

BiPAC 7001 ADSL USB Modem

User's Manual

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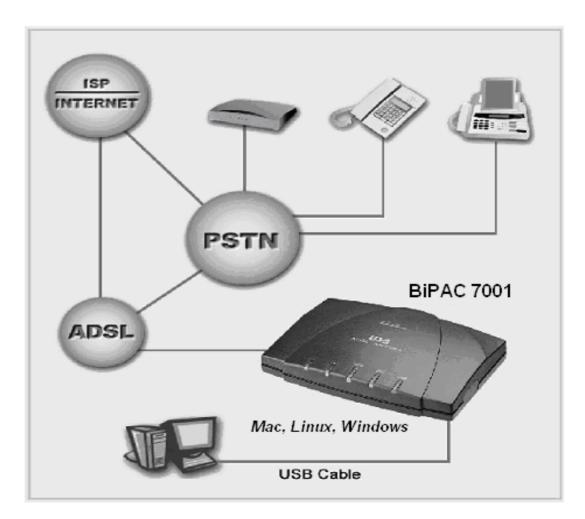
Introduction the BiPAC 7001

1.1 Introducing the BiPAC 7001

Billion's BiPAC 7001 complies with ADSL standards and supports downstream rate of up to 8Mbps. With its user-friendly installation utility and plug-and-play USB interface, it can be easily installed on a desktop PC or notebook PC without opening the case of the computer or adding any network interface card (NIC). Users can enjoy ADSL services and broadband multimedia applications such as interactive gaming, video streaming and real-time audio much easier and faster than ever before.

1.2 Features of the BiPAC 7001

- Compliant with Universal Serial Bus Specification Revision v1.1
- USB bus-powered; no external power supply is required.
- Compatible with T1.413 i2, G.DMT, and G.lite compliant CO DSLAM equipment
- Provides an RJ-11 connector for connection to the telephone line
- Hot Plug and Play for Microsoft Windows 98 (SE), 2000, Me, and XP
- Supports NDIS interface for RAS and Dial-Up Networking
- Support for PPP over Ethernet (PPPoE)
- Software upgradable.
- Supports downstream data rates up to 8Mbps and upstream data rates up to 1024 kbps

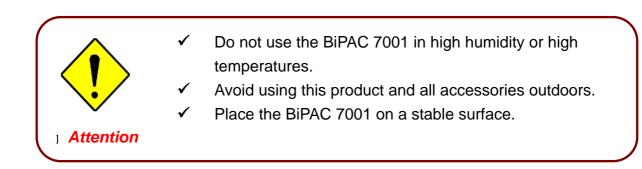


1.3 Installing Billion ADSL USB Modem

Chapter 2

Installing the BiPAC 7001

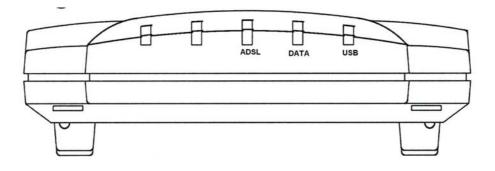
2.1 Important note for using the BiPAC 7001



2.2 Package Contents

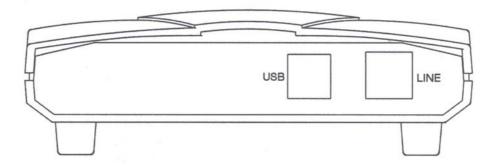
- BiPAC 7001 ADSL USB Modem
- One installation CD with drivers and online manual
- RJ-11 ADSL/telephone Cable (1.8M)
- One USB Cable (1.5M)
- This Quick Start Guide

2.3 The Front LEDs



| LED | | Meaning |
|-----|--------|---|
| 1 | ADSL : | Lit when successfully connected to an ADSL DSLAM ("linesync") |
| 2 | DATA: | When this LED is flashing constantly, it indicates the Modem is transmitting/receiving data |
| 3 | USB: | Lit when the USB port is connected to the PC and working properly |

2.4 The Rear Ports



| Port | | Meaning |
|------|------|--|
| 1 | USB | Connect the supplied USB cable to this port when connecting to the PC |
| 2 | LINE | Connect the supplied RJ-11 ("telephone") cable to this port when connecting to the ADSL/telephone network. |

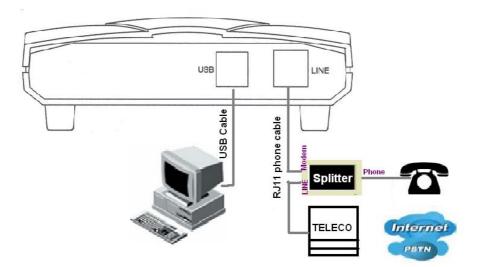
2.5 Cabling

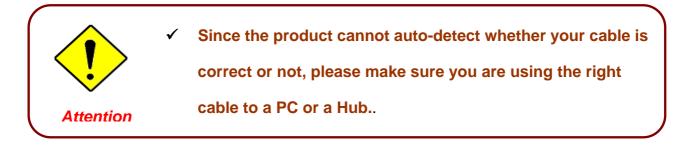
Through USB Port

The product can be used as a Network Adapter on your PC. That means you do not have to install a network adapter first on your PC before connecting the ADSL Modem/Router. Just connect the supplied USB cable to the USB port of the ADSL USB Modem and connect the other end to the PC.

Make sure that your ADSL USB Modem and PC are turned on. On the front of the product is a bank of LEDs. As a first check, please verify that the ADSL, DATA and USB SYN LEDs are lit.

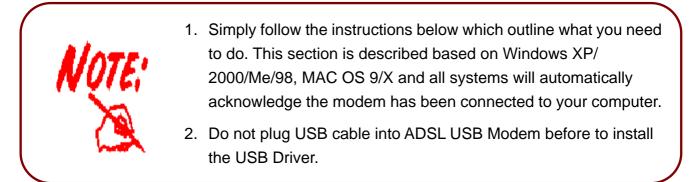
So long as the cables are connected and the LEDs are lit normally, follow section *"Installing the USB Driver"* below to setup this device.





