EA103

ADSL USB Modem

Installation Guide

Microsoft® Windows® 98, 98SE, 2000, Me and XP

Driver Version V1.02.0002Q / Rev. 1.00

Specification subject to change without notice.

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About This Manual

This manual provides a comprehensive user's guide and installation manual for GlobespanVirata USB modems. It has been organized in such a way to make it easy to follow by users worldwide. 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 GlobespanVirata Control Panel, the driver must be running. Also, make sure the USB cable is plugged into the modem.***

Preface

The GlobespanVirata USB ADSL Modem Manual

This manual contains information regarding the installation, operation, and configuration of the GlobespanVirata USB ADSL 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 GlobespanVirata USB ADSL Modem.

- **Chapter 2:** "GlobespanVirata USB ADSL Modem Installation and Software Setup" describes the steps for installing the GlobespanVirata USB ADSL Modem. The software installation procedure is detailed.

- **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:** "GlobespanVirata Control Panel Application" describes how to configure and check the performance of the GlobespanVirata USB ADSL Modem and the ADSL connection.

- **Chapter 5:** "Software Uninstall" provides the steps for uninstalling the GlobespanVirata USB ADSL Modem.

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 GlobespanVirata USB ADSL 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), and CAP (T1 TR-59) and ITU G.992 Annexes A,B and C as applicable.

Protocol and Device Driver Selection

The GlobespanVirata USB ADSL Modem can be easily connected to a USB port on the PC via a standard USB cable.   The GlobespanVirata USB ADSL 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. RFC 2516 - Point to Point Protocol Over Ethernet (PPPoE) - This protocol 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 local area network. The PPP Protocol information is encapsulated within an Ethernet frame.

Both types of device drivers are provided for the GlobespanVirata ADSL USB modem, WAN and LAN. Note that all three drivers support ATM protocol. The proper choice of driver depends on the combination of Windows operating system and protocol.

1. LAN driver (RFC 1483 / RFC 1577) – this driver makes the modem appear as a LAN or Ethernet device. Connection establishment is automatic. This driver supports both RFC 1483 and RFC 1577 with PVC connections. Additionally, PPPoE is supported by third party software. It can be used with Windows 98, Windows 98 SE, Windows Me, Windows 2000 and Windows XP.

2. WAN driver (RFC2364 / RFC2516) – this driver causes the modem to resemble a dial-up modem. Call establishment is performed through Dial-Up Networking. This driver supports both RFC 2364 and RFC 2516 with PVC connections. It can be used with Windows 98, Windows 98 SE, Windows Me, Windows 2000 and Windows XP.

The device driver choices are summarized in the table below:

Driver Type	Protocol	Windows OS
LAN	RFC 1483 RFC 1577	Windows 98 Windows 98 SE Windows Me Windows 2000 Windows XP
WAN	RFC 2364 RFC 2516	Windows 98 Windows 98 SE Windows Me Windows 2000 Windows XP

Features

The GlobespanVirata 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 three device drivers: Microsoft NDIS 4.0 WAN Miniport and NDIS 4.0 LAN 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: GlobespanVirata USB ADSL Modem Installation and Software Setup

WAN and LAN software drivers are supported. WAN and LAN applications support the Microsoft Windows 98 First Edition, Windows 98 Second Edition, Windows Me, Windows 2000 and Windows XP operating systems.

Be sure to follow the instructions provided for your PC's operating system.

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

- Type of Driver to be Installed – WAN and LAN software drivers are supported. The choice depends upon your DSL service provider.

- IP Address Settings – the GlobespanVirata 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)

- Name Server Information – the GlobespanVirata software installation process allows the server to dynamically assign 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
    Primary WINS Address
    Secondary WINS Address

- ATM Virtual Path ID (VPI)

    Note: Required if not using default values for driver type

- ATM Virtual Circuit ID (VCI)

    Note: Required if not using default values for driver type

- Encapsulation type

    Note: Required if not using default values for driver type

- Modulation type

    Note: Required if not using default values for driver type

- User Name & Password (for PPP applications only)

Modem Installation

1. Insert the rectangular end of a USB cable into the USB port of your PC.
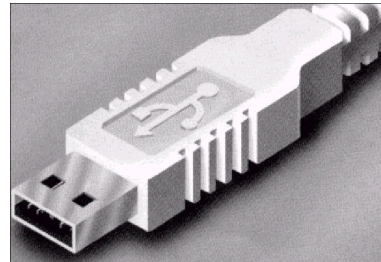
2. Insert the square end of the USB cable into the USB port of the GlobespanVirata USB Modem.
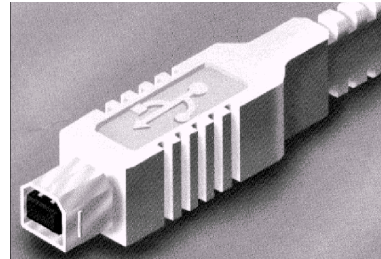
Software Setup

Note: For Windows 98/98SE applications, you may need the Windows 98/98SE CD ROM to complete the installation.

Before starting the software setup process, close all Windows programs previously running on your PC.

1. System will automatically find a new hardware after hardware installation finished.

    Click on **Cancel**.

