P630M

ADSL USB Modem

User's Guide

February 2001

ZyXEL

TOTAL INTERNET ACCESS SOLUTION

Copyright

Disclaimer

ZyXEL does not assume any liability arising out of the application or use of any products, or software described herein. Neither does it convey any license under its patent rights nor the patents' rights of others. ZyXEL further reserves the right to make changes in any products described herein without notice. This publication is subject to change without notice.

Trademarks

Trademarks mentioned in this publication are used for identification purposes only and may be properties of their respective owners.

ZyXEL Limited Warranty

ZyXEL warrants to the original end user (purchaser) that this product is free from any defects in materials or workmanship for a period of up to two (2) years from the date of purchase. During the warranty period and upon proof of purchase, should the product have indications of failure due to faulty workmanship and/or materials, ZyXEL will, at its discretion, repair or replace the defective products or components without charge for either parts or labor and to whatever extent it shall deem necessary to restore the product or components to proper operating condition. Any replacement will consist of a new or re-manufactured functionally equivalent product of equal value, and will be solely at the discretion of ZyXEL. This warranty shall not apply if the product is modified, misused, tampered with, damaged by an act of God, or subjected to abnormal working conditions.

NOTE

Repair or replacement, as provided under this warranty, is the exclusive remedy of the purchaser. This warranty is in lieu of all other warranties, express or implied, including any implied warranty of merchantability or fitness for a particular use or purpose. ZyXEL shall in no event be held liable for indirect or consequential damages of any kind of character to the purchaser.

To obtain the services of this warranty, contact ZyXEL's Service Center for your Return Material Authorization number (RMA). Products must be returned Postage Prepaid. It is recommended that the unit be insured when shipped. Any returned products without proof of purchase or those with an out-dated warranty will be repaired or replaced (at the discretion of ZyXEL) and the customer will be billed for parts and labor. All repaired or replaced products will be shipped by ZyXEL to the corresponding return address, Postage Paid. This warranty gives you specific legal rights, and you may also have other rights that vary from country to country.

Online Registration

Don’t forget to register your ZyXEL product (fast, easy online registration at www.zyxel.com) for free future product updates and information.

Information for Canadian Users

The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective operation and safety requirements. The Industry Canada does not guarantee that the equipment will operate to a 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. In some cases, the company's inside wiring associated with a single line individual service may be extended by means of a certified connector assembly. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility 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.

For their own protection, users should ensure 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 electrical inspection authority, or electrician, as appropriate.

Note

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the radio interference regulations of Industry.

Federal Communications Commission (FCC) Interference Statement

This device complies with Part 15 of FCC rules. Operation is subject to the following two conditions:

This device may not cause harmful interference.

This device must accept any interference received, including interference that may cause undesired operations.

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 commercial environment. 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.

If this equipment does cause harmful interference to radio/television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and the receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

Notice 1

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Notice 2

Use of shielded RS-232 cables is required to ensure compliance with FCC Part 15, and it is the responsibility of the user to provide and use shielded RS-232 cables.

Note

CE and FC Certifications

For more information about your modem’s Declaration of Conformity (DOC) please refer to www.zyxel.com.

Customer Support

When contacting your Customer Support Representative, please have the following information ready:

- Prestige model and serial number.
- Loopback Test information.
- Warranty Information.
- Date you received your Prestige.
- Brief description of the problem and the steps you took to solve it.

Method / Region	EMAIL – Support / EMAIL – Sales	Telephone / Fax	Web Site / FTP Site	Regular Mail
Worldwide	support@zyxel.com.tw support@europe.zyxel.com	+886-3-578-3942	www.zyxel.com www.europe.zyxel.com	ZyXEL Communications Corp., 6 Innovation Road II, Science-Based Industrial Park, HsinChu, Taiwan.
	sales@zyxel.com.tw	+886-3-578-2439	ftp.europe.zyxel.com	
North America	support@zyxel.com	+1-714-632-0882 800-255-4101	www.zyxel.com	ZyXEL Communications Inc., 1650 Miraloma Avenue, Placentia, CA 92870, U.S.A.
	sales@zyxel.com	+1-714-632-0858	ftp.zyxel.com	
Scandinavia	support@zyxel.dk	+45-3955-0700	www.zyxel.dk	ZyXEL Communications A/S, Columbusvej 5, 2860 Soeborg, Denmark.
	sales@zyxel.dk	+45-3955-0707	ftp.zyxel.dk	
Austria	support@zyxel.at	0810-1-ZyXEL 0810-1-99935	www.zyxel.at	ZyXEL Communications Services GmbH., Thaliastrasse 125a/2/2/4, A-1160 Vienna, Austria
	sales@zyxel.at	+43-1-4948678	ftp.zyxel.at Note: for Austrian users with *.at domain only!	
Germany	support@zyxel.de	+49-2405-6909-0 0180-5213247 Tech Support hotline 0180-5099935 RMA/Repair hotline	www.zyxel.de	ZyXEL Deutschland GmbH., Adenauerstr. 20/A4, D-52146 Wuerselen, Germany.
	sales@zyxel.de	+49-2405-6909-99	ftp.europe.zyxel.com	

Table of Contents

Copyright ii
ZyXEL Limited Warranty iii
Information for Canadian Users iv
Federal Communications Commission (FCC) Interference Statement v
Customer Support vi
List of Tables ix
List of Figures ix
What is ADSL? x
What is USB? xi
Device Drivers xii
Features xiii
About This Manual xiv

Chapter 1 Software Setup and Modem Installation 1-1

1.1 Software Installation 1-1
1.2 Software Setup 1-2
1.3 Modem Installation 1-4
1.3.1 Rear Panel Connections 1-4
1.3.2 Procedure 1-5
1.4 Front Panel LEDs 1-6
1.5 Front Panel LED Descriptions 1-6

Chapter 2 DSL Modem Installer 2-1

2.1 Introduction 2-1
2.1.1 Procedure 2-1
2.2 Customize Your Communication Settings 2-2
2.2.1 Procedure 2-2

2.3 Update Modem Software 2-2
2.3.1 Procedure 2-2

2.4 Remove Software 2-3
2.4.1 Procedure 2-3

Chapter 3 Control Panel Application 3-1

3.1 Procedure 3-1

Chapter 4 Modify TCP/IP Networking Options 4-1

4.1 WAN USB Driver 4-1
4.1.1 Microsoft® Windows® 98 4-1
4.1.2 Microsoft® Windows® 2000 4-3
4.1.3 Microsoft® Windows® Me 4-5

4.2 LAN USB Driver 4-6
4.2.1 Microsoft® Windows® 98 4-6
4.2.2 Microsoft® Windows® 2000 4-8
4.2.3 Microsoft® Windows® Me 4-10

Chapter 5 Troubleshooting 5-1

Glossary ..... A

Index I

List of Tables

Table 1-1 Required Information 1-1
Table 1-2 Front Panel LED Descriptions 1-6
Table 5-1 Troubleshooting Table 5-1

List of Figures

Figure 1-1 Communications Settings Window 1-3
Figure 1-2 Setup Complete Window 1-4
Figure 1-3 Back Panel Connections 1-5
Figure 1-4 Plug this cable end into your computer 1-5
Figure 1-5 Plug this cable end into your Prestige 1-5
Figure 1-6 Front Panel LEDs 1-6
Figure 2-1 DSL Modem Installer Window 2-1
Figure 2-2 Select installation location Window 2-3
Figure 2-3 Information Window ..... **Error! Bookmark not defined.**
Figure 3-1 ZyXEL ADSL Modem Window - Physical Link Tab 3-1
Figure 3-2 ZyXEL ADSL Modem Window - System Info Tab 3-2
Figure 3-3 ZyXEL ADSL Modem Window - Configuration Tab 3-2
Figure 4-1 ZyXEL ADSL Connection Window - Server Types Tab 4-2
Figure 4-2 TCP/IP Settings Window 4-2
Figure 4-3 ZyXEL ADSL WAN Connection Properties Window - Networking Tab 4-3
Figure 4-4 ZyXEL ADSL WAN Connection Properties Window - Networking Tab 4-4
Figure 4-5 Internet Protocol (TCP/IP) Properties Window 4-4
Figure 4-6 ZyXEL ADSL Connection - Networking Tab 4-5
Figure 4-7 TCP/IP Settings Window 4-6
Figure 4-8 Network Window - Configuration Tab 4-7
Figure 4-9 TCP/IP Properties Window - IP Address Tab 4-7
Figure 4-10 TCP/IP Properties Window - Gateway Tab 4-8
Figure 4-11 Local Area Connection 2 Properties Window - General Tab 4-9
Figure 4-12 Internet Protocol (TCP/IP) Properties Window - General Tab 4-10
Figure 4-13 Network Window - Configuration Tab 4-11
Figure 4-14 TCP/IP Properties Window - IP Address Tab 4-11

What is ADSL?

Your Prestige 630 ADSL USB Modem

Congratulations on the purchase of your new modem! Your modem combines the super-fast speed of state-of-the-art ADSL (Asynchronous Digital Subscriber Line) technology with the ease of setup and operation facilitated by a Plug and Play USB (Universal Serial Bus) interface.