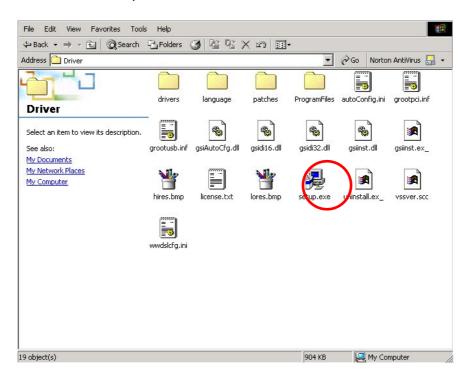
Chapter 3 Basic Installation

3.1 Installing the USB Driver on PC



3.1.1 For Windows

1. Insert the CD into your computer's CD Rom drive. This is the hi-speed modem installation CD, Click "setup. exe" to continue.".



2. Choose service provider from the list below and then click "Next" to continue.



Select Service Provider

3. Then click "Next".

| | Setup has enough information to start copying the driver files. If you want to review or change any settings, click Back. If you are satisfied with the settings, click Next to begin copying files. |
|-----|--|
| | Service Provider: Billion WAN (PPPoE) Driver Type: WAN Annex Type: A VPI: 8 VCI: 35 Encapsulation: RFC 2516 PPPoE Encapsu Modulation: Multimode |
| 220 | ▼ ▲ |
| | <back next=""> Cancel</back> |

Ready to Install

4. Please plug USB cable into ADSL USB Modem.

Installing



5. Select "Yes, reboot the computer now", than close the windows.

Reboot



6. After restart the PC, window will show congratulation message and user can enjoying Internet.

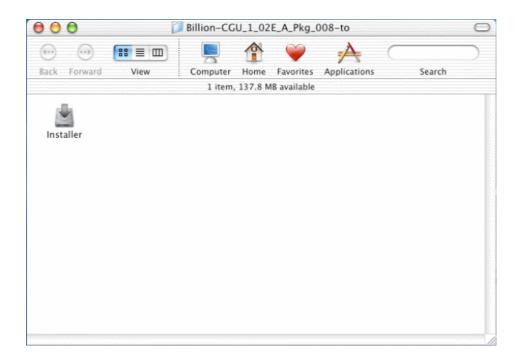


7. After Billion ADSL USB Modem driver is successfully installed, you will see these 2 icons on your desktop.



3.1.2 For MAC OS 9/X :

1. Start Windows. Then insert the installation CD into the CD-ROM drive. In next window, click the driver installer.



2. The "Welcome" screen will appear, then, click "Next".



3. Input the user name and password of your Mac system.

| Auther | iticate |
|------------------------|-------------------------------|
| Installer requires the | hat you type your passphrase. |
| Name: | |
| Password or phrase: | |
| Details | |
| ? | Cancel OK |

4. The "License Agreement" screen will appear, then click "Accept".



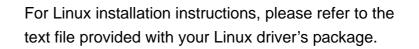
5. To click the type of setup you prefer, then click Next >.



6. When all necessary files have been copied, select "Restart now", than close the windows.

| 00 | ADSL Modem Installer |
|----|--|
| | Finished |
| | The installation is now complete. Before using your modem, you must restart your computer. Would you like to restart now or later? |
| | Restart now |
| | O Restart later |
| | |
| | |
| | |
| | Finish Cancel |

3.1.3 For Linux:



This driver supports Linux-2.4 kernels. The Linux kernel sources can be download from: http://www.kernel.org/pub/linux/kernel/v2.4/ The driver supports Linux-2.4 kernels.

The installed system should already have the kernel sources installed in the /usr/src/linux directory. If they are not there, try to get them off the installation disks for your distribution, or download the latest Linux-2.4 kernel, and configure and build that. One common problem while compiling modules on a new kernel is not to create link /usr/src/linux which should point to the relevent kernel source directory. On a freshly installed system this link might not be present and needs to be created before the kernel or any driver module can be compiled. There are lots of books and documents available describing how to extract, configure and build the kernel from it's sources.

The driver is compiled and tested for:

- RedHat 7.1 : kernels 2.4.2-2 using gcc 2.96
- RedHat 8.0 : kernel 2.4.18-14 using gcc 3.2
- RedHat 9.0 : kernel 2.4.20-8 using gcc 3.2

3.2 Configuring the Network Properties--- LAN Adapter

3.2.1 Configuring PC in Windows XP

1. Go to Start / Control Panel (in Classic View). In the Control Panel, double-click on Network Connections, and Double-click Local Area Connection.



2. In the Local Area Connection Status window, click Properties.

| 📥 Local Area Con | nection Status | × |
|------------------|---------------------|---|
| General Support | | |
| Connection | | |
| Status: | Connected | |
| Duration: | 00:19:32 | |
| Speed: | 100.0 Mbps | |
| Activity | Sent — 🐑 — Received | |
| Packets: | 27 0 | |
| Properties | Disable | |
| | Close | |

3. Select Internet Protocol (TCP/IP) and click Properties

| 🕹 Local Area Connection Properties 🛛 🔹 💽 |
|--|
| General Authentication Advanced |
| Connect using: |
| ASUSTeK/Broadcom 440x 10/100 Integrated Controller |
| Configure |
| This connection uses the following items: |
| |
| Description Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks. |
| Show icon in notification area when connected |
| OK Cancel |

4. Use the "Internet Protocol (TCP/IP) Properties" window to modify the IP address and DNS Server address as follow.

| | tomatically if your network supports to ask your network administrator fo |
|---|---|
| | |
| Obtain an IP address automatic | cally |
| Use the following IP address: - | |
| IP address: | 192 . 100 . 100 . 59 |
| Subnet mask: | 255 . 255 . 255 . 0 |
| Default gateway: | 192.100.100.15 |
| Obtain DNS server address au Use the following DNS server a Preferred DNS server: Alternate DNS server: | ana ana ana amin'ny fisiana amin'ny fisiana amin'ny fisiana amin'ny fisiana amin'ny fisiana amin'ny fisiana ami |

Change the IP address to a user defined address by selecting Use the following IP address and typing the address in the space provided.

Change the DNS Server address to user defined addresses by selecting Use the following DNS server address and typing the addresses in the spaces provided.

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

 Click OK from the Internet Protocol (TCP/IP) Properties window. Then, the Local Area Connection Properties window will reappear. Click OK to end configuring the network properties on your PC.