(Windows 98/98SE)   (Windows Me)

(Windows 2000)   (Windows XP)

2. Insert the installation CD into the CD drive and double click **Setup.exe** to start the installation procedure. A notification message will appear indicating that the setup process has begun.
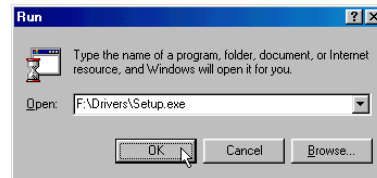
3. The "Welcome!" window provides an opportunity to quit the setup process to exit all Windows programs before continuing. If the Windows programs were previously closed, click on **Next**.
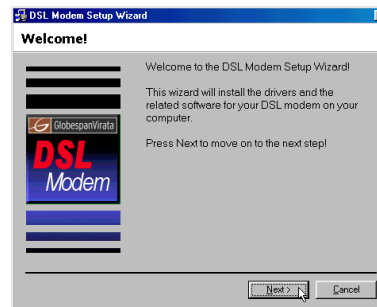
4. If the "License Agreement" window appears, please click on "Accept" button to continue installation.

5. The "Select Service Provider" window allows you to specify your DSL service provider. A list of service providers is displayed. Default values for the Type of Driver, ATM Virtual Path ID (VPI), ATM Virtual Circuit ID (VCI), Encapsulation type and Modulation type are provided for each DSL service provider listed in the window.
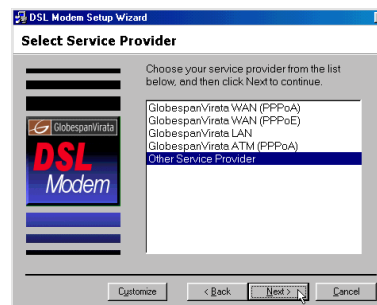
    If your DSL service provider is listed and you would like to accept the default values, highlight the provider's name and click **Next**. Continue with Step 6 below.

    If your DSL service provider is listed and you would like to change the default values, highlight the provider's name and click **Customize**. Continue with Step 5a below.

    If your DSL service provider is not listed select *Other Service Provider* and click **Next.** Continue with Step 5a below.

5a)

Select the type of driver to be installed from the "Select Driver Type" window and click **Next** to continue with Step 5b.
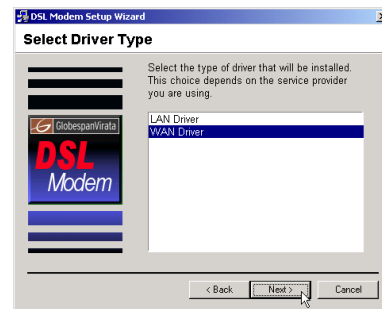
5b)

Enter the VPI, VCI, Encapsulation type and Modulation type from the "Communication Settings" window and click on **Next**.

***Note: Encapsulation types vary depending upon the application.***
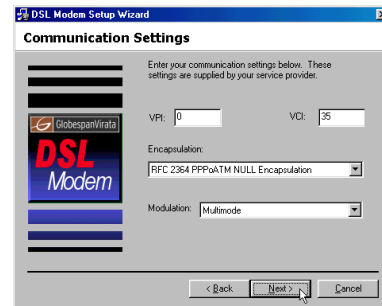
6. The "Ready to Install" window will be displayed. You may review the current settings and click on **Next** or **Back** to change the settings. Click on **Next** to accept the current settings; a message will be displayed indicating that files are being copied.
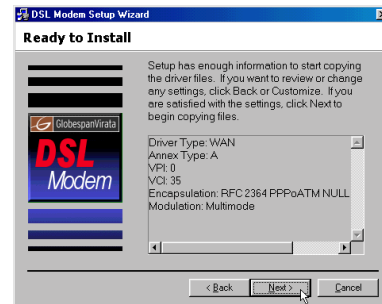
[For WAN applications of Windows 98/98SE]

7. Insert Windows System CD-ROM disc into CD-ROM drive and then click on **OK**.

8. To Specify the directory of Windows 98/98SE like as "F:\Win98" ("F" is CD-ROM Drive letter), then click **OK**.
   Then installation will copy some necessary files into the system.
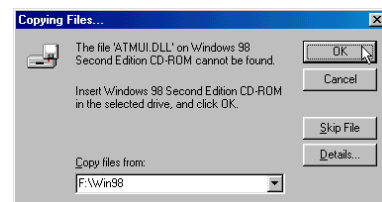
9. A message will be displayed confirming reboot of the system.
Select "Yes, reboot the computer now" and then click **Close**.
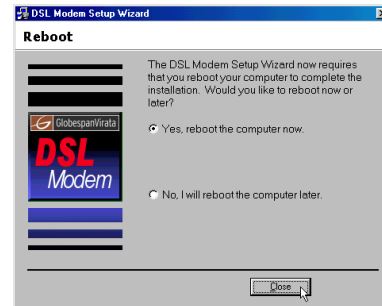
[For WAN applications of Windows 98/98SE]
10. After reboot system, the "Location information" window will appear, then enters your country/region and telephone number.
Click **Close**.
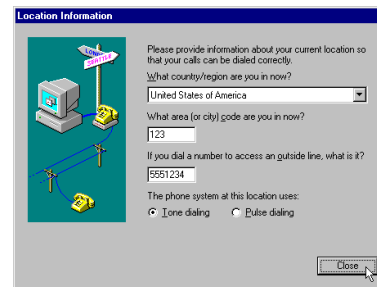
11. Windows system has installed the device, then click **Finish**.
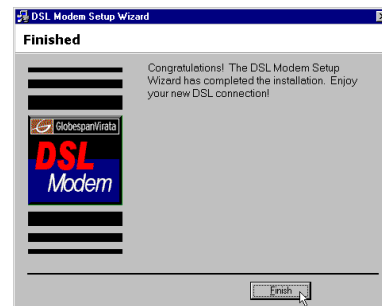
Chapter 3:   Customizing Communication