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 voice signals, 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 downstream data rate transfer (receive) than in the upstream (transmit) transfer. Asymmetric operation is ideal for typical home and small office use where files and information are downloaded more frequently than uploaded.

Advantages of ADSL

1. ADSL transforms plain old telephone lines into a high-speed conduit for data, information, entertainment and more while simultaneously allowing you to use your telephone - this provides enormous advantages at home and at work.
2. ADSL provides affordable high-speed remote access to the Internet, corporate networks and on-line services over ordinary phone lines.
   - Nearly 300 times faster than 24.4 Kbps modems.
   - Over 100 times faster than 56 Kbps modems.
   - 70 times faster than 128 Kbps ISDN.
3. ADSL enables the use of real-time, interactive multimedia and broadcast-quality video for services such as collaborative computing, video conferencing, distance learning and video-on-demand.
4. ADSL provides a private (unlike cable telephone and modem services where the line is shared), dedicated and secure channel of communications between you and your service provider.
5. Because your line is dedicated (not shared), transmission speeds are not affected by other users. With cable modems, transmission speeds drop significantly as more users go on-line because the line is shared.
6. ADSL is "always on" (connected) - just like your telephone. This means that there is no time wasted dialing up the service several times a day and waiting to be connected; ADSL is on standby, ready for use whenever you need it.

What is USB?

USB (Universal Serial Bus) is an external interface data communication standard for a peripheral bus that was developed by Intel® and Microsoft®. USB is commonly referred to as a Plug and Play - meaning that your computer will instantly recognize (auto-detect) your new device (your Prestige). Plug and Play means that you require no technical expertise to install your device, installation times are greatly reduced and that you simply plug your USB cable in and follow a limited set of easy-to-understand automatically generated instructions. Set-up and operation has never been easier.

Advantages of USB

1. Replaces the need for a plethora of connectors and ports on computers and provides an interface for computer-telephony devices. Instead of having separate connections for keyboard, mouse, printer, modem, joystick, audio devices, CD-ROMs, digital cameras and other devices, USB provides a single port to connect all of the devices (via hub).

2. USB eliminates many of the problems associated with (physically) opening your computer to install adapter cards, change dip switches and configure IRQs (Interrupt Requests).

3. USB defines the ports and the bus topology with data transfer rates up to 12 Mbps. A single cable up to 5 meters in length is used to daisy-chain devices to a single port. Up to 63 devices can be added to the port at any time without rebooting your computer (via hub).

4. USB supplies power to some devices - eliminating the need for power cords or batteries.

Device Drivers

Two types of device drivers are provided for your new modem: WAN (Wide Area Network) and LAN (Local Area Network). The proper choice of driver depends on the combination of operating system and protocol.

1. **WAN (RFC 2364) Driver** - this driver causes the modem to resemble a dial-up modem. Call establishment takes place through Dial-Up Networking. This driver supports RFC 2364 with PVC (Permanent Virtual Circuit) connections.
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.

Device Driver Choices: Summation

DRIVER TYPE	PROTOCOL	OPERATING SYSTEMS SUPPORTED
LAN	RFC 1483	Windows® 98 SE (Second Edition), Windows® Me (Millennium) and Windows® 2000.[1]
WAN	RFC 2364	

[1] MAC and Linux operating systems to be supported in later versions.

Features

The ZyXEL USB ADSL 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 the Microsoft® NDIS 4.0 WAN and NDIS 4.0 LAN Miniport device drivers
- Compatible with all T1.413, G.DMT and G.Lite compliant CO DSLAM equipment
- Software upgradeable
- 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 (142 times faster than a standard 56K modem)
- Supports DSL upstream data rates up to 1024 Kbps

About This Manual

A practical and comprehensive tool, this manual provides information about modem installation and operation. Ensure optimal comprehension by familiarizing yourself with the *Syntax Conventions* listed next.

Syntax Conventions

- "Type" means for you to type one or more characters and press the carriage return. "Select" or "Choose" means for you to select one from the predefined choices.
- Window and command choices are in **Bold Times** font.

The Prestige 630M may be referred to as the Prestige, the P630 or the ZyXEL ADSL USB Modem in this manual.

Chapter 1
Software Setup and Modem Installation

This chapter guides you through the process of installing and configuring your software and hooking up your modem.

Your modem supports WAN and LAN software drivers. See the previous section on *Device Drivers* to find out what drivers you should use with your Windows® OS (Operating System). Follow the instructions that your computer OS provides.

1.1 Software Installation

The following information may be required for software installation. Contact your DSL service provider before proceeding with software installation and fill in the table below.

Table 1-1 Required Information

Information you may need before beginning software installation:	Fill in the blanks
Type of Driver you need to install. WAN and LAN software drivers are supported.	
IP Address Settings Dynamic assignment (no information required) OR Static assignment (you need the following information): IP Address Subnet Mask (for bridged ethernet applications only) Default Gateway (for bridged ethernet applications only)	

Information you may need before beginning software installation:	Fill in the blanks
Name Server Information Dynamic assignment (no information required) OR Static assignment (you need the following information): Primary DNS Address Secondary DNS Address Primary WINS Address Secondary WINS Address	
The Virtual Path Identifier number identifies virtual paths between users or between users and networks. Virtual Path ID (VPI)	
The Virtual Channel Identifier number identifies virtual channels between users or between users and networks. Virtual Circuit ID (VCI)	
Encapsulation is the method of packaging information into packets. Choices are RFC 1483 and RFC 2364. Encapsulation type	
The Modulation Type selected dictates what ADSL mode the Prestige will operate under. Choose from T1.413, G.DMT, G.Lite or Multimode. Multimode Modulation supports T1.413 or G.DMT protocol. Modulation type	
User Name (for PPP applications only) Password (for PPP applications only)	

1.2 Software Setup

Before starting the software setup process, close all of your computer windows and applications.

Procedure for Software Setup

Step 1. Insert the installation CD into your CD-ROM drive and double-click the **Setup** icon to start the installation procedure.

Step 2. The **Welcome** window provides an opportunity to quit the setup process to exit all Windows® programs before continuing. When all Windows® programs are closed, click **Next >**.

Step 3. Read the license agreement and click **Yes**.

Step 4. If your service provider is not listed, highlight **Other Service Provider** and click **Next >** to continue.

Step 5. At the **Select Driver Type** window, highlight the driver you want to install and click **Next >**.

Step 6. Use the **Communication Settings** window (shown next) to configure **VPI**, **VCI**, **Encapsulation** and **Modulation** type. Then click **Next >**.

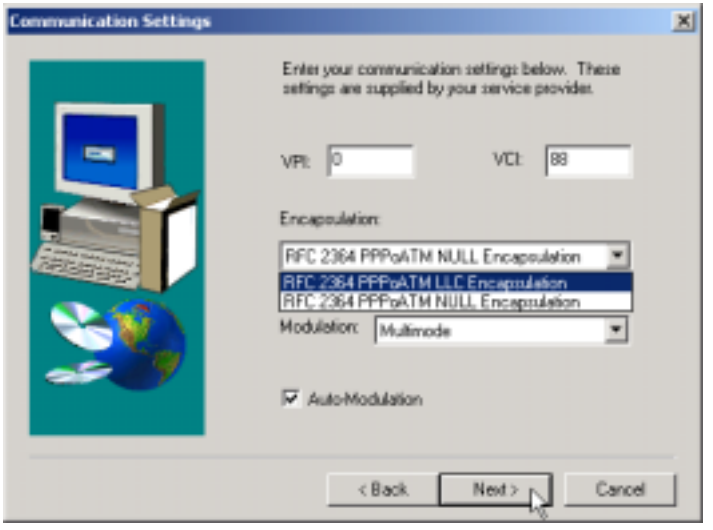

Figure 1-1 Communications Settings Window

Encapsulation types vary depending upon the application.

Check the Auto-Modulation **option box to enable the standard stored in the Windows® Registry (G.dmt or Multimode); if you fail to connect within 10 seconds, then try another standard.**

Step 7. At the **Start Copying Files** window, review your current settings. Click **Customize** or **< Back** to change the settings. Click **Next >** to accept the current settings.

For Windows® 2000 applications, the Digital Signature Not Found **window warns that the installation software is not a digitally signed version. A digital signature is not**

necessary; ZyXEL has tested the software with this OS. Click Yes to allow the installation to continue.

Step 8. The **Setup Complete** window indicates successful completion of the installation process.