3.2.2 Configuring PC in Windows 2000

1. Go to Start / Control Panel (in Classic View). In the Control Panel, double-click on Network Connections and Double-click Local Area Connection.

| 📴 Network and Dial-up Connections | | ļ | <u>- 🗆 ×</u> |
|---|---|---|--------------|
| File Edit View Favorites Tools | Advanced Help | | |
| 🗢 Back 🔹 🔿 👻 🛅 🥘 Search 🛛 | ≧Folders 🔇 🖺 🕾 🗙 🕫 🗐 ⊞• | | |
| Address 違 Network and Dial-up Conne | ctions | • | ∂G0 |
| Network and Dial-up Connections Local Area Connection Type: LAN Connection Status: Enabled ASUSTEK/Broadcom 440x 10/100 Integrated Controller | Make New Local Area Connection Connection | | |

2. In the Local Area Connection Status window click Properties.

| Local Area Connectio | on Status | | ? × |
|------------------------------------|-----------------------------|-----------------------|-----|
| General | | | |
| Connection Status: Duration: | | Connected 06:16:26 | |
| Speed: | | 100.0 Mbps | |
| Activity Packets: | Sent — 🗐 — L 🛓 12,215 | - Received 109,427 | |
| Properties | Disable | | |
| | | Close | |

3. Select Internet Protocol (TCP/IP) and click Properties

| Local Area Connection Properties |
|--|
| General |
| Connect using: |
| ASUSTeK/Broadcom 440x 10/100 Integrated Controller |
| Configure |
| Components checked are used by this connection: |
| File and Printer Sharing for Microsoft Networks Internet Protocol (TCP/IP) |
| Install Uninstall Properties |
| Description Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks. |
| Show icon in taskbar when connected |
| OK Cancel |

4. Use the "Internet Protocol (TCP/IP) Properties" window to modify the IP address and DNS Server address as follow.

| net Protocol (TCP/IP) Pro | perties |
|---|----------------------|
| neral | |
| u can get IP settings assigned automatically if your network support s capability. Otherwise, you need to ask your network administrator f appropriate IP settings. | |
| C Obtain an IP address autor | natically |
| Use the following IP address | ss. |
| IP address: | 192 . 100 . 100 . 59 |
| Subnet mask: | 255 . 255 . 255 . 0 |
| Default gateway: | 192.100.100.15 |
| C Obtain DNS server address | automaticallu |
| Use the following DNS service | |
| Preferred DNS server: | × + + |
| Alternate DNS server: | |
| | Advanced. |
| | |
| | OK Can |

Change the IP address to a user defined address by selecting Use the following IP

address and typing the address in the space provided.

Change the DNS Server address to user defined addresses by selecting Use the following DNS server address and typing the addresses in the spaces provided.

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

5. Click **OK** from the **Internet Protocol (TCP/IP) Properties** window. Then, the **Local Area Connection Properties** window will reappear. Click **OK** to end configuring the network properties on your PC.

3.2.3 Configuring PC in Windows Me

- 1. Go to **Start / Settings / Control Panel**. In the Control Panel, double-click on **Network** and choose the **Configuration** tab.
- Select TCP/IP ->NE2000 Compatible, or the name of your Network Interface Card (NIC) in your PC.

| Network |
|--|
| Configuration Identification Access Control |
| · · · · · · · · · · · · · · · · · · · |
| The following <u>n</u> etwork components are installed: |
| 📇 Microsoft Family Logon 📃 📃 |
| ASUSTeK/Broadcom 440x 10/100 Integrated Controller |
| Dial-Up Adapter TCP/IP -> ASUSTeK/Broadcom 440x 10/100 Integrated I |
| TCP/IP -> Dial-Up Adapter |
| |
| |
| Add Remove Properties |
| Primary Network Logon: |
| Microsoft Family Logon |
| |
| <u>File and Print Sharing</u> |
| Description |
| TCP/IP is the protocol you use to connect to the Internet and wide-area networks. |
| wide-area networks. |
| |
| |
| OK Cancel |
| UK Lancel |

3. Select the IP Address tab. In this window, select either the Obtain an IP address automatically or Specify an IP address radio button 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 Internet Service Provider (ISP) to determine which option best suits your individual needs.

| TCP/IP Properties | | | | ? × |
|--|----------------|-----------------|------------|------------|
| Bindings | Adva | anced | N | etBIOS (|
| DNS Configuration | Gateway | WINS Config | guration | IP Address |
| An IP address can If your network doa your network admir the space below. | es not autom | atically assign | n IP addre | esses, ask |
| ○ <u>0</u> btain an IP | address auto | omatically | | |
| Specify an IP | address: | | | |
| IP Address: | 142 | 100.0 | . 60 | |
| S <u>u</u> bnet Masi | c 255 . | 255.0 | . 0 | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | OK | | Cancel |

4. The "Gateway" tab allows you to add or remove gateway. 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 entry to be removed in the installed gateway list and click **Remove**. The gateway will no longer appear in the installed gateways list.

- 5. Click OK to apply your changes and exit from the TCP/IP properties window.
- 6. The Network window will appear. Click **OK** to end the TCP/IP options modification session.

3.2.4 Configuring PC in Windows 98

- 1. Go to **Start / Settings / Control Panel**. In the Control Panel, double-click on **Network** and choose the **Configuration** tab.
- Select TCP/IP ->NE2000 Compatible, or the name of your Network Interface Card (NIC) in your PC.

| Network | × |
|--|---|
| Configuration Identification Access Control | |
| | 1 |
| The following <u>n</u> etwork components are installed: | L |
| 🔜 Microsoft Family Logon | L |
| BASUSTEK/Broadcom 440x 10/100 Integrated Controller | L |
| TCP/IP -> ASUSTeK/Broadcom 440x 10/100 Integrated I | L |
| 🐨 TCP/IP -> Dial-Up Adapter 📃 💌 | L |
| | L |
| | L |
| Add Remove Properties | L |
| Primary Network Logon: | L |
| Microsoft Family Logon | L |
| | L |
| Eile and Print Sharing | L |
| | L |
| TCP/IP is the protocol you use to connect to the Internet and wide-area networks. | L |
| | L |
| | |
| | 4 |
| OK Cancel | |

3. Select the IP Address tab. In this window, select either the Obtain an IP address automatically or Specify an IP address radio button 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 Internet Service Provider (ISP) to determine which option best suits your individual needs.

| TCP/IP Properties | | | | ? × |
|--|----------------|-----------------|------------|------------|
| Bindings | Adva | anced | N | etBIOS (|
| DNS Configuration | Gateway | WINS Config | guration | IP Address |
| An IP address can If your network doa your network admir the space below. | es not autom | atically assign | n IP addre | esses, ask |
| ○ <u>0</u> btain an IP | address auto | omatically | | |
| Specify an IP | address: | | | |
| IP Address: | 142 | 100.0 | . 60 | |
| S <u>u</u> bnet Masi | c 255 . | 255.0 | . 0 | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | OK | | Cancel |

4. The "Gateway" tab allows you to add or remove gateway. 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 entry to be removed in the installed gateway list and click **Remove**. The gateway will no longer appear in the installed gateways list.