Settings

Once the GlobespanVirata USB ADSL 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** – **GlobespanVirata DSL Modem** – **Configure**. A notification message will appear indicating that the setup process has begun.
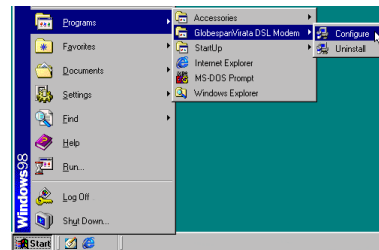
2. The "Communication Settings" window will be displayed. Make the necessary changes to the VPI, VCI, Encapsulation type and/or Modulation type and click **Next**.
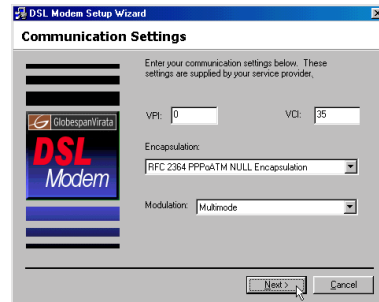
3. A message will be displayed confirming reboot of the system.

    Select "Yes, reboot the computer now" and then click **Close**.
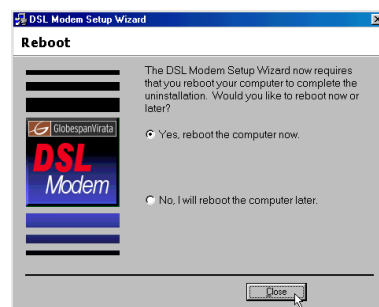
Chapter 4: GlobespanVirata Control Panel Application

The GlobespanVirata USB ADSL 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 every 2 seconds.
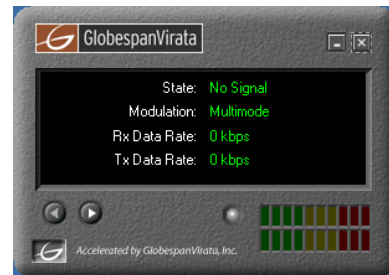
1. There is access the GlobespanVirata control panel:

    ◆   From the PC desktop, double click the **GlobespanVirata Control Panel** icon in the system tray.

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

2. The GlobespanVirata Control Panel allows you to review the current state, Modulation and Rx/Tx Data Rate of the GlobespanVirata DSL Modem and connection. When the green indicator is on in the Link Status field, it indicates that a connection has been made. This indicator blinks while a connection is being established. The Transmitting and Receiving data activity are shown separately by individual flashing yellow indicators.

3. The GlobespanVirata Control Panel displays the release number of the GlobespanVirata DSL modem driver and the control panel version that you are currently using.

Chapter 5:   Software Uninstall

Remove the GlobespanVirata USB ADSL Modem software drivers by performing the following steps.

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 Chapter 5 below.

1. From your PC desktop click **Start – Programs – GlobespanVirata DSL Modem – Uninstall**. A notification message will appear indicating that the setup process has begun.
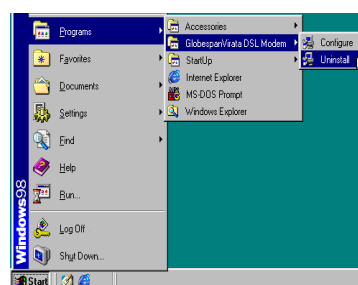
2. A message will be displayed asking you to confirm the removal of the USB ADSL modem software, click **Yes**.
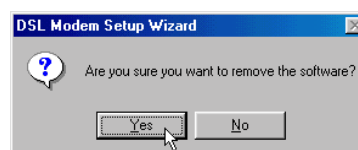
3. The "Information" window will be displayed reminding you not to unplug the USB cable until the uninstall process has been completed. Click on **OK**.

    A message will be displayed indicating the software is being removed.

4. Unplug the USB cable from the PC. Then click on **OK**.
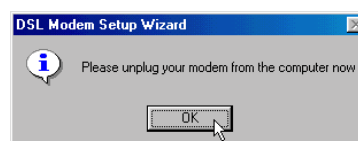
    Note: The USB cable must be unplugged before the system is rebooted. For Windows 98 applications the cable must be unplugged immediately as the reboot process was begun in Chapter 5 above.

5. The "Setup Complete" window indicates successful completion of the uninstall process. Click **Finish**.
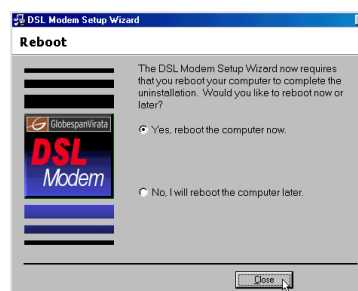
Appendix A: Modifying TCP/IP Networking Options

RFC 2364 / RFC 2516 (WAN 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 your PC desktop, double click the **My Computer** icon.

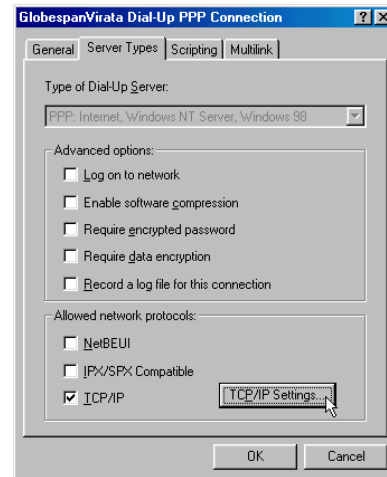2. From the "My Computer" window, double click the **Dial-Up Networking** icon.

3. From the "Dial-Up Networking" window, right click on the **GlobespanVirata Dial-Up PPP Connection** icon and click **Properties**.

   Note: The icon name may differ from that specified above. The GlobespanVirata connection icon will be identified as "DSLWanUsb-Line0" in the Device Name column when details are viewed from the "Dial-Up Networking" window (View – Details).