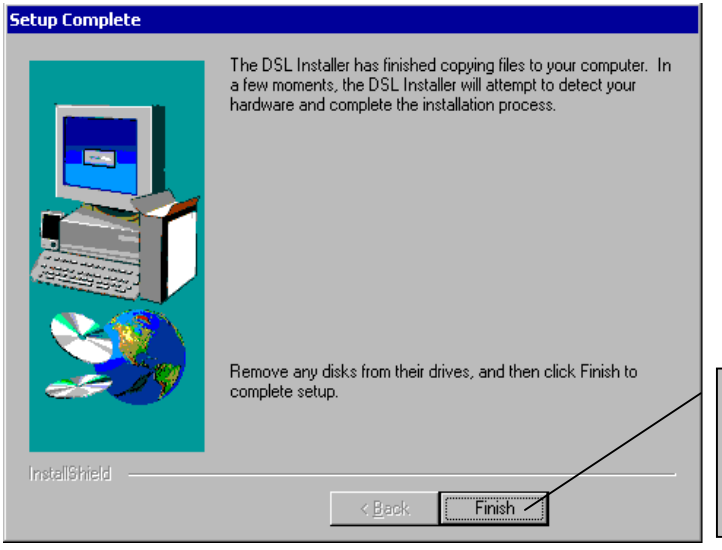

Figure 1-2 Setup Complete Window

Step 9. Proceed to the *Modem Installation* section (shown next).

1.3 Modem Installation

For Windows® 98 SE applications, you may need the Windows® 98 SE CD to complete the installation.

Install the ZyXEL USB ADSL Modem by using the following procedure.

1.3.1 Rear Panel Connections

The P630 has two interfaces: a USB and an ADSL port. Both interfaces transmit and receive data through a USB cable and an ADSL line respectively. LED indicators indicate the operational status of your Prestige.

The following figure shows the rear panel connectors of your Prestige.

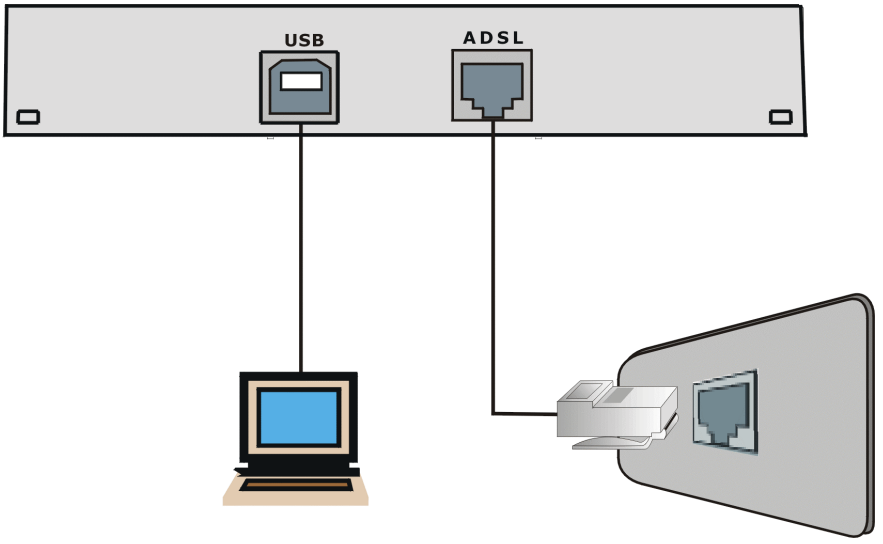

Figure 1-3 Back Panel Connections

Do not connect your USB device until you have installed the driver software for your computer as described at the beginning of this chapter.

1.3.2 Procedure

Step 1. Attach the rectangular end of the USB cable into the back of your computer and the square end of the USB cable into the back of your Prestige (see figures below).

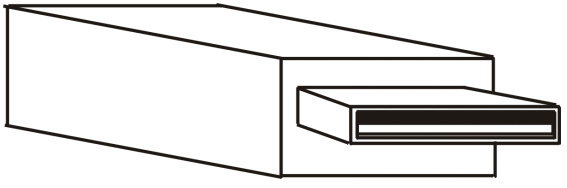

Figure 1-4 Plug this cable end into your computer

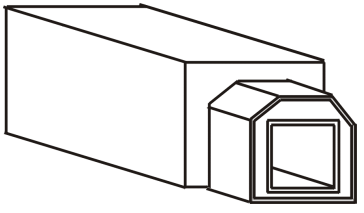

Figure 1-5 Plug this cable end into your Prestige

Messages are displayed as the modem software is auto-detected and installed.

For Windows® 2000 applications, the Found New Hardware Wizard **window indicates the modem has been installed. Click** Finish**.**

Step 2. Follow the Windows® instructions to get your new settings to take affect.

Once you restart your computer, installation of the ZyXEL USB Modem is complete.

1.4 Front Panel LEDs

The LED indicators on the front panel indicate the operational status of the Prestige 630. All LEDs are located on the front panel. All interfaces are located on the back panel.

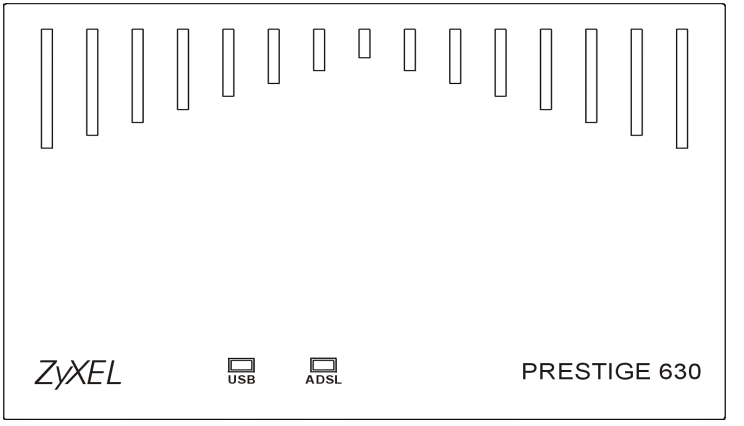

Figure 1-6 Front Panel LEDs

1.5 Front Panel LED Descriptions

Table 1-2 Front Panel LED Descriptions

LED	FUNCTION	DESCRIPTION
USB	USB Interface and Modem Power Connection	This LED is off when the USB is not connected, has malfunctioned or is not receiving power. The LED is on when the USB is connected, receiving power or transmitting information.
ADSL	ADSL Interface	This LED is off when the link is not ready, has malfunctioned or is not receiving power. This LED is on when the Prestige is connected to the DSLAM and the

		link is up or connected. This LED blinks when the link is not ready or has failed.

Chapter 2
DSL Modem Installer

This chapter shows you how to customize your communication settings, update modem software and remove modem software drivers.

Install your software and modem (see *previous chapter*) before proceeding.

2.1 Introduction

You can perform many functions through the **DSL Modem Installer** window. The following explains how to find this window.

2.1.1 Procedure

Step 1. From your computer desktop click **Start** ▸ **Programs** ▸ **ZyXEL DSL Modem** ▸ **Configure**.

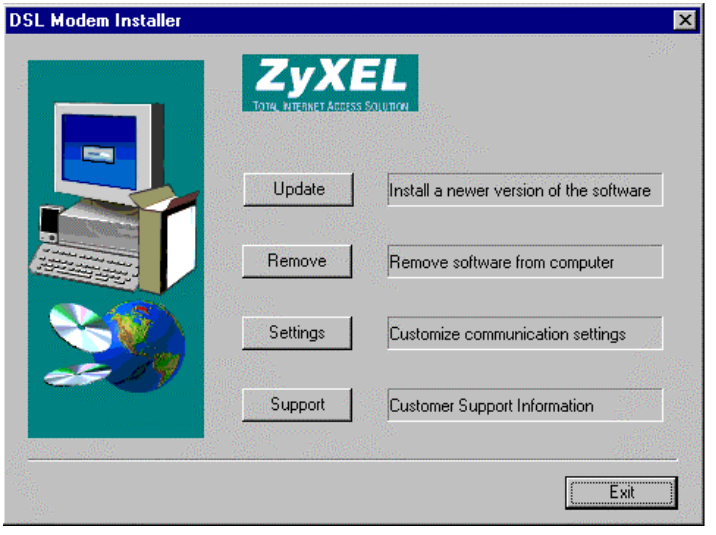

Figure 2-1 DSL Modem Installer Window

Step 2. Follow the procedures in the rest of this chapter.

2.2 Customize Your Communication Settings

This section describes how to customize your **VPI**, **VCI**, **Encapsulation** and **Modulation** settings.

2.2.1 Procedure

Step 1. In the DSL Installer window shown previously, click **Settings**.

Step 2. From the **Communication Settings** window (see *previous chapter*), configure the following fields: **VPI**, **VCI**, **Encapsulation** and **Modulation** type. Click **Apply**.

Step 3. The **Setup Complete** window indicates successful completion of the customization process. Remove any disks from their drives and restart your computer when prompted.

2.3 Update Modem Software

This section details how to install a new version of your modem software driver. You may first want to copy the driver to the hard disk to take advantage of its speed.

2.3.1 Procedure

Step 1. In the **DSL Modem Installer** window shown previously, click **Update**.

Step 2. Click **Yes** at the message that asks you to confirm the update.

Step 3. In the window shown next, highlight the location of the **Setup** files and click **OK**.