- 5. Click OK to apply your changes and exit from the TCP/IP properties window.
- 6. The Network window will appear. Click **OK** to end the TCP/IP options modification session.

3.2.5 Configuring PC in Linux:

To enable LAN traffic over the ethernet interface: % ifconfig eth2 192.168.1.200 up

You may also need to modify the netmask and route for the interface. Refer to the manual pages for ifconfig and route for more information. To test the LAN connection is alive by pinging the remote side: % ping 192.168.1.1 To disconnect the LAN interface: % ifconfig eth2 down

3.3 Configuring the Network Properties--- WAN Adapter

3.3.1 Configuring PC in Windows XP

- 1. Go to Start / Settings / Control Panel. In the Control Panel, double-click on Network and Dial-up Connections.
- 2. From the **Network and Dial-up Connections** window, right–click the **Billion Dial-up PPP connection** icon and then click **Properties**.

| 🛸 Network Connections | | |
|--|------------------------|----------|
| File Edit Yiew Favorites Ti | ools Advanced Help | # |
| 🕒 Back 🔹 🌍 👻 🤌 | 🔾 Search 🎼 Folders 🔛 🛛 | |
| Address 🔕 Network Connections | | 🖌 🄁 🗠 |
| Network Tasks Image: Create a new connection Image: Create a new connection Set up a home or small office network Image: Create a new connection Set up a home or small office network Image: Create a new connection Rename this connection Image: Create a new connection Create a new connection Image: Create a new connection Create a new connection Image: Create a new connection Change settings of this connection | Dial-up | |
| Other Places (*) | Properbes | |
| Control Panel | ✓ | |

3. The General tab of the windows allows you to specify a different VPI and VCI. Contact your DSL service provider before altering this connection information. Enter VPI/VCI in the phone number field.

| 🖢 GlobespanVirata Dial-Up PPP Connection Pr 🕜 🔀 |
|---|
| General Options Security Networking Advanced |
| Connect using: ISDN channel - GlobespanVirata USB ADSL WAN Modem |
| Configure |
| Phone number |
| Area code: Phone number: |
| Country/region code: |
| ✓ |
| Use dialing rules Dialing Rules |
| |
| |
| Show icon in notification area when connected |
| OK Cancel |

4. From the **Networking** tab of the **USB ADSL Properties** window, select **Internet Protocol (TCP/IP)** and click **Properties**

| | 8/NT4/2000, Interne | Settings |
|---|-------------------------------------|----------------------|
| This connection uses | the following items: | |
| 🗹 😽 Internet Proto | | |
| 🗹 🛃 QoS Packet | Scheduler er Sharing for Microso | ft Networks |
| | or officing for inforest | it in service |
| 🗆 🖳 Client for Mic | rosoft Networks | |
| Client for Mic | rosoft Networks | |
| Client for Mic | rosoft Networks | Properties |
| Install | | Properties |
| Install Description | Uninstall | |
| Install Description Transmission Cont | | rotocol. The default |

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

In this window, select either the **Obtain an IP address automatically** or **Use the following IP address** radio button depending on your network setup. If you select **Use the following IP address**, type the "IP address" in the space provided. Consult with your Internet Service Provider (ISP) to determine which option best suits your individual needs.

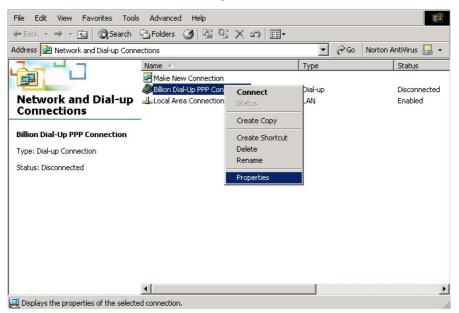
Select either the **Obtain DNS server address automatically** or **Use the following DNS server addresses** radio button depending on your network setup. If you select **Use the following DNS server addresses**, type the "Preferred DNS server" or/and "Alternate DNS server" in the spaces provided. Consult with your ISP to determine the appropriate DNS server addresses for your individual needs.

| nternet Protocol (TCP/IP) Pr | operties 🛛 👔 👔 |
|---|--------------------------------|
| General | |
| You can get IP settings assigned supports this capability. Otherwise administrator for the appropriate IP | , you need to ask your network |
| 🔿 Obtain an IP address automa | atically |
| → Use the following IP address | |
| IP address: | 192.100.100.59 |
| Preferred DNS server: Alternate DNS server | · · · |
| | Advanced |
| | |
| | |
| | OK Cancel |

6. **Billion Dial-up PPP connection** icon on the desktop. Then, the following window will appear. Enter the "User name" and "Password" provided by your ISP.

3.3.2 Configuring PC in Windows 2000

- 1. Go to Start / Settings / Control Panel. In the Control Panel, double-click on Network and Dial-up Connections.
- 2. From the **Network and Dial-up Connections** window, right–click the **Billion Dial-up PPP connection** icon and then click **Properties**.



3. The General tab of the windows allows you to specify a different VPI and VCI. Contact your DSL service provider before altering this connection information. Enter VPI/VCI in the phone number field.

| hone number- | | Configure |
|----------------|---------------|------------|
| | Phone number: | |
| * | 8,35 | Alternates |
| Country/region | n code: | |
| | | <u> </u> |
| 🗖 Use dialing | g rules | Rules |
| Use dialing |) rules | Rules |

4. From the **Networking** tab of the **USB ADSL Properties** window, select **Internet Protocol (TCP/IP)** and click **Properties**

| PPP: Windows 95/9 | r I am calling: 18/NT4/2000, Internet | <u> </u> |
|--|--|--|
| | | Settings |
| Components checke | d are used by this conne | ection: |
| 🗆 🍞 NetBEUI Prot | Constraint and a second state of the second second | _ |
| | /SPX/NetBIOS Compatit | ble Transport Pro |
| 🗹 🏹 Internet Proto | | |
| | er Sharing for Microsoft I | vetworks 👘 |
| 🗆 🔜 Client for Micr | rosoft Networks | <u>•</u> |
| | | The subscription of the second s |
| Install | Uninstall | Properties |
| Install | Uninstall | Properties |
| Install | Uninstall | Properties |
| - Description | Uninstall | |
| Description Transmission Contr wide area network |] | ocol. The default |

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

In this window, select either the **Obtain an IP address automatically** or **Use the following IP address** radio button depending on your network setup. If you select **Use the following IP address**, type the "IP address" in the space provided. Consult with your Internet Service Provider (ISP) to determine which option best suits your individual needs.