4. From the "Server Types" tab of the "GlobespanVirata 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, 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.
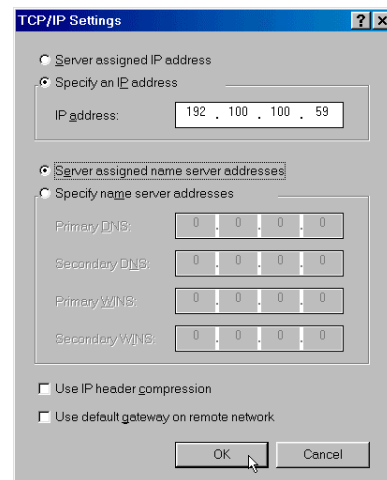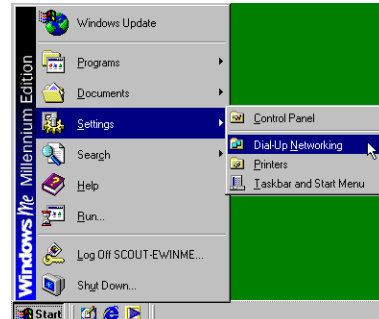
        Click **OK**.

6. The "GlobespanVirata Dial-Up PPP Connection" window will be redisplayed. Click **OK** to end the modifying TCP/IP options session.
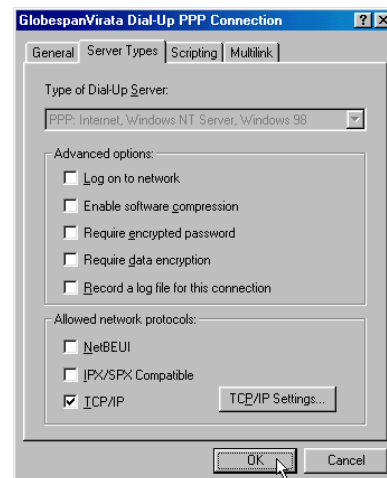
Microsoft® Windows® Me

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 **GlobespanVirata Dial-Up PPP Connection** icon and click on **Properties**.
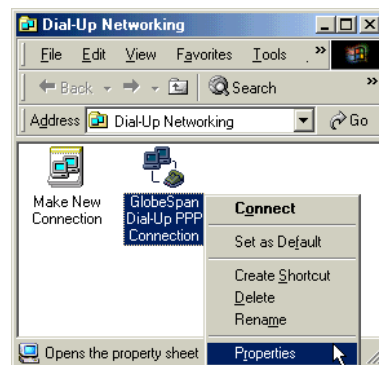
3. From the "Networking" tab of the "GlobespanVirata Dial-Up PPP Connection" window, select **TCP/IP** (marked with a check in the box to the left) and click on **TCP/IP Settings**.
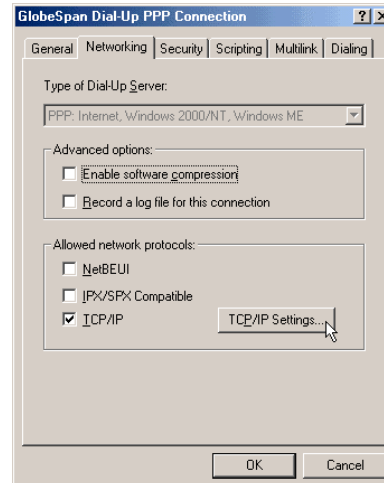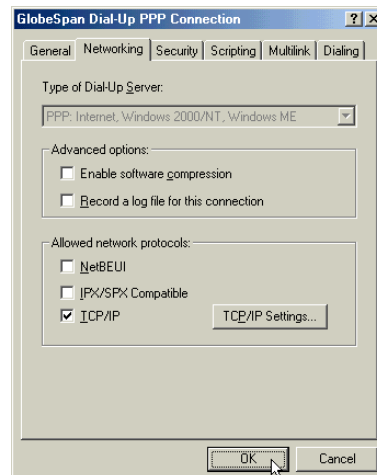
4. The "TCP/IP Settings" window is used to modify the IP address, Name Server addresses and/or default gateway as follows:

- 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**.
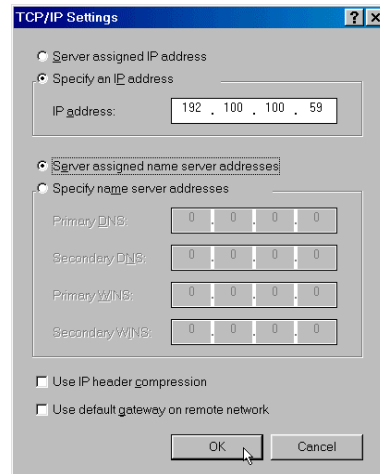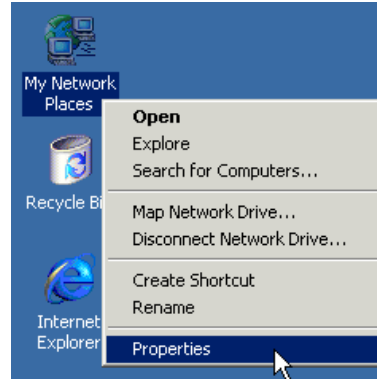
  Click **OK**.