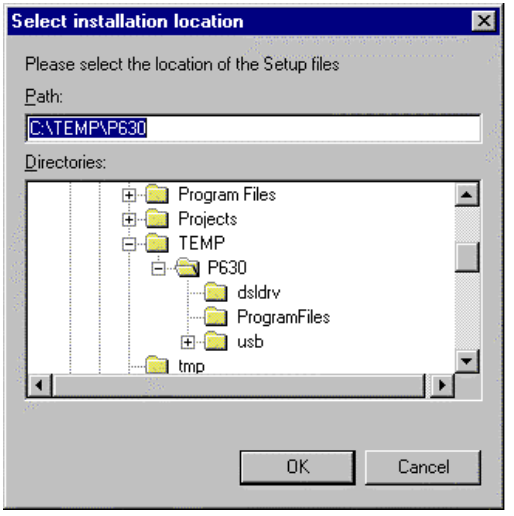

Figure 2-2 Select installation location Window

Step 4. Click **OK** at the message that informs you not to unplug the USB modem cable until "after the install wizard has finished". This message may not appear in Windows ® 2000 versions.

Step 5. Click **Finish** in the **Setup Complete** window to complete this portion of the update process.

Step 6. Unplug the USB modem cable.

2.4 Remove Software

2.4.1 Procedure

Step 1. First unplug the USB cable.

Step 2. In the **DSL Modem Installer** window shown previously, click **Remove**.

Step 3. Click **Yes** at the prompt to confirm the removal of your modem software.

If in some versions you get a screen that says not to unplug the USB cable until after the Install Wizard has finished, just click OK **and continue.**

Step 4. At the **Setup Complete** window, remove any disks from their drives and click **Finish**. Restart your computer when prompted.

Chapter 3
Control Panel Application

This chapter shows you how to configure and check the performance of the Modem/ADSL connection.

When the control panel application is open, the monitor window updates every 2 seconds.

The figures shown next May differ from what you see because ZyXEL Control Panel functionality is continually being upgraded and improved.

3.1 Procedure

Step 1. Click **Start** ▸ **Settings** ▸ **Control Panel** and then double-click the **ZyXEL DSL Modem** icon.

To access the ZyXEL Control Panel, the driver must be running with the USB cable plugged into the modem.

Step 2. Use this window to review the status of your modem and connection. A lit **Link Status** field indicates a successful connection. This indicator blinks when a connection is being established. The **Transmitting** and **Receiving** fields show activity via flashing yellow indicators.

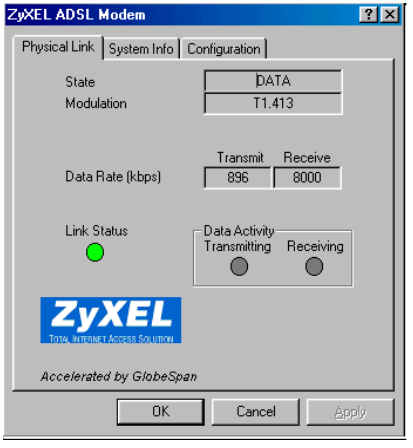

Figure 3-1 ZyXEL ADSL Modem Window - Physical Link Tab

Step 3. This window displays the **Driver / Firmware Release** numbers and the **Control Panel Version**.

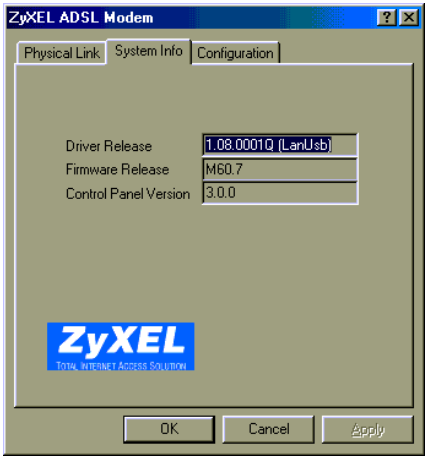

Figure 3-2 ZyXEL ADSL Modem Window - System Info Tab

Step 4. This window displays the **Modulation**, **Encapsulation** and **VPI/VCI** values

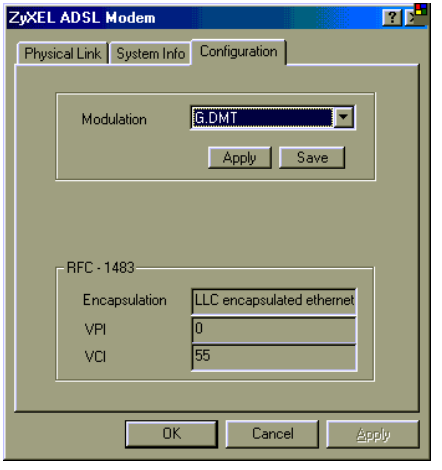

Figure 3-3 ZyXEL ADSL Modem Window - Configuration Tab

The preceding window may vary depending on your operating system and driver type.

Chapter 4
Modify TCP/IP Networking Options

This chapter shows you how to modify networking options for WAN and LAN.

TCP/IP settings are automatically set-up during the software installation process. Use the following OS specific procedures to change TCP/IP settings (if necessary) for WAN and LAN. Procedures detail statically assigned, as opposed to dynamically assigned, information.

Icon names in the Dial-up Networking **and/or** My Network Places **windows may differ from those specified in this chapter.**

4.1 WAN USB Driver

4.1.1 Microsoft® Windows® 98

Procedure

Step 1. From your computer desktop, double-click the **My Computer** icon.

Step 2. From the **My Computer** window, double-click the **Dial-Up Networking** icon.

Step 3. From the **Dial-Up Networking** window, right-click the **ZyXEL ADSL Connection** icon and click **Properties**.

Step 4. Use this window to reach your TCP/IP settings.

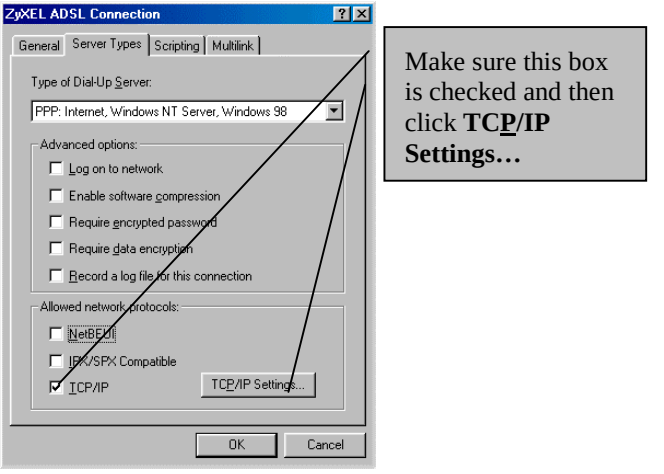

Figure 4-1 ZyXEL ADSL Connection Window - Server Types Tab

Step 4. Use this window to configure your TCP/IP settings.

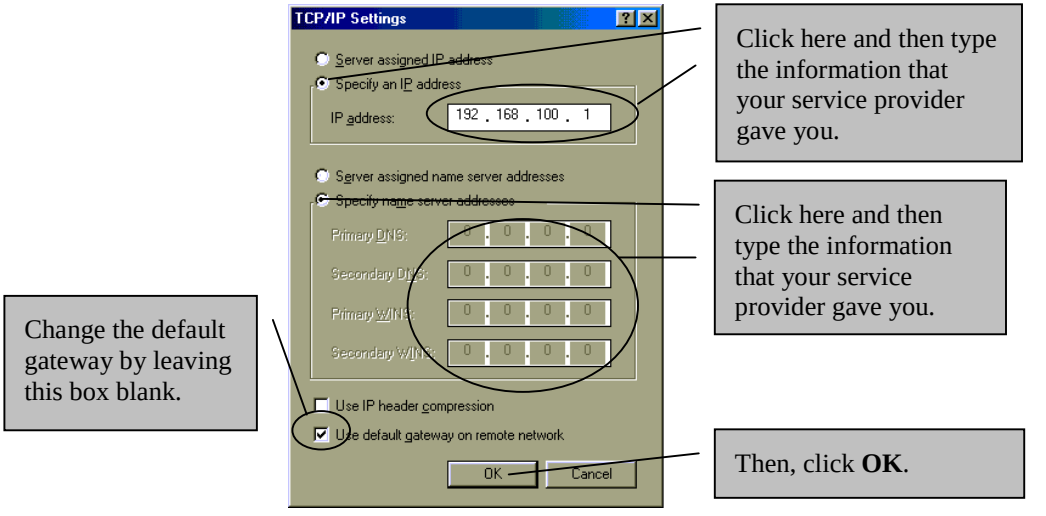

Figure 4-2 TCP/IP Settings Window

Step 5. Click **OK** to confirm changes and end this TCP/IP option modification session.