Select either the **Obtain DNS server address automatically** or **Use the following DNS server addresses** radio button depending on your network setup. If you select **Use the following DNS server addresses**, type the "Preferred DNS server" or/and "Alternate DNS server" in the spaces provided. Consult with your ISP to determine the appropriate DNS server addresses for your individual needs.

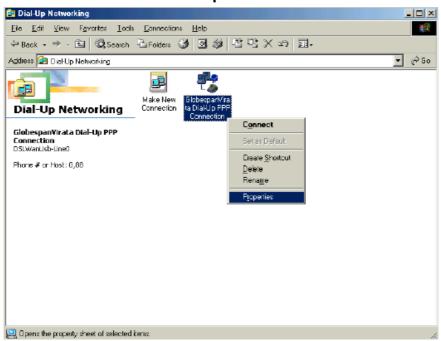
| ernet Protocol (TCP/IP) Pro ieneral | operties <u>?</u> |
|---|----------------------------------|
| You can get IP settings assigned supports this capability. Otherwis administrator for the appropriate I | se, you need to ask your network |
| C Obtain an IP address autor | matically |
| • Use the following IP addres | \$\$: |
| IP address: | 192.100.100.59 |
| Preferred DNS server: Alternate DNS server: | · · · |
| | Advanced |
| | |
| | |

6. **Billion Dial-up PPP connection** icon on the desktop. Then, the following window will appear. Enter the "User name" and "Password" provided by your ISP.



3.3.3 Configuring PC in Windows Me

- 1. Go to Start / Settings / Control Panel. In the Control Panel, double-click on Network and Dial-up Connections.
- 2. From the **Network and Dial-up Connections** window, right–click the **Billion Dial-up PPP connection** icon and then click **Properties**.



3. From the Server Types tab of the ADSL Easy Dialup window, select TCP/IP (marked with a check in the box to the left) and click TCP/IP Settings

| General Networking Security Scripting Multilink Dialing |
|---|
| Type of Dial-Up <u>S</u> erver: |
| PPP: Internet, Windows 2000/NT, Windows ME |
| Advanced options: |
| Enable software compression |
| <u>Record a log file for this connection</u> |
| Allowed network protocols: |
| □ <u>N</u> etBEUI |
| IPX/SPX Compatible |
| <u>ICP/IP</u> <u>ICP/IP</u> Settings |
| |
| |
| |
| |
| OK Cancel |

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

In this window, select either the **Obtain an IP address automatically** or **Use the following IP address** radio button depending on your network setup. If you select **Use the following IP address**, type the "IP address" in the space provided. Consult with your Internet Service Provider (ISP) to determine which option best suits your individual needs.

Select either the **Obtain DNS server address automatically** or **Use the following DNS server addresses** radio button depending on your network setup. If you select **Use the following DNS server addresses**, type the "Preferred DNS server" or/and "Alternate DNS server" in the spaces provided. Consult with your ISP to determine the appropriate DNS server addresses for your individual needs.

| IP <u>a</u> ddress: | 192 | . 100 | . 100 | . 59 | |
|-------------------------------|----------|--------|-------|------|--|
| Server assigned nam | ne serve | r addr | esses | | |
| Specify name server | address | ses | - | | |
| Primary <u>D</u> NS: | 0 | . 0 | . 0 | . 0 | |
| Secondary $D\underline{N}S$: | 0 | . 0 | . 0 | . 0 | |
| Primary <u>W</u> INS: | 0 | . 0 | . 0 | . 0 | |
| Secondary WINS: | 0 | 0 | . 0 | . 0 | |
| Use IP header <u>c</u> omp | | | | | |

5. **Billion Dial-up PPP connection** icon on the desktop. Then, the following window will appear. Enter the "User name" and "Password" provided by your ISP.

| <u>U</u> ser name: | Null |
|-----------------------|---------------|
| Password: | J |
| | Save password |
| Phone <u>n</u> umber: | 8,35 |
| Dialing from: | New Location |

3.3.4 Configuring PC in Windows 98

- 1. Go to Start / Settings / Control Panel. In the Control Panel, double-click on Network and Dial-up Connections.
- 2. From the **Network and Dial-up Connections** window, right–click the **Billion Dial-up PPP connection** icon and then click **Properties**.



3. From the **Server Types** tab of the **ADSL Easy Dialup** window, select **TCP/IP** (marked with a check in the box to the left) and click **TCP/IP Settings**

| General Networking Security Scripting Multilink Dialing |
|---|
| Type of Dial-Up <u>S</u> erver: |
| PPP: Internet, Windows 2000/NT, Windows ME |
| Advanced options: |
| Enable software compression |
| <u>Record a log file for this connection</u> |
| Allowed network protocols: |
| □ <u>N</u> etBEUI |
| IPX/SPX Compatible |
| <u>ICP/IP</u> <u>ICP/IP</u> Settings |
| |
| |
| |
| |
| OK Cancel |

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

In this window, select either the **Obtain an IP address automatically** or **Use the following IP address** radio button depending on your network setup. If you select **Use the following IP address**, type the "IP address" in the space provided. Consult with your Internet Service Provider (ISP) to determine which option best suits your individual needs.

