**Networking**” tab of the “**ADSL Dial-Up PPP Connection Properties**” window, select **Internet Protocol (TCP/IP)** and click **Properties**.



-
4. The “**Internet Protocol (TCP/IP) Properties**” window is used to modify the IP address and DNS Server addresses as follows:



- Change the IP address to a user defined address by selecting **Use the following IP address** (click inside the circle to the left of it) and typing the address in the space provided
- Change the DNS Server addresses to user defined addresses by selecting **Use the following DNS server addresses** (click inside the circle to the left of it) and typing the addresses in the spaces provided.

Note: The “Advanced” button of the “Internet Protocol (TCP/IP) Properties” window may be used to alter DNS address, WINS address and IP security settings.

5. Click OK from the “**Internet Protocol (TCP/IP) Properties**” window.
6. The “ **ADSL Dial-Up PPP Connection Properties**” window will reappear. Click **OK** to end the modifying TCP/IP options session.

ATM USB Driver for Microsoft Windows ME

TCP/IP settings are automatically set up during the software installation process. The following procedure may be used to change TCP/IP settings, if necessary.

1. From your PC desktop, open the Dial-Up Networking window (**Start -> Settings -> Dial-Up Networking**).
2. From the “**Dial-Up Networking**” window, right click on the **ADSL Dial-Up PPP Connection** icon and click **Properties**.
3. From the “**Networking**” tab of the “**ADSL Dial-Up PPP Connection**” window, select **TCP/IP** (marked with a check in the box to the left) and click **TCP/IP Settings**.



4. The “**TCP/IP Settings**” window is used to modify the IP address, Domain Name Server addresses and/or default gateway as follows:

- Change the IP address to a user defined address by selecting **Specify an IP address** (click inside the circle to the left of it) and typing the address in the space provided

-
- Change the Name Server addresses to user defined addresses by selecting **Specify name server addresses** (click inside the circle to the left of it) and typing the addresses in the spaces provided
 - Change the default gateway by leaving the box blank to the left of **Use default gateway on remote network**.

Click **OK**.

7. The “ **ADSL Dial-Up PPP Connection**” window will be redisplayed. Click **OK** to end the modifying TCP/IP options session.

Appendix B: Point-to-Point Protocol over Ethernet

PPPoE is a specification for connecting multiple computer users on an Ethernet to a remote site through common customer premises equipment. PPPoE can be used to have an office or building-full of users share a common DSL (Digital Subscriber Line) connection to the Internet. PPPoE combines the Point-to-Point Protocol commonly used in dialup connections, with the Ethernet protocol, which supports multiple users in a LAN. The PPP Protocol information is encapsulated within an Ethernet frame.

1. From your PC desktop, double click the **ADSL Dial-Up PPP Connection** icon.



2. Enter your user name & password and click Dial



Appendix C: Specifications

ATU-R303 ADSL USB Modem Connector

The ATU-R303 ADSL USB Modem is connected to your PC via a USB cable. The rectangular end of the USB cable inserts into the USB port of your PC while the square end of the cable inserts into the USB port of the ATU-R303 ADSL USB Modem. An RJ-11 connector is provided for connection to the telephone line.

Data Transfer Rates

CAP Data Rates

The following CAP bit rates are supported as shown in Table 1 and Table 2:

Table 1: Downstream Channel Bit Rate per Constellation Size (kb/s)

Bit Rate per Constellation Size (kb/s)							
Symbol Rate (kbauds)	256 uncod ed	256	128	64	32	16	8
136 w/o RS	1088	952	816	680	544	408	272
136 with RS	1024	896	768	640	512	384	256
340 with RS	2560	2240	1920	1600	1280	960	640
680 with RS	5120	4480	F/A	3200	F/A	1920	F/A
952 with RS	7168	6272	F/A	4480	F/A	2688	F/A

Note: RS = Reed-Solomon forward error correction
F/A = Future Availability

Table 2: Upstream Channel Bit Rate Per Constellation Size (kb/s)

Bit Rate per Constellation Size (kb/s)								
Symbol Rate (kbauds)	256 uncod ed	256	128	64	32	16	8	8ER
136	1088	952	816*	680	544*	408	272*	90.6*
68	544*	476*	408*	340*	272*	204*	136*	45.3*
17	136**	119*	102*	85*	68**	51*	34*	11.3*

Note: ER = Extended Reach (upstream only)

* Future availability with 680 and 952 kbauds downstream symbol rates

** Only available for 136 kbauds downstream

ANSI T1.413 / ITU G.992.1 Data Rates

Data rates for DMT mode are partitioned at 32 kb/s increments for both the upstream and downstream data rates adhering to the DMT Standards. The downstream data rates extend from 32 kb/s to 8.064 Mb/s. The upstream data rates extend from 32 kb/s to 1024 kb/s.

Table 3: ANSI T1.413 Payload Bit Rates

Bit Rate (kb/s)		
	Min	Max
Downstream	32	8064
Upstream	32	1024

ITU G.992.2 Data Rates

Data rates for G.992.2 (G.lite) mode are likewise partitioned at 32kb/s increments. The downstream data rates extend from 64 kb/s to 4 Mb/s. The upstream data rates extend from 32 kb/s to 1024 kb/s.