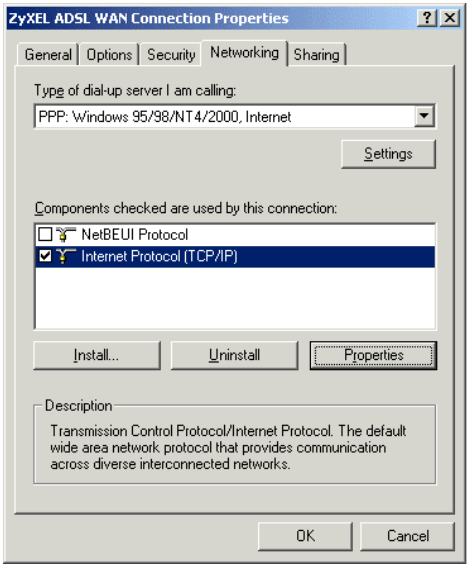

Figure 4-3 ZyXEL ADSL WAN Connection Properties Window - Networking Tab

4.1.2 Microsoft® Windows® 2000

Procedure

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

Step 2. From the **Network and Dial-Up Connections** window, right-click the **ZyXEL ADSL WAN Connection** icon and click **Properties**.

Step 3. Use this window to reach the **IP Protocol Properties** window. Select **Internet Protocol (TCP/IP)** and click **Properties.**

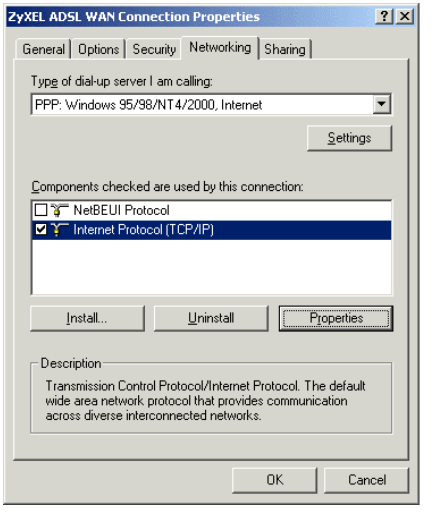

Figure 4-4 ZyXEL ADSL WAN Connection Properties Window - Networking Tab

Step 4. Use this window to configure your **IP Protocol Properties**.

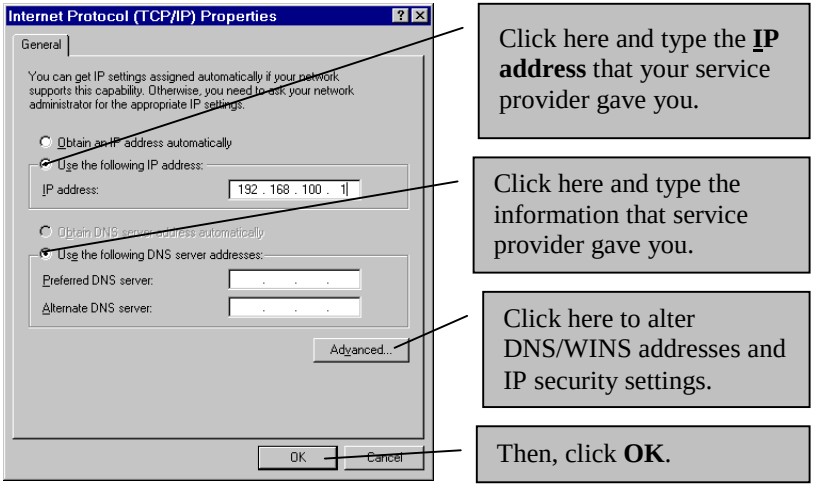

Figure 4-5 Internet Protocol (TCP/IP) Properties Window

Step 5. At the **ZyXEL ADSL WAN Connection Properties** window, click **OK** to confirm changes and end this TCP/IP option modification session.

4.1.3 Microsoft® Windows® Me

Procedure

Step 1. From your computer desktop, double-click the **My Computer** icon.

Step 2. From the **My Computer** window, double-click the **Dial-Up Networking** icon.

Step 3. Right-click the **ZyXEL ADSL Connection** icon and click **Properties**.

Step 4. Use this window to reach your TCP/IP settings.

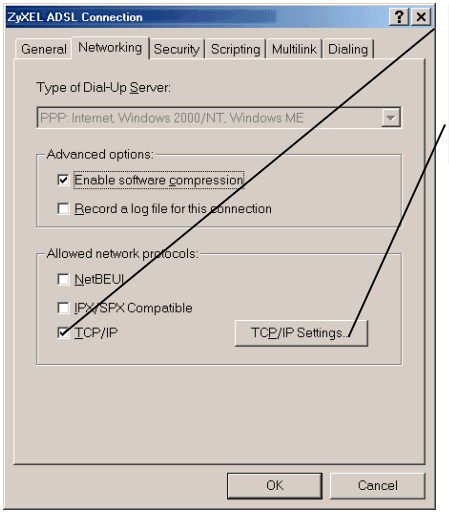

Figure 4-6 ZyXEL ADSL Connection - Networking Tab

Step 5. Use this window to configure your TCP/IP settings.

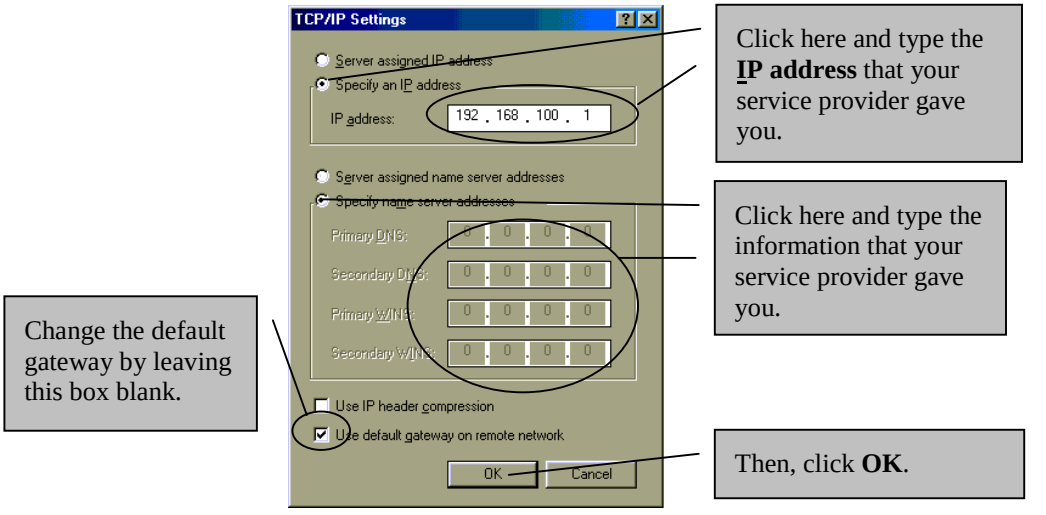

Figure 4-7 TCP/IP Settings Window

Step 6. Click **OK** at the next window.

4.2 LAN USB Driver

4.2.1 Microsoft® Windows® 98

Procedure

Step 1. Click **Start** ▸ **Settings** ▸ **Control Panel** and then double-click on the **Network** icon.

Step 2. Use this window to reach your LAN TCP/IP networking properties.

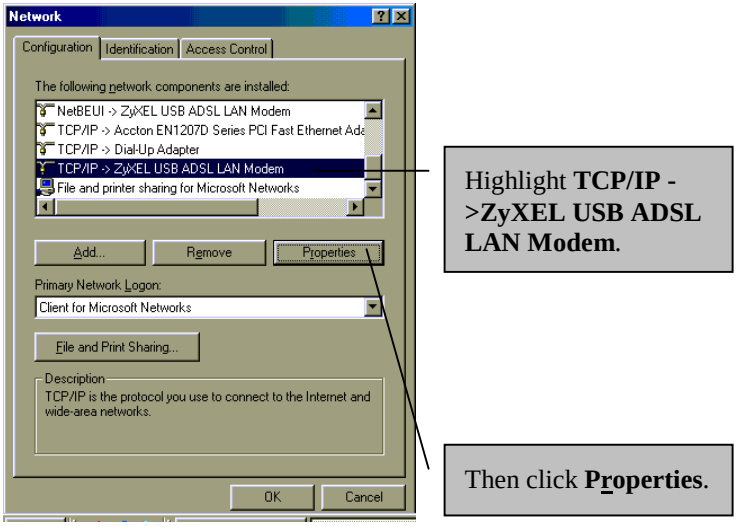

Figure 4-8 Network Window - Configuration Tab

Step 3. Use this window to configure TCP/IP Properties.