Select either the **Obtain DNS server address automatically** or **Use the following DNS server addresses** radio button depending on your network setup. If you select **Use the following DNS server addresses**, type the "Preferred DNS server" or/and "Alternate DNS server" in the spaces provided. Consult with your ISP to determine the appropriate DNS server addresses for your individual needs.

| IP <u>a</u> ddress: | 192 | • | 100 | • | 100 | • | 59 | |
|-----------------------------|-------|-----|-----|-----|-----|---|----|---|
| Server assigned nan | | | | ess | es | | | |
| Specify name server | addre | SSE | es | | - | | | 2 |
| Primary <u>D</u> NS: | Û | з. | 0 | • | 0 | | 0 | |
| Secondary $D\underline{NS}$ | 0 | | 0 | • | 0 | | 0 | |
| Primary <u>W</u> INS: | 0 | · | 0 | | 0 | | 0 | |
| Secondary WINS: | 0 | | 0 | | 0 | - 10 - 10 - 10 - 10 - 10 - 10 - 10 - 10 | 0 | |
| Use IP header <u>c</u> omp | | 9 | | | | | | |

5. **Billion Dial-up PPP connection** icon on the desktop. Then, the following window will appear. Enter the "User name" and "Password" provided by your ISP.

| <u>U</u> ser name: | Null |
|-----------------------|-------------------------|
| Password: | <u> </u> |
| | □ <u>S</u> ave password |
| Phone <u>n</u> umber: | 8,35 |
| Dialing from: | New Location |

3.3.5 Configuring PC in Linux:

The PPP daemon (pppd) talks to the driver over TTY devices. Before the driver can be used, the devices /dev/ttyG0 and /dev/cug0 need to be reated. This can be performed by executing:

% make devnodes

3.4 Information from your ISP

Before configuring this device, you have to check with your ISP (Internet Service Provider) what kind of service is provided such as PPPoE, PPPoA, RFC1483, or IPoA.

Gather the information as illustrated in the following table and keep it for reference.

| PPPoE | VPI/VCI, VC-based/LLC-based multiplexing, Username, Password, Service Name, and Domain Name System (DNS) IP address (it can be automatically assigned from ISP or be set fixed). |
|--------------------|---|
| PPPoA | VPI/VCI, VC-based/LLC-based multiplexing, Username, Password, and Domain Name System (DNS) IP address (it can be automatically assigned from ISP or be set fixed). |
| RFC1483 Bridged | VPI/VCI, VC-based/LLC-based multiplexing |
| RFC1483 Routed | VPI/VCI, VC-based/LLC-based multiplexing, IP address, Subnet mask, Gateway address, and Domain Name System (DNS) IP address (it is fixed IP address). |
| IPoA | VPI/VCI, IP address, Subnet mask, Gateway address, and Domain Name System (DNS) IP address (it is fixed IP address). |

Chapter 4 Configuration

4.1 Accessing communication settings

Once the Billion BiPAC 7001 ADSL USB Modem and software have been installed, the communication settings may be easily updated by performing the following steps:

 From your PC desktop, click Start → Programs → BiPAC-7001 ADSL USB Modem → Configure



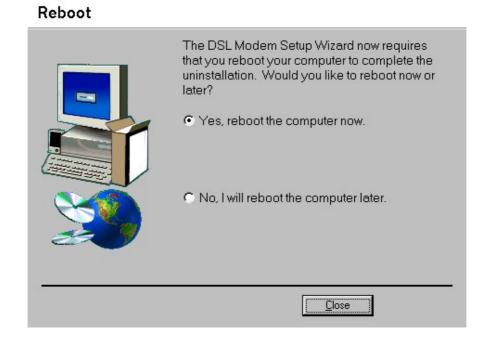
2. The "Communication Settings" window will be displayed.

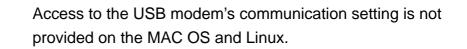
Communication Settings

| Enter your communication settings below. These settings are supplied by your service provider. | | | | | |
|--|--|--|--|--|--|
| VPI: 8 VCI: 35 | | | | | |
| Encapsulation: RFC 2516 PPPoE Encapsulation | | | | | |
| Modulation: Multimode | | | | | |
| | | | | | |
| | | | | | |

Make the necessary changes to the VPI/VCI, Encapsulation type and/or Modulation type and click **Next**>

3. The system has rebooted to have the new setting take effect, therefore, the "Reboot" window will appear, select "Yes, reboot the computer now", and click "**close**" to reboot.





4.2 Windows DSL Status Application

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



- 1. There are three methods to access ADSL USB Modem DSL status application.
- From the start menu by selecting Start ->Program-> BiPAC 7001 ADSL USB Modem-> DSL Status, or

From the PC desktop, double click the DSL Modem icon

in the system tray, or



From the PC desktop, double click the DSL Modem icon.

2. The DSL Status Application allows you to review the current state of the Billion ADSL USB Modem and connection. The green indicator for Link Status signifies that a connection has been made. This indicator blinks while a connection is being established.



3. The system information can be displayed by clicking on the arrow button

screen displays the release number of the ADSL USB Modem driver, and the DSL Status Application version you are currently using. (To show DSL data include **Package version**, **Driver version**, **Control Panel version** and **Firmware version**)



4.3 MAC OS 9.x Control Panel Application

4.3.1 Control Panel :

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



- To access the modem control Panel on a Macintosh, click on the Apple icon then select Control Panels -> ADSL Setup.
- 2. The "ADSL USB Modem" window will appear, with two informational tabs:
 - A) The "DSL Status" tab provides status information for DSL line, such as the upstream/downstream data rates, the modulation and whether it is operational or not.

| ADSL | USB Modem |
|-----------------------------|-----------|
| Status System Info | |
| | |
| | |
| _ DSL Status | |
| Operational State | Data |
| Modulation | G.DMT |
| DownStream Data Rate (kbps) | 8000 |
| UpStream Data Rate (kbps) | 928 |
| | |
| | |
| | |
| | |

B) The "System info" tab provides general information about the various software/ firmware versions.

| | ADSL USB Modem | E |
|---|----------------|---|
| DSL Status System Info | | |
| | | |
| | | |
| | | |
| System Info | | _ |
| During Duling Duling | 1.01.0006E-A | |
| Device Driver Release: Firmware Release: | ¥1.8.1 | |
| Control Panel Release: | 1.1.6 (WanUsb) | |
| control rano horozo. | | |
| L | | |
| | | |
| | | |

4.3.2 Development Mode

Development Mode is intended for OEM only. When in this mode, the Control Panel display Modem configuration information and advanced statistics about the modem.

- In order to transition to the Development Mode of the Control Panel, while in the Control Panel, press the "Ctrl +1" key simultaneously.
- 2. The "DSL Status" tab provides status information for the DSL line.

| L USB Modem |
|------------------------|
| ation ATM DSL Advanced |
| |
| |
| |
| Data |
| G.DMT |
| 8000 |
| 928 |
| |
| Disconnect |
| |
| |

Click Retrain or Disconnect a connection for testing purposes.