5. The "GlobespanVirata Dial-Up PPP Connection" window will be redisplayed.
Click on **OK** to end the modifying TCP/IP options session.
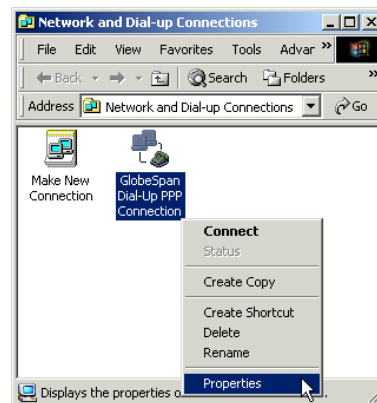
Microsoft® Windows® 2000

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 click on **Properties**.
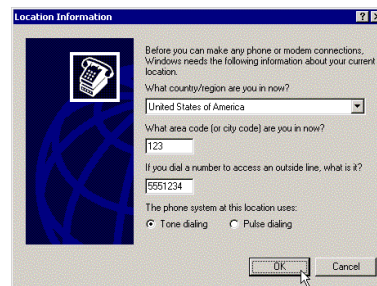
2. From the "Network and Dial-Up Connections" window, right click on the **GlobespanVirata Dial-Up PPP Connection** icon and click **Properties**.
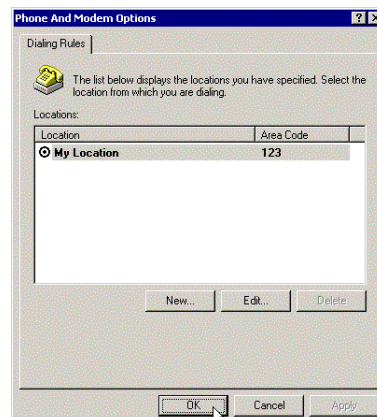
   Note: The icon name may differ from that specified above. The GlobespanVirata connection icon will be identified as "GlobespanVirata USB ADSL WAN Modem" in the Device Name column when details are viewed from the "Network and Dial-Up Connections" window (View – Details).
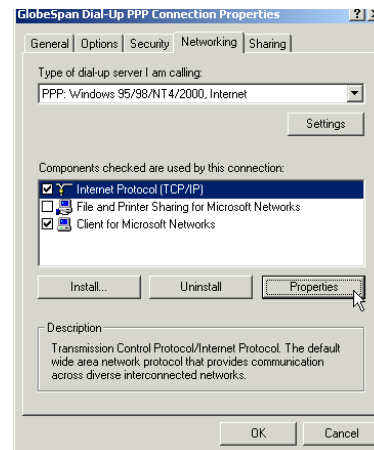
3. From "Location Information" window, enter your country/Region and telephone number, click on **OK**.

4. From "Phone And Modem options" window, select the location from which you are dialing and click **OK**.
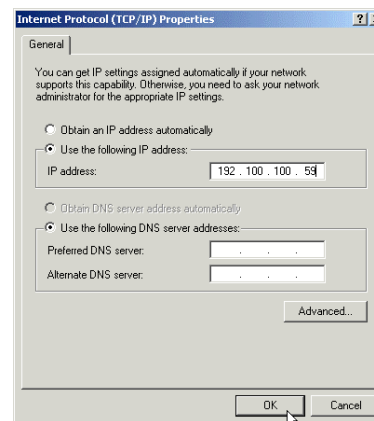
5. From the "Networking" tab of the "GlobespanVirata Dial-Up PPP Connection Properties" window, select *Internet Protocol (TCP/IP)* and click **Properties**.

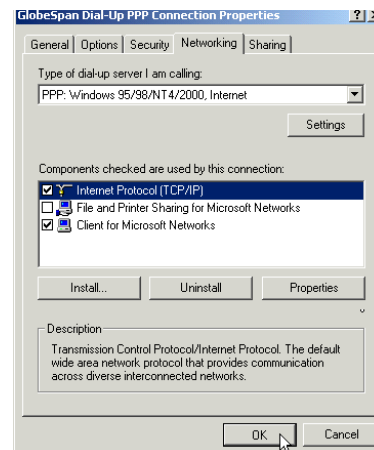6. The "Internet Protocol (TCP/IP) Properties" window is used to modify the IP address and DNS Server addresses:

   - 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.

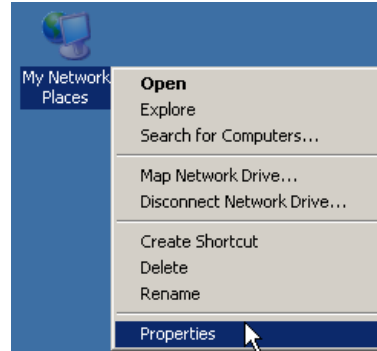7. Click **OK** from the "Internet Protocol (TCP/IP) Properties" window.

8. The "GlobespanVirata Dial-Up PPP Connection Properties" window will reappear. Click **OK** to end the modifying TCP/IP options session.
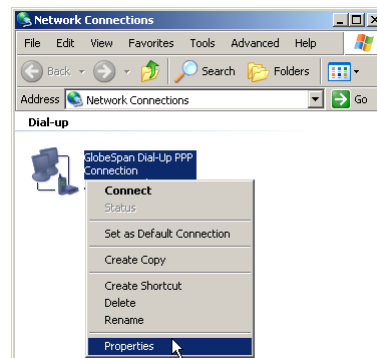
Microsoft® Windows® XP

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.

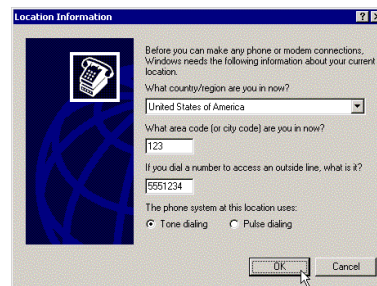1. From your PC desktop, right click the **My Network Places** icon and click on **Properties**.