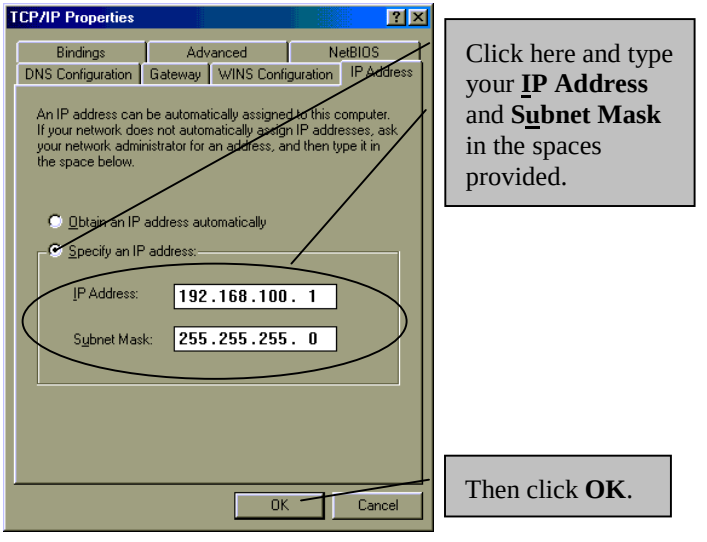

Figure 4-9 TCP/IP Properties Window - IP Address Tab

Step 4. Use this window to add or remove gateways. Consult with your network administrator to determine the appropriate addresses for your needs.

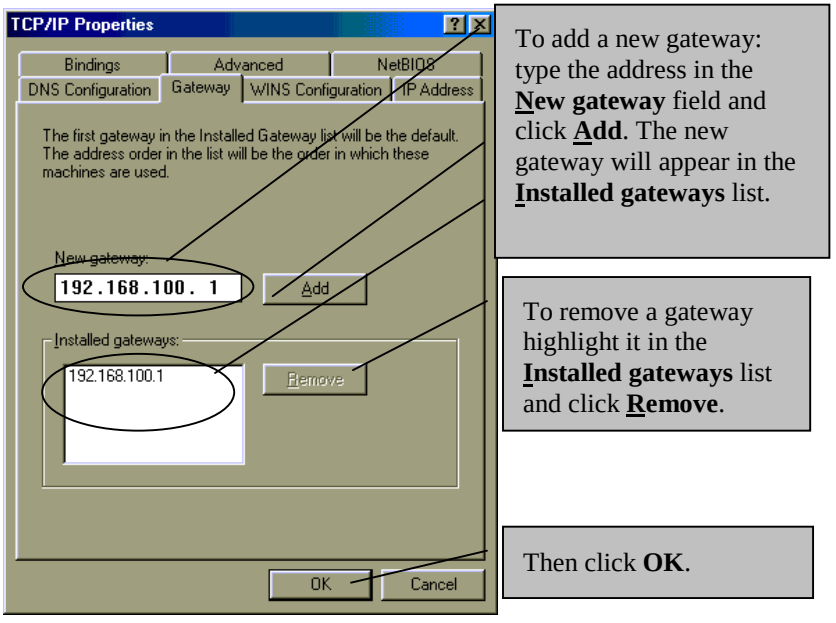

Figure 4-10 TCP/IP Properties Window - Gateway Tab

Step 5. Click **OK** to confirm changes and end this TCP/IP option modification session.

Step 6. Click **Yes** to restart your computer (if prompted).

4.2.2 Microsoft® Windows® 2000

Procedure

Step 1. From your computer desktop, right-click the **My Network Places** icon and click **Properties**.

Step 2. Double-click the **Local Area Connection** icon from the **Network and Dial-Up Connections** window.

Step 3. Use this window to reach your LAN TCP/IP networking properties.

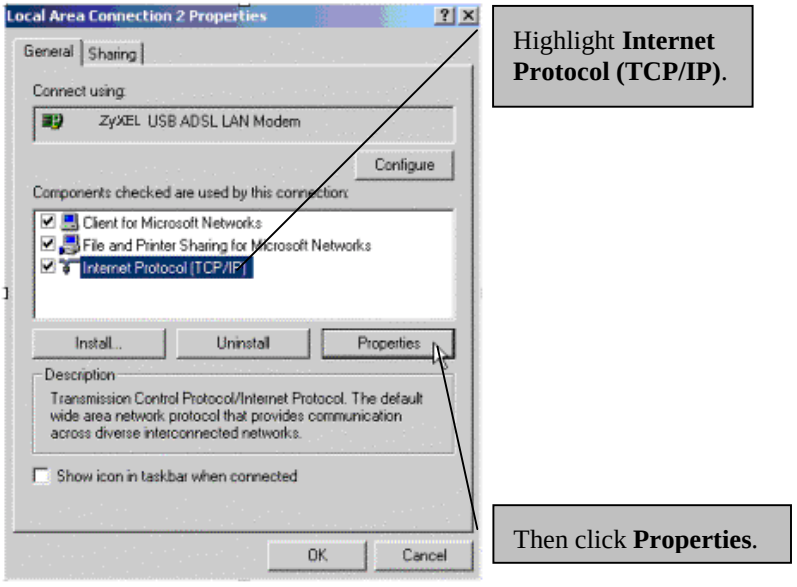

Figure 4-11 Local Area Connection 2 Properties Window - General Tab

Step 4. Use this window to configure TCP/IP properties.

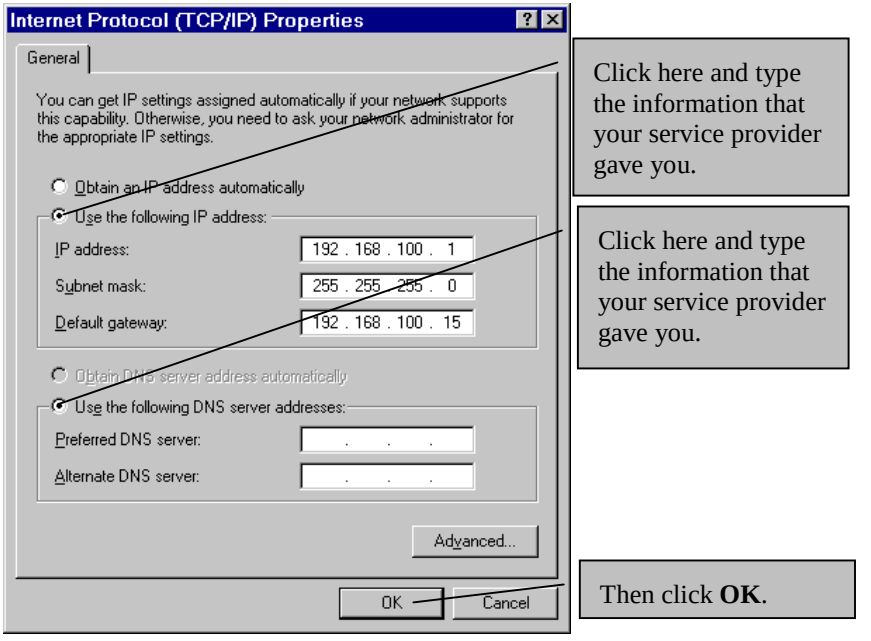

Figure 4-12 Internet Protocol (TCP/IP) Properties Window - General Tab

Step 5. At the next window, click **OK** to confirm changes and end this TCP/IP option modification session.

4.2.3 Microsoft® Windows® Me

Procedure

Step 1. From your computer desktop, right-click the **My Network Places** icon and click **Properties**.

Step 2. Use this window to reach TCP/IP properties.

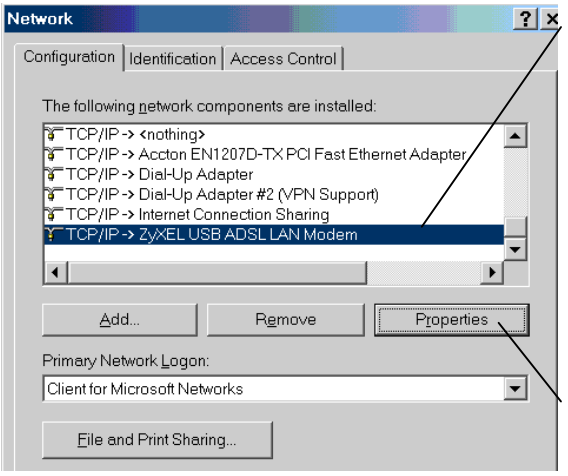

Figure 4-13 Network Window - Configuration Tab

Step 3. Use this screen to configure TCP/IP properties.

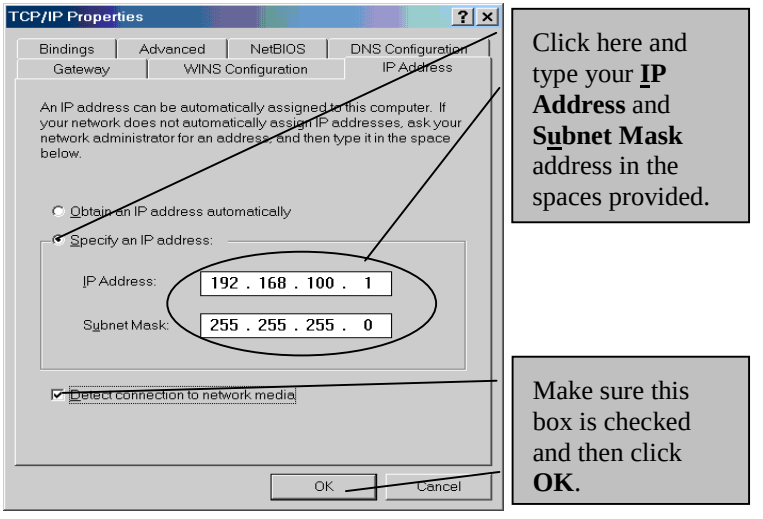

Figure 4-14 TCP/IP Properties Window - IP Address Tab

Step 4. Click **OK** and then click **Yes** to restart your computer.