3. The "System info" tab provides general information about the various software/firmware version using the same screen as the generally available Control panel previously described.

| | ADS | iL USB Modem | E |
|---------------|-------------------------|-------------------|-------|
| DSL Status Sy | stem Info Configura | ation ATM DSL Adv | anced |
| | | | |
| | | | |
| | | | |
| DSL Statu | | | |
| Opera | tional State | Data | |
| Modul | ation | G.DMT | |
| DownS | itream Data Rate (kbps) | 8000 | |
| UpStr | sam Data Rate (kbps) | 928 | |
| | | | |
| | Retrain | Disconnect | |
| | netrain | Disconnect | |
| | | | |

4. Click on the "Configuration" tab to view and modify the Modulation type, VPI and VCI values, Encapsulation Mode and ATM Modes.

| | | ADSL USB Modem | |
|------------|---------------------|--------------------------------|-----|
| DSL Status | System Info | Configuration ATM DSL Advanced | n l |
| | | | ll |
| | | | l |
| Configu | ration | | Ш |
| | Modulation | Multimode | l |
| | | | l |
| | VPI: 8 | VCI: 35 | l |
| | Encapsulation Mode: | RFC2516 PPP Over Eth | l |
| | ATM Mode: | PPP Over Ethernet | I |
| | | | I |
| | | Apply | |
| | Encapsulation Mode: | PPP Over Ethernet | |

If you have made any changes, click **Apply**.

5. The "ATM" tab provides transmission statistics such as the number of cells or packets

sent and received, and errors.

| TM Statistics | |
|--|---|
| Number of cells transmitted: | 0 |
| Number of cells received: | 0 |
| Number of cells dropped: | 0 |
| Number of cells w/bad header: | 0 |
| Number of cells w/invalid Vpi/Vci: | 0 |
| Number of packets sent: | 0 |
| Number of packets received: | 0 |
| Number of AALS PDU CRC errors: | 0 |
| Number of OAM Loopback cells received: | 0 |

6. Click on the "DSL Advanced" tab to view more advanced statistics.

| ADSL USB Modem | | | | | | |
|---|---------|--------|---|--|--|--|
| DSL Status V System Info V Configuration V ATM V DSL Advanced | | | | | | |
| Local/Remote Attenuation: | 2.5 / 0 | .0 dB | | | | |
| Local SNR Margin: | 14.0 dB | | | | | |
| | Local | Remote | - | | | |
| FEC-Interleaved: | 0 | 0 | | | | |
| FEC-Fast: | 0 | 0 | | | | |
| CRC-interleaved: | 0 | 0 | | | | |
| CRC-Fast: | 2 | 0 | | | | |
| | | | - | | | |
| | | | | | | |

Local/Remote Attenuation: The extent of the local/remote attenuation expressed in decibels (dB)

Local SNR Margin: The signal to noise ratio margin. A positive number roughly indicates the number of dB that the noise could increase before the modem produces errors.

FEC-Interleaved: Count of local and remote FEC (Forward Error Correction) errors for

the interleaved data stream.

FEC-Fast: Count of local and remote FEC (Forward Error Correction) errors for the fast data stream.

• CRC-Interleaved: Count of local and remote CRC (Cyclic redundancy check) errors for the interleaved data stream.

CRC-Fast: Count of local and remote CRC (Cyclic redundancy check) errors for the fast data stream.

4.4 MAC OS X Control Panel Application.

4.4.1 Control Panel

- Access the modem Control Panel on your Macintosh (Go → Applications → DSL MODEM → ADSL USB MODEM)
- 2. The "ADSL USB Modem" window will appear, with two informational tabs:
 - a) The "DSL Status" tab provides status information for the DSL line, such as the upstream/downstream data rates, the modulation and whether it is operational or not.

| O ADSL USB M | odem |
|-----------------------------|-----------|
| DSL Status Sy | stem Info |
| | |
| DSL Status | |
| Operational State | Data |
| Modulation | G.DMT |
| DownStream Data Rate (kbps) | 8064 |
| UpStream Data Rate (kbps) | 992 |
| | |
| | |
| | |
| | |

b) The "System info" tab provides general information about the various software/firmware versions.

| System Information | | | |
|---------------------------|----|-----------------------|--|
| Device Driver Release | 51 | 1.02.0007E-A (WanUsb) | |
| Firmware Release: | | Y.1.28.27 | |
| Control Panel Release | E: | 1.2.5 | |

4.4.2 Development Mode

Development Mode is intended for OEM only. When in this mode, the Control Panel display Modem configuration information and advanced statistics about the modem.

- In order to transition to the Development Mode of the Control Panel, while in the Control Panel, press the "Ctrl +1" key simultaneously
- 2. The "DSL Status" tab provides status information for the DSL line.

| DSL Statu | 15 | | | |
|-----------|------------------|------------|------|--|
| Opera | itional State | D | ata | |
| Modul | ation | G | .DMT | |
| Down | Stream Data Rate | e (kbps) 8 | 064 | |
| UpStr | eam Data Rate (k | bps) 9 | 92 | |
| UpStr | eam Data Rate (k | bps) 9 | 92 | |

Click Retrain or Disconnect a connection for testing purposes.

3. The "System info" tab provides general information about the various software/firmware version using the same screen as the generally available Control panel previously described.

| System | n Information | | | |
|--------|----------------------|-----------|---------|-------|
| System | | | | |
| De | vice Driver Release: | 1.02.0007 | E-A (Wa | nUsb) |
| Fir | mware Release: | Y.1.28.27 | | |
| Co | ntrol Panel Release: | 1.2.5 | | |

4. Click on the "Configuration" tab to view and modify the Modulation type, VPI and VCI values, Encapsulation Mode and ATM Modes.

| DSL Status System Info Configuration ATM DSL Advanced Current Configuration Modulation: Multimode VPI: 8 VCI: 35 ATM Mode: RFC 2516 PPP Over Ethernet Encapsulation: PPP Over Ethernet | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | | SL USB Modem | | |
|--|---|--------------|---------------|----------|--------------|
| Modulation: Multimode VPI: 8 VCI: 35 ATM Mode: RFC 2516 PPP Over Ethernet | DSL Status | System Info | Configuration | АТМ | DSL Advanced |
| VPI: 8 VCI: 35 ATM Mode: RFC 2516 PPP Over Ethernet | Current C | onfiguration | | | |
| VCI: 35 ATM Mode: RFC 2516 PPP Over Ethernet | Modu | lation: | Multimode | | |
| ATM Mode: RFC 2516 PPP Over Ethernet | VPI: | | 8 | | |
| | VCI: | | 35 | | |
| Encapsulation: PPP Over Ethernet | ATM I | Mode: | RFC 2516 PPF | Over Eth | ernet |
| | Encap | sulation: | PPP Over Ethe | ernet | |
| | | | | | |
| | | | | | |
| | | | | | |