2. From the "Network Connections" window, right click on the **GlobespanVirata Dial-Up PPP Connection** icon and click on **Properties**.
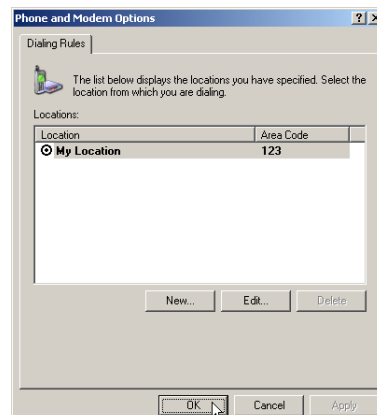
    Note: The icon name may differ from that specified above. The GlobespanVirata connection icon will be identified as "GlobespanVirata USB ADSL WAN Modem" in the Device Name column when details are viewed from the "Network and Dial-Up Connections" window (View – Details).
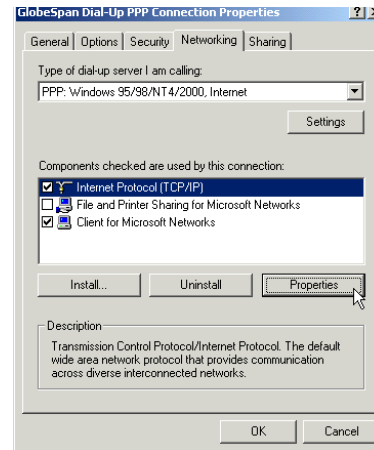
3. From "Location Information" window, enter your country/Region and telephone number, click on **OK**.

4. From "Phone And Modem options" window, select the location from which you are dialing and click **OK**.
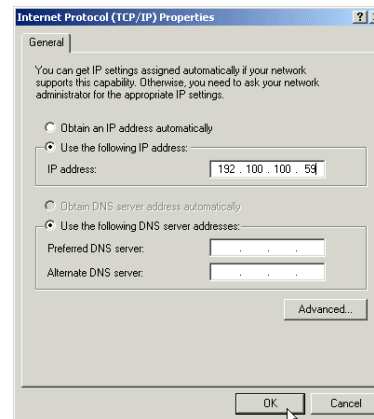
5. From the "Networking" tab of the "GlobespanVirata Dial-Up PPP Connection Properties" window, select **Internet Protocol (TCP/IP)** and click **Properties**.

6. 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 "GlobespanVirata Dial-Up PPP Connection Properties" window will reappear. Click on **OK** to end the modifying TCP/IP options session.
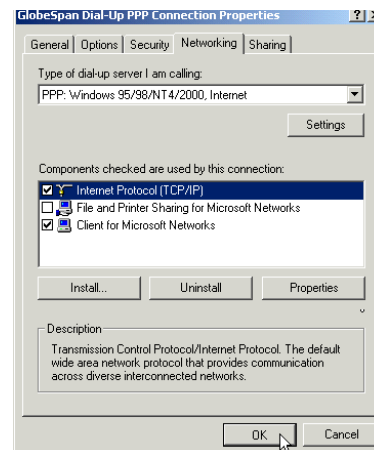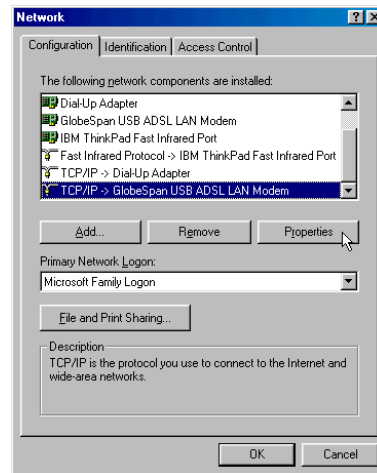
RFC 1483 / RFC 1577 (LAN USB) Driver

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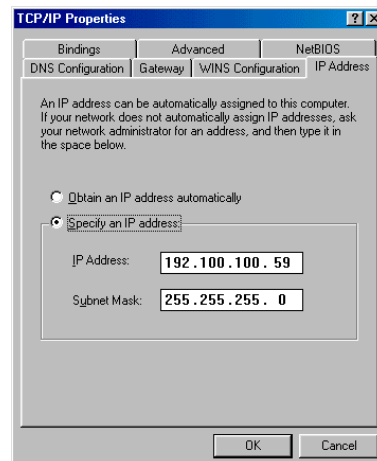
1. From the "Control Panel" window (**Start – Settings – Control Panel**) double click on the **Network** icon.
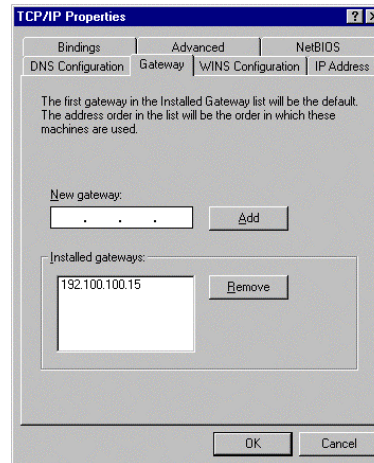
2. Select **TCP/IP -> GlobespanVirata USB ADSL LAN Modem** from the "Configuration" tab of the "Network" window.
Click **Properties**.

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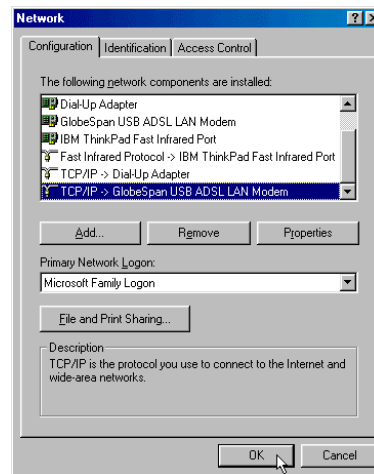
4. The "Gateway" tab allows you to add or remove gateways. Consult with your network administrator to determine the appropriate addresses for your individual needs.