Table 4: G.992.2 Payload Bit Rates

Bit Rate (kb/s)		
	Min	Max
Downstream	64	4000
Upstream	32	1024

Power Requirements

Table 5: CP USB Modem Power Consumption

CP USB Modem Power Consumption	
Power Supply	Data Mode
+5V Digital	0.100 W

+5V Analog	0.250 W
+3.3V	0.995 W
+12V	0.896 W
Total:	2.241 W

Software Requirements

Operating System

- Microsoft Windows 98
- Microsoft Windows 98 SE
- Microsoft Windows 2000
- Microsoft Windows ME
- Microsoft Windows XP

Hardware Requirements

The ATU-R303 ADSL USB Modem is a complete reference design. Substitution of components specified by CTC Union with unspecified components may cause degradation in performance. CTC Union cannot guarantee performance when components have been substituted, thus altering the reference design.

Processor

Intel-compatible 80486 or higher, including Pentium and Pentium Pro.

Appendix D: FCC/Industry Canada Required Information

FCC Required Information:

1. This equipment complies with Part 68 of the FCC rules. This unit bears a label, which contains the FCC registration number and ringer equivalence number (REN). If requested, this information must be provided to the telephone company.
2. This equipment uses the following standard jack types for network connection:
RJ11-6
3. This equipment contains an FCC compliant modular jack. It is designed to be connected to the telephone network or premises wiring using compatible modular plugs and cabling which comply with the requirements of FCC Part 68 rules.
4. In the unlikely event that this equipment causes harm to the telephone network, the telephone company can temporarily disconnect your service. The telephone company will try to warn you in advance of any such disconnection, but if advance notice isn't practical, it may disconnect the service first and notify you as soon as possible afterwards. In the event such a disconnection is deemed necessary, you will be advised of your right to file a complaint with the FCC.
5. From time to time, the telephone company may make changes in its facilities, equipment, or operations, which could affect the operation of this equipment. If this occurs, the telephone company is required to provide you with advance notice so you can make the modifications necessary to maintain uninterrupted service.
6. If a user experience difficulties, check your connection and software configurations. There are no user repairs that can be done on the unit.

Industry Canada Required Information

EQUIPMENT ATTACHMENTS LIMITATIONS

To ensure that certified equipment is attached correctly and only to the networks of participating carriers, the following statement shall accompany each unit of certified equipment offered for sale. This statement must be included conspicuously in written or electronic format, at or near the front of each copy of the operating manual, or accompany other technical information, or be included as a separate sheet. The required statement is:

“NOTICE: The Industry Canada label identifies certified equipment. This certification means that the equipment meets telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements documents(s). The department does not guarantee the equipment will operate to the user’s satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions might not prevent degradation of service in some situations.

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas. **Caution:** Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.”

An explanatory note on Ringer Equivalence Numbers (see Section 10.0) and their use must be provided for the terminal equipment user in the information accompanying the terminal equipment. A notice similar to the following would be suitable:

“NOTICE: The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the ringer equivalence Numbers of all the devices does not exceed 5.”

Appendix E: Abbreviations

ADSL	Asymmetric Digital Subscriber Line
ATM	Asynchronous Transfer Mode
CAP	Carrier-less Amplitude and Phase
DMT	Discrete Multi-tone
DSL	Digital Subscriber Line
G.DMT	ITU G.992.1
G.lite	ITU G.992.2
IP	Internet Protocol
LAN	Local Area Network
PPP	Point-to-Point Protocol
PPPoE	Point-to-Point Protocol over Ethernet
PVC	Permanent Virtual Circuit
SVC	Switched Virtual Circuit
VCI	ATM Virtual Circuit ID
VPI	ATM Virtual Path ID

Appendix F: Product Specification

DIMENSIONS

Height: 1.6 in (4.06 cm), Width: 7.5 in (19.05 cm), Depth: 6.25 in (15.88 cm)

WEIGHT

Approx. 2.20 lbs (1.02 kg)

ENVIRONMENTAL

Ambient Operating Temperature – +32 to +131°F (0 to +45°C)

Relative Humidity – 5 to 95%, non-condensing

POWER REQUIREMENTS

5 VDC Source from PC USB port, Less than 3 watts typical from 5 VDC

CONNECTORS

ADSL LINE – 6-pin modular jack RJ-11

USB – USB Connector

DSL

ADSL Line Code – Discrete MultiTone (DMT)

ADSL TRANSMISSION RATES

Downstream DMT: 32 kbps to 8.0 Mbps

Upstream DMT: 32 kbps to 800 Kbps

TRANSPORT AND APPLICATION PROTOCOL SUPPORT

RFC 1483 Bridge Protocol

ATM SUPPORT

Supports ATM traffic shaping where soft SAR supports individual PCR control for each VC

Full 16-bit address range for both VPI and VCI supported.

Supports PVC connections.

DEVICE DRIVER AND SOFTWARE SPECIFICATIONS

Driver is LAN type network driver and is Network Driver Interface Specification (NDIS) 4.0 compliant.

Windows™ 98, Windows™ 98 Second Edition, Windows 2000

EMC

FCC, Part 15, Class B; EN50081-1, Class B; EN50082-1

SAFETY

UL 1950, cUL, EN60950

REGULATORY APPROVAL

UL, CSA, CE