5. The "ATM" tab provides transmission statistics such as the number of cells or packets sent and received, and errors.

| DSL Status | System Info | Configuration | АТМ | DSL Advanced |
|----------------|---------------------|-----------------|-----|--------------|
| ATM Statistics | i | | | |
| Number o | f cells transmitte | d: | 30 | |
| Number o | f cells received: | | 18 | |
| Number o | f cells dropped: | | 10 | |
| Number o | f cells w/bad hea | ider: | 0 | |
| Number o | f cells w/invalid \ | /pi/Vci: | 10 | |
| Number o | f packets sent: | | 30 | |
| Number o | f packets receive | ed: | 4 | |
| Number o | f AAL5 PDU CRC | errors: | 0 | |
| Number o | f OAM Loopback | cells received: | 0 | |
| | 6 | Clear | - | |

6. Click on the "DSL Advanced" tab to view more advanced statistics.

| DSL Status | System Info | Configuration | ATM | DSL Advanced |
|-------------------|--------------------|---------------|----------|--------------|
| Local/F | lemote Attenuation | n: 0.0 / | / 0.5 dB | |
| Local SNR Margin: | | 15.0 | dB | |
| | | Local | | Remote |
| FEC-Int | erleaved: | 6664 | | 0 |
| FEC-Fa | st: | 0 | | 0 |
| CRC-Int | erleaved: | 626 | | 0 |
| CRC-Fa | st: | 0 | | 0 |
| | | | | |

Local/Remote Attenuation: The extent of the local/remote attenuation expressed in decibels (dB)

• Local SNR Margin: The signal to noise ratio margin. A positive number roughly indicates the number of dB that the noise could increase before the modem produces errors.

FEC-Interleaved: Count of local and remote FEC (Forward Error Correction) errors for the interleaved data stream.

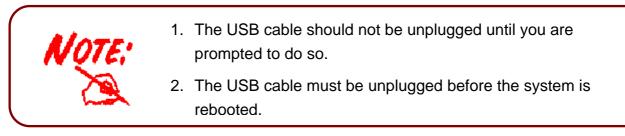
FEC-Fast: Count of local and remote FEC (Forward Error Correction) errors for the fast data stream.

CRC-Interleaved: Count of local and remote CRC (Cyclic redundancy check) errors for the interleaved data stream.

CRC-Fast: Count of local and remote CRC (Cyclic redundancy check) errors for the fast data stream.

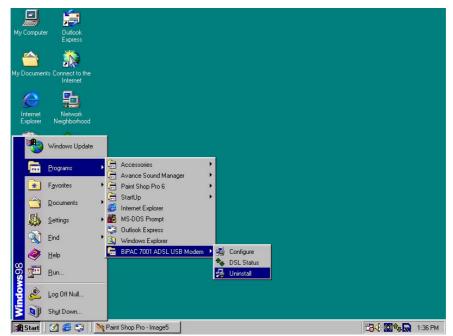
Chapter 5 Uninstall

Remove the BiPAC 7001 ADSL USB Modem software drivers by performing the following steps.

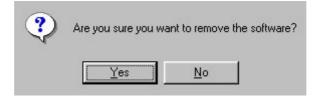


5.1 Uninstall Windows:

 From your PC desktop click Start -> Programs -> BiPAC 7001 ADSL USB Modem ->Uninstall.



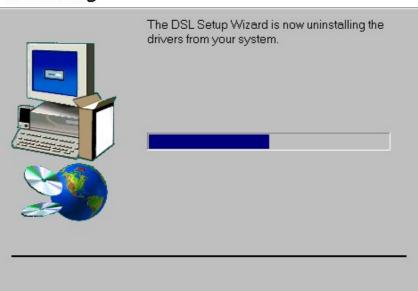
 A message will be displayed asking you to remove of the ADSL USB Modem software, click Yes>



3. You will be reminded into to unplug the USB cable until the uninstall process has been completed. Then click **OK**>



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



Uninstalling

5. Unplug the USB cable from the PC and click OK>



6. The "Reboot" window will appear. Remove all disks from the drives, select "Yes, reboot the computer now", and click **Close** to reboot.

Reboot



5.2 Uninstall MAC OS:

- 1. Invoke the Uninstaller from the DSL Modem folder (Application -> BiPAC 7001 ADSL USB Modem ->Uninstall)
- 2. The "Uninstall" screen will appear. Select "Yes, remove the software from my computer" and click **Next**>

| 000 | ADSL Modem Installer |
|-----|---|
| | Uninstall |
| | This program will uninstall the DSL modern driver from your computer. Are you sure you would like to continue? |
| | • Yes, remove the software from my computer. |
| | No, cancel the uninstallation. |
| | Note: You will need to enter in an administrator password to perform the uninstallation. |
| | |
| | Next Cancel |

3. Type the administrator name and password at the "Authenticate" screen and click OK.

| Aut | henticate |
|---------------------|-----------------------------------|
| Uninstall requir | es that you type your passphrase. |
| Name: | |
| Password or phrase: | |
| Details | |
| ? | Cancel OK |

4. The "Finish" screen will appear. The computer must be restarted to complete the uninstall process. Select "Restart now" and click **Finish**.

| 00 | ADSL Modem Installer |
|----|---|
| | Finish |
| | The uninstallation is now complete. It is recommended that you reboot your computer to fully clean your system. Would you like to restart now or later? |
| | Restart now |
| | Restart later |
| | |
| | |
| | Finish Cancel |

5.3 Uninstall Linux:

To unload an unused module: % rmmod ./GSPNModem (Command to be executed from directory monaco_linux/ModemDrv)

You may need to exit or disconnect any program current using the module before it will unload. If the module was configured for LAN, shutdown the ethernet interface: % ifconfig eth2 down

Note: If multiple ethernet interfaces are created then all the ethernet interfaces need to be brought down before unloading the driver.

If the module was configured as a WAN device, you may need to disconnect the PPP daemon (pppd) from the TTY interfaces. Do this by terminating the PPP daemon: % killall pppd