    ● 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.
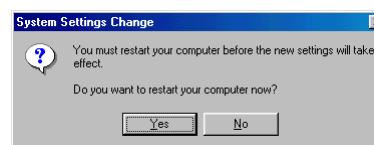
5. Click **OK** from the "TCP/IP Properties" window.

6. The "Network" window will reappear. Click **OK** to end the modifying TCP/IP options session.
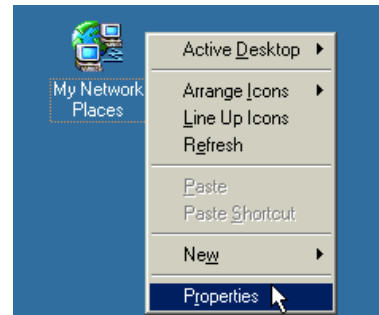
7. If you have made changes to TCP/IP properties, you will be asked to restart/reboot your PC. Click on **Yes**, and your PC will restart.
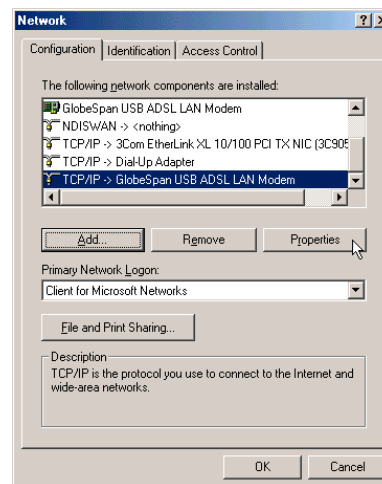
Microsoft® Windows® Me

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 click on **Properties**.

2. Select *TCP/IP -> GlobespanVirata USB ADSL 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.

Microsoft® Windows® 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.
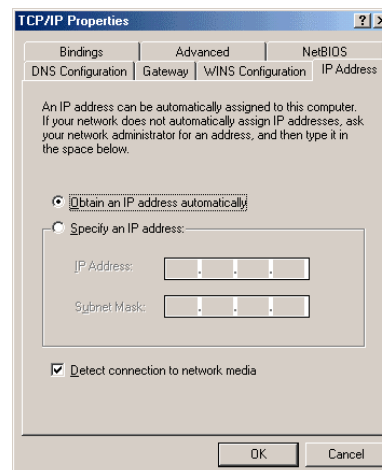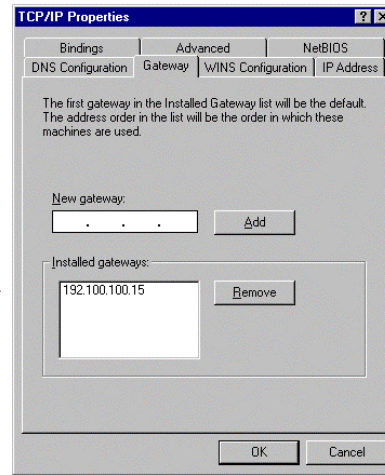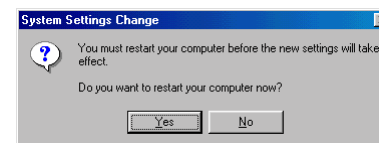
1. From the PC desktop, right click the **My Network Places** icon and click on **Properties**.
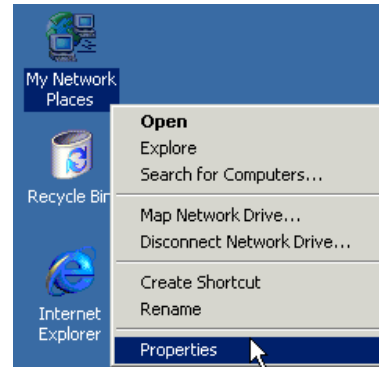
2. Right click the **Local Area Connection** icon from the "**Network and Dial-Up Connections**" window and select "**Properties**"

   Note: The icon name may differ from that specified above. The GlobespanVirata connection icon will be identified as "GlobespanVirata USB ADSL LAN Modem" in the Device Name column when details are viewed from the "Network and Dial-Up Connection" window (View – Details).

3. Select *Internet Protocol (TCP/IP)* from the "General" tab of the "Local Area Connection" 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 "GlobespanVirata Local Area Connection Properties" window will reappear. Click **OK** to end the modifying TCP/IP options session.

Microsoft® Windows® XP

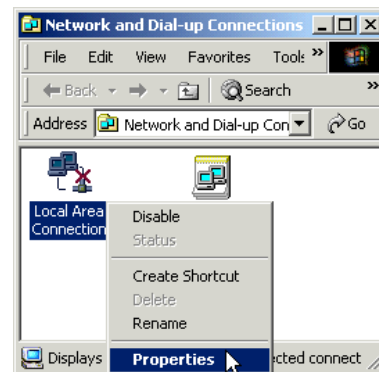TCP/IP settings are automatically set up during the software installation process. The following procedure may be used to change TCP/IP settings, if necessary.