Chapter 5
Troubleshooting

This chapter covers potential problems and the possible solutions.

Table 5-1 Troubleshooting Table

PROBLEM	CORRECTIVE ACTION
None of the LEDs are on when I turn on the Prestige.	Make sure your USB cable is properly connected to your Prestige. Make sure your computer is connected to, and receiving power from, a power source. If the error persists, you may have a hardware problem. In this case, contact technical support.
I cannot access the Prestige via my computer.	Make sure the Prestige is connected to your computer's USB port.
I cannot connect to the Internet.	Make sure the cable is connected properly from the ADSL port to the wall jack. The ADSL LED on the front panel of the Prestige should be on. Check your VPI, VCI, Encapsulation and Modulation settings (get this information from your telephone company and ISP). Reboot the Prestige. If you still have problems, verify this information with your telephone company and/or ISP.

Glossary

10BaseT	The 10-Mbps baseband Ethernet specification that uses two pairs of twisted-pair cabling (Category 3 or 5): one pair for transmitting data and the other for receiving data.
ADSL	Asymmetrical Digital Subscriber Line is an asymmetrical technology, meaning that the downstream data rate is much higher than the upstream data rate. ADSL operates in a frequency range that is above the frequency range of voice services, so the two systems can operate over the same cable.
ARP	Address Resolution Protocol is a protocol for mapping an Internet Protocol address (IP address) to a physical machine address that is recognized in the local network.
Backbone	A high-speed line or series of connections that forms a major pathway within a network.
Bandwidth	This is the capacity on a link usually measured in bits-per-second (bps).
Bit	(Binary Digit) -- A single digit number in base-2, in other words, either a 1 or a zero. The smallest unit of computerized data.
Byte	A set of bits that represent a single character. There are 8 bits in a Byte.
CDR	Call Detail Record. This is a name used by telephone companies for call related information.
CHAP	Challenge Handshake Authentication Protocol is an alternative protocol that avoids sending passwords over the wire by using a challenge/response technique.
Client	A software program that is used to contact and obtain data from a Server software program on another computer. Each Client program is designed to work with one or more specific kinds of Server programs, and each Server requires a specific kind of Client. A Web Browser is a specific kind of Client.
Crossover Ethernet Cable	A cable that wires a pin to its opposite pin, for example, RX+ is wired to TX+. This cable connects two similar devices, for example, two data terminal equipment (DTE) or data communications equipment (DCE) devices.
CSU/DSU	Channel Service Unit/Data Service Unit. CSUs (channel service units) and DSUs (data service units) are actually two separate devices, but they are used in conjunction and often combined into the same box. The devices are part of the hardware you need to connect computer equipment to digital transmission lines). The Channel Service Unit device connects with the digital communication line and provides a termination for the digital signal. The Data Service Unit device, sometimes called a digital service unit, is the hardware component you need to transmit digital data over the hardware channel. The device converts signals from bridges, routers, and multiplexors into the bipolar digital signals used by the digital lines. Multiplexors mix voice signals and data on the same line.
DCE	Data Communications Equipment is typically a modem or other type of communication device.

	The DCE sits between the DTE (data terminal equipment) and a transmission circuit such as a phone line.
DHCP	Dynamic Host Configuration Protocol automatically assigns IP addresses to clients when they log on. DHCP centralizes IP address management on central computers that run the DHCP server program. DHCP leases addresses for a period of time, which means that addresses are made available to assign to other systems.
DNS	Domain Name System links names to IP addresses. When you access Web sites on the Internet, you can type the IP address of the site or the DNS name. When you type a domain name in a Web browser, a query is sent to the primary DNS server defined in your Web browser's configuration dialog box. The DNS server converts the name you specified to an IP address and returns this address to your system. From then on, the IP address is used in all subsequent communications.
Domain Name	The unique name that identifies an Internet site. Domain Names always have 2 or more parts, separated by dots. The part on the left is the most specific, and the part on the right is the most general.
DRAM	Dynamic RAM that stores information in capacitors that must be refreshed periodically.
Driver	A driver is a program that interacts with a particular device or special kind of software. The driver contains special knowledge of the device or a special software interface that programs using the driver do not.
DSL	Digital Subscriber Line technologies enhances the data capacity of the existing twisted-pair wire that runs between the local telephone company switching offices and most homes and offices. There are actually seven types of DSL service, ranging in speeds from 16 Kbits/sec to 52 Mbits/sec. The services are either symmetrical (traffic flows at the same speed in both directions), or asymmetrical (the downstream capacity is higher than the upstream capacity). DSL connections are point-to-point dedicated circuits, meaning that they are always connected. There is no dial-up. There is also no switching, which means that the line is a direct connection into the carrier's frame relay, ATM (Asynchronous Transfer Mode), or Internet-connect system.
DSLAM	A Digital Subscriber Line Access Multiplexer (DSLAM) is a network device, usually at a telephone company central office, that receives signals from multiple customer Digital Subscriber Line connections and puts the signals on a high-speed backbone line using multiplexing techniques. Depending on the product, DSLAM multiplexers connect DSL lines with some combination of asynchronous transfer mode ATM, frame relay, or IP networks.
DTE	Originally, the DTE (Data Terminal Equipment) was a dumb terminal or printer, but today it is a computer, or a bridge or router that interconnects local area networks.
EMI	ElectroMagnetic Interference. The interference by electromagnetic signals that can cause reduced data integrity and increased error rates on transmission channels.
Ethernet	A very common method of networking computers in a LAN. There are a number of adaptations

	to the IEEE 802.3 Ethernet standard, including adaptations with data rates of 10 Mbits/sec and 100 Mbits/sec over coaxial cable, twisted-pair cable, and fiber-optic cable. The latest version of Ethernet, Gigabit Ethernet, has a data rate of 1 Gbit/sec.
FAQ	(Frequently Asked Questions) -- FAQ's are documents that list and answer the most common questions on a particular subject.
FCC	The FCC (Federal Communications Commission) is in charge of allocating the electromagnetic spectrum and thus the bandwidth of various communication systems.
Flash Memory	The nonvolatile storage that can be electrically erased and reprogrammed so that data can be stored, booted, and rewritten as necessary.
Gateway	A gateway is a computer system or other device that acts as a translator between two systems that do not use the same communication protocols, data formatting structures, languages, and/or architecture.
Host	Any computer on a network that is a repository for services available to other computers on the network. It is quite common to have one host machine provide several services, such as WWW and USENET.
IANA	Internet Assigned Number Authority acts as the clearinghouse to assign and coordinate the use of numerous Internet protocol parameters such as Internet addresses, domain names, protocol numbers, and more. The IANA Web site is at http://www.isi.edu/iana.
ICMP	Internet Control Message Protocol is a message control and error-reporting protocol between a host server and a gateway to the Internet. ICMP uses Internet Protocol (IP) datagrams, but the messages are processed by the TCP/IP software and are not directly apparent to the application user.
Internet	(Lower case i) Any time you connect 2 or more networks together, you have an internet.
Internet	(Upper case I) The vast collection of inter-connected networks that all use the TCP/IP protocols and that evolved from the ARPANET of the late 60's and early 70's.
Intranet	A private network inside a company or organization that uses the same kinds of software that you would find on the public Internet, but that is only for internal use.
IP	Internet Protocol. The IP (currently IP version 4, or IPv4), is the underlying protocol for routing packets on the Internet and other TCP/IP-based networks.
IPCP (PPP)	IP Control Protocol allows changes to IP parameters such as the IP address.
IPX	Internetwork Packet eXchange The native NetWare internetworking protocol is IPX (Internetwork Packet Exchange). Like IP (Internet Protocol), IPX is an internetworking protocol that provides datagram services.
ISP	Internet Service Providers provide connections into the Internet for home users and businesses. There are local, regional, national, and global ISPs. You can think of local ISPs as

	the gatekeepers into the Internet.
LAN	Local Area Network is a shared communication system to which many computers are attached. A LAN, as its name implies, is limited to a local area. This has to do more with the electrical characteristics of the medium than the fact that many early LANs were designed for departments, although the latter accurately describes a LAN as well. LANs have different topologies, the most common being the linear bus and the star configuration.
MAC	On a local area network (LAN) or other network, the MAC (Media Access Control) address is your computer's unique hardware number. (On an Ethernet LAN, it's the same as your Ethernet address.) The MAC layer frames data for transmission over the network, then passes the frame to the physical layer interface where it is transmitted as a stream of bits.
Modulation Type	The modulation type selected dictates what ADSL mode the Prestige will operate under. Choose from T1.413, G.DMT, G.Lite or Multimode. Multimode Modulation supports T1.413 or G.DMT protocol.
Multimode	Is a protocol that supports the T1.413 standard (and G.DMT in certain operating systems).
NAT	Network Address Translation is the translation of an Internet Protocol address used within one network to a different IP address known within another network.
Network	Any time you connect 2 or more computers together so that they can share resources, you have a computer network. Connect 2 or more networks together and you have an internet.
NIC	Network Interface Card. A board that provides network communication capabilities to and from a computer system. Also called an adapter.
Node	Any single computer connected to a network.
PAP	Password Authentication Protocol. PAP is a security protocol that requires users to enter a password before accessing a secure system. The user's name and password are sent over the wire to a server, where they are compared with a database of user account names and passwords. This technique is vulnerable to wiretapping (eavesdropping) because the password can be captured and used by someone to log onto the system.
PNC	Prestige Network Commander, a Windows-based setup wizard for Prestige routers (not all).
Port	An Internet port refers to a number that is part of a URL, appearing after a colon (:) right after the domain name. Every service on an Internet server listens on a particular port number on that server. Most services have standard port numbers, e.g. Web servers normally listen on port 80.
POTS	Plain Old Telephone Service is the analog telephone service that runs over copper twisted-pair wires and is based on the original Bell telephone system. Twisted-pair wires connect homes and businesses to a neighborhood central office. This is called the local loop. The central office is connected to other central offices and long-distance facilities.