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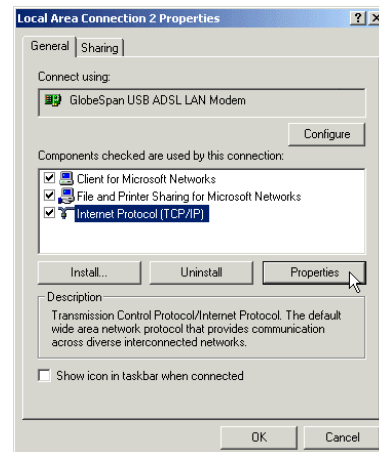

2. Right click the **Local Area Connection** icon from the **Network Connections** window and click **Properties**.

   Note: The icon name may differ from that specified above. The GlobespanVirata connection icon will be identified as "GlobespanVirata USB ADSL LAN Modem" in the Device Name column when details are viewed from the "Network and Dial-Up Connection" window (View – Details).
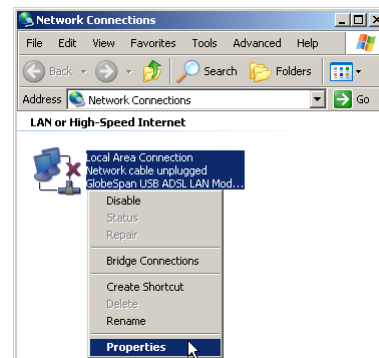
3. Select **Internet Protocol (TCP/IP)** from the **General** tab of the **Local Area Connection** window. Click on **Properties**.
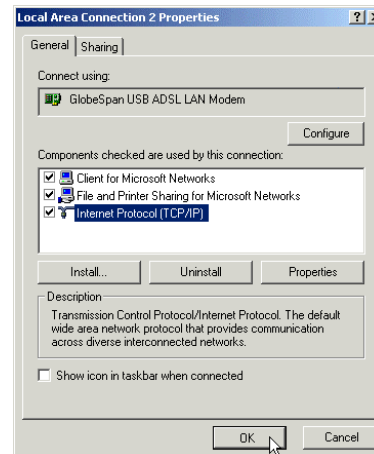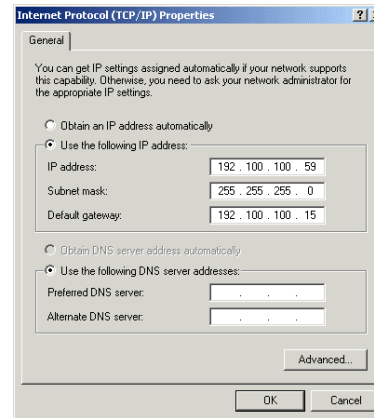
4. The **Internet Protocol (TCP/IP) Properties** window is used to modify the IP addresses and DNS Server addresses:

- 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.
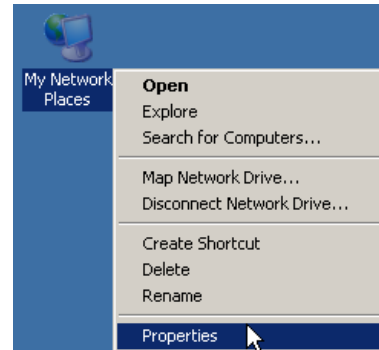
5. Click **OK** from the "Internet Protocol (TCP/IP) Properties" window.

6. The "GlobespanVirata Local Area Connection Properties" window will reappear.
   Click **OK** to end the modifying TCP/IP options session.

Appendix B: Connector Pin-out

The ADSL modem is equipped with a RJ-11 jack for connection to the ADSL data port. The center two pins, pins 2 and 3, are used for ADSL data. For the modem to make a proper ADSL connection, the installed ADSL data port should also use pins 2 and 3 for data. If the ADSL data port installation uses pins 1 and 4 for data, then a wiring converter will be required. Do not alter or remove the wiring converter if present. Consult with your ADSL provider before attempting any wiring changes.
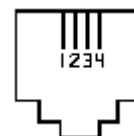
Appendix C: Government compliance notices

FCC compliance

This equipment complies with Part 68 of the FCC Rules. On this equipment is a label that contains, among other information, the FCC registration number and Ringer Equivalence Number (REN) for this equipment. You must, upon request, provide this information to your telephone company.

If your telephone equipment causes harm to the telephone network, the Telephone Company may discontinue your service temporarily. If possible, they will notify in advance. But, if advance notice isn't practical, you will be notified as soon as possible. You will be informed of your right to file a complaint with the FCC.

Your telephone company may make changes in its facilities, equipment, operations, or procedures that could affect proper operation of your equipment. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service. The FCC prohibits this equipment to be connected to party lines or coin-telephone service. In the event that this equipment should fail to operate properly, disconnect the equipment from the phone line to determine if it is causing the problem. If the problem is with the equipment, discontinue use and contact your dealer or vendor.

FCC Class B statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following 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) Shielded cables, if any, must be used in order to comply with the emission limits.

2) Any change or modification not expressly approved by the Grantee of the equipment authorization could void the user's authority to operate the equipment.

DOC compliance information

NOTICE: The Canadian Department of Communications label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational and safety requirements. The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users 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 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.

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 connection themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

NOTICE: The Load Number (LN) assigned to each terminal device denotes the percentage of the total load to be connected to a telephone loop which is used by the device, to prevent overloading.
The termination on a loop may consist of any combination of device subject only to the requirement that the sum of the Load Numbers of all the devices does not exceed 100.

Austel compliance information

Unit shall be connected to telecommunication network through a line card, which meets the requirements of ACA technical standard TS008.

European CTR 21 compliance

The equipment has been approved in accordance with Council Decision 98/482/EC for pan-European single terminal connection to the public switched telephone network (PSTN). However, due to differences between the individual PSTNs provided in different countries, the approval does not, of itself, give an unconditional assurance of successful operation on every PSTN network termination point. In the event of problem, you should contact your equipment supplier in the first instance.

Note: The manufacturer should ensure that the vendor and user of the equipment is clearly informed of the above information by means of package and /or user manuals of the forms of user instructions.