PPP	Point to Point Protocol. PPP encapsulates and transmits IP (Internet Protocol) datagrams over serial point-to-point links. PPP works with other protocols such as IPX (Internetwork Packet Exchange). The protocol is defined in IETF (Internet Engineering Task Force) RFC 1661 through 1663. PPP provides router-to-router, host-to-router, and host-to-host connections.
PSTN	Public Switched Telephone Network was put into place many years ago as a voice telephone call-switching system. The system transmits voice calls as analog signals across copper twisted cables from homes and businesses to neighborhood COs (central offices); this is often called the local loop. The PSTN is a circuit-switched system, meaning that an end-to-end private circuit is established between caller and callee.
PVC	Permanent Virtual Circuit. A PVC is a logical point-to-point circuit between customer sites. PVCs are low-delay circuits because routing decisions do not need to be made along the way. Permanent means that the circuit is preprogrammed by the carrier as a path through the network. It does not need to be set up or torn down for each session.
RFC	An RFC (Request for Comments) is an Internet formal document or standard that is the result of committee drafting and subsequent review by interested parties. Some RFCs are informational in nature. Of those that are intended to become Internet standards, the final version of the RFC becomes the standard and no further comments or changes are permitted. Change can occur, however, through subsequent RFCs.
RIP	Routing Information Protocol is an interior or intra-domain routing protocol that uses the distance-vector routing algorithms. RIP is used on the Internet and is common in the NetWare environment as a method for exchanging routing information between routers.
SAP	In NetWare, the SAP (Service Advertising Protocol) broadcasts information about available services on the network that other network devices can listen to. A server sends out SAP messages every 60 seconds. A server also sends out SAP messages to inform other devices that it is closing down. Workstations use SAP to find services they need on the network.
Server	A computer, or a software package, that provides a specific kind of service to client software running on other computers.
SNMP	System Network Management Protocol is a popular management protocol defined by the Internet community for TCP/IP networks. It is a communication protocol for collecting information from devices on the network.
STP	Twisted-pair cable consists of copper-core wires surrounded by an insulator. Two wires are twisted together to form a pair, and the pair form a balanced circuit. The twisting prevents interference problems. STP (shielded twisted-pair) provides protection against external crosstalk.
Straight Through Ethernet	A cable that wires a pin to its equivalent pin. This cable connects two dissimilar devices, for example, a data terminal equipment (DTE) and a data communications equipment (DCE) device. A straight through Ethernet cable is the most common cable used.

Cable	
SUA	Single User Account. The Prestige's SUA (Single User Account) feature allows multiple user Internet access for the cost of a single ISP account - see also NAT.
TCP	Transmission Control Protocol handles flow control and packet recovery and IP providing basic addressing and packet-forwarding services.
Telnet	Telnet is the login and terminal emulation protocol common on the Internet and in UNIX environments. It operates over TCP/IP networks. Its primary function is to allow users to log into remote host systems.
Terminal	A device that allows you to send commands to a computer somewhere else. At a minimum, this usually means a keyboard and a display screen and some simple circuitry.
Terminal Software	Software that pretends to be (emulates) a physical terminal and allows you to type commands to a computer somewhere else.
TFTP	Trivial File Transfer Protocol is an Internet file transfer protocol similar to FTP (File Transfer Protocol), but it is scaled back in functionality so that it requires fewer resources to run. TFTP uses the UDP (User Datagram Protocol) rather than TCP (Transmission Control Protocol).
UDP	User Datagram Protocol. UDP is a connectionless transport service that dispenses with the reliability services provided by TCP. UDP gives applications a direct interface with IP and the ability to address a particular application process running on a host via a port number without setting up a connection session.
URL	Uniform Resource Locator. URL is an object on the Internet or an intranet that resides on a host system. Objects include directories and an assortment of file types, including text files, graphics, video, and audio. A URL is the address of an object that is normally typed in the Address field of a Web browser. The URL is basically a pointer to the location of an object.
USB	Universal Serial Bus is an external bus interface that supports up to 12 Mbps. USB features Plug and Play operability that auto-detects new devices (hardware). USB eliminates many of the problems associated with (physically) opening your computer to install adapter cards, change dip switches and configure IRQs (Interrupt Requests). With USB, up to 63 devices can be added to the port at any time without rebooting your computer (via hub).
VCI	Virtual Channel Identifier. Identifies virtual channels between users or between users and networks.
VPI	Virtual Path Identifier. Identifies virtual paths between users or between users and networks.
WAN	Wide Area Networks link geographically dispersed offices in other cities or around the globe. Just about any long-distance communication medium can serve as a WAN link, including switched and permanent telephone circuits, terrestrial radio systems, and satellite systems.
WWW	World Wide Web. Frequently used (incorrectly) when referring to "The Internet", WWW has

	two major meanings - First, loosely used: the whole constellation of resources that can be accessed using Gopher, FTP, HTTP, Telnet, USENET, WAIS and some other tools. Second: the universe of hypertext servers (HTTP servers).

Index

A

About ADSL x
About This Manual xiv
ADSL x
Advantages of ADSL x
Advantages of USB..... xi
Always on x
asymmetric.....x
Asymmetric Digital Subscriber Line.....x
asymmetric operation.....x

C

CE Certification v
certification v
collaborative computing.....x
compatability and compliance..... xiii
Contacting Customer Support..... vi
control panel..... xiii
Control Panel Application..... 3-1
Copyright ii
  Disclaimer..... ii
  Trademarks..... ii
Customer Support vi

D

Declaration of Conformity v
Device Drivers xii
DHCP.....B
Digital Signature Not Found message..... 1-3
distance learning x
downstream data rates..... xiii
driver choices for your device..... xii
  LAN (RFC 1483) xii
  Summation xii
  WAN..... xii
Drivers Supported..... 1-1
DSL Modem Installer..... 2-1
Dynamic assignment, see also DHCP 1-1

F

FCC.....v
FCC Rules.....v
Features.....xiii
Federal Communications Commission (FCC)
  Interference Statement v

G

Glossary .....A

H

high-speed conduit for data.....x

I

Index I
Information for Canadian Users.....iv
  Caution.....iv
  Note iv
Information required for software installation. 1-1
Information that may be required from your DSL
  service provider 1-1
interfaces..... 1-4

L

LED Indicators..... 1-6
Linux.....xii

M

MAC xii
malfunction..... 1-6
Miniports xiii
Modem Installation..... 1-4
Modifying TCP/IP Networking Options..... 4-1
  LAN USB Driver.....4-5, 4-6, 4-8, 4-10
  WAN USB Driver..... 4-1

O

Online Registration iii

P

Plug and Play xi
power supply xiii
private, secure channel x
protocol xii

R

Release numbers 3-2
repair iii
Required for Software Installation 1-1
RJ-11 xiii

S

Service iii
Setup icon 1-2
Software Setup 1-2
Software Setup and Modem Installation 1-1
speed compared to other modems x
Syntax Conventions xiv
  Prestige Names in this Manual xiv

T

Table of Contents vii
TCP/IP settings 4-1
telephone service, coexistance with DSL x
Troubleshooting 5-1

U

upstream data rates xiii
USB xi
USB as power source xiii
USB compliance xiii
USB eliminates many problems ..... xi, F
USB, advantages xi
USB, What is it? xi

V

video conferencing x
video-on-demand. x

W

Warranty iii
What is USB? ..... See USB, What is it?
Windows® 2000
  LAN Driver 4-8
  WAN Driver 4-3
Windows® 98
  LAN Driver 4-6
  WAN Driver 4-1
Windows® Me
  LAN Driver 4-10
  WAN Driver 4-5
www.zyxel.com iii

Z

ZyXEL contact information vi
ZyXEL Limited Warranty iii
  Note iii
ZyXEL website iii