AAM6000PI

ADSL Modem Card

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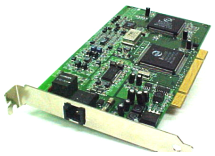
Congratulations!

You are about to accelerate into ADSL technology. Your new ADSL modem card is an internal Asymmetric Digital Subscriber Line (ADSL) PCI modem card, which conveniently plugs into your computer system. The modem connects directly to your telephone line via a standard connector.

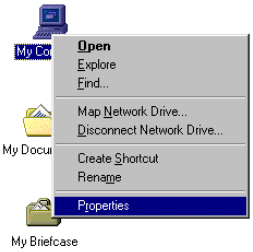


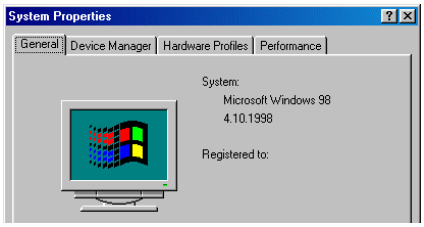
This guide is designed to walk you through installation of your ADSL Modem card in the easiest and quickest way possible. Please follow the instructions carefully.

Step 1 – Know you PC's Operating System

You will need to know the exact version of Microsoft Windows installed in your computer. If you do not know or are unsure, please proceed as follows to determine your version of the Microsoft Operating System.

On the desktop, right click **My Computer**. Then select **Properties**. The version number of the Microsoft Windows Operating System installed in your computer will be displayed on the **General** tab. Refer to the following table for more detailed information.





Windows OS	System Properties Description	Release (Microsoft Web)
Win 95A	4.00.950A	Windows 95 OSR1
Win 95B	4.00.950B	Windows 95 OSR2
Win 98	4.10.1998	Window 98
Win 98SE	4.10.2222A 2nd Edition	Windows 98 2nd Edition
Win 2000	5.00.2195	Windows 2000
Win NT	4.00.1381	Windows NT 4.0

If you have questions regarding your PC system and the Microsoft Windows Operating System, please contact your original PC manufacturer or Microsoft for assistance.

Before Installing the ADSL PCI Modem Card, it is important to verify that the ADSL data port RJ-11 jack is configured so that the center two pins, pins 3 and 4, are used for ADSL data, otherwise the ADSL PCI modem card will not make a proper connection. If the ADSL data port installation uses pins 2 and 5 for data, then a wiring converter will be required. Do not alter or remove a wiring converter if present. Consult with your ADSL service provider regarding a wiring converter or before attempting any wiring changes.

Step 2 – Determine your Connection settings

You need to know your PC systems **Windows OS** and **Internet Protocol** supplied by your ADSL service provider. Refer to the following chart for your **ADSL Driver.**

Protocol Selection		
RFC1483	⇨	Bridged Ethernet over ATM
RFC2364	⇨	Point-to-Point Protocol over ATM
RFC1577	⇨	Classical Internet Protocol over ATM
RFC2516	⇨	Point-to-Point Protocol over Ethernet

ADSL Driver Selection	RFC1483	RFC2364	RFC1577	RFC2516
Win 95A & 95B	**1483w95**	**2364w95**		**See Note✍**
Win 98 & 98SE	**1483w98**	**2364w98**	**1577w98**	**See Note✍**
Win NT 4.0	**1483nt4**	**2364nt4**		**See Note✍**
Win 2000	**1483w2k**	**2364w2k**		**See Note✍**

Note✍ : RFC2516 (Point-to-Point Protocol over Ethernet) is supported by third party developers. See the PPPoE driver supplement for detailed information and installation instructions.

Having determined the ADSL Driver you will be installing, you now need to gather the connection information supplied by your ADSL service provider.

VPI value:_____
VCI value:_____
Framing: ❑ VC/MUX ❑ LLC/SNAP
Mode: ❑ ANSI T1.413 ❑ ITU G.lite ❑ ITU G.dmt

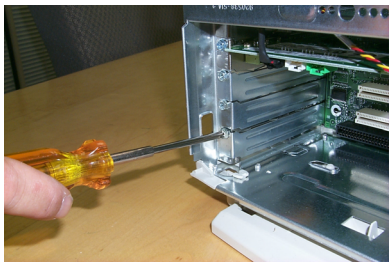
For RFC 1483 or 2516	For RFC 2364 or 1577
Host:	**User Name:**
Domain:	**Password:**
Gateway:	**Host or IP Address:**
IP Address:	
Subnet Mask:	
DNS or server address:	

Step 3 – Install the ADSL modem card

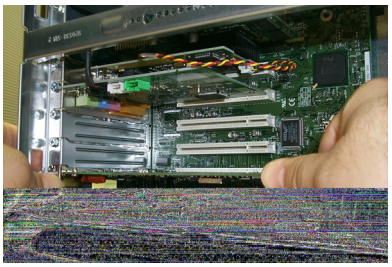
Caution: To avoid possible damage to your modem card, touch the metal chassis of your PC system to remove static charge from your person, and then remove your ADSL modem card from the protective anti-static bag.

1. Shut down your computer and **switch the power off**.
2. **Unplug the power cord** for your computer from the electrical outlet.

3. **Remove the cover** from your systems chassis. (see you PC manufacturer's manual)



4. **Unscrew "slot cover bracket"** from an unused PCI (usually white in color) slot.



5. Gently and evenly **insert the PCI modem card** into your empty PCI slot.

6. Make sure the card is firmly seated and **secure the card with the bracket screw**.

7. **Replace the cover** of your computer system.
8. **Connect the ADSL/phone line** to the connector port on the modem card and plug the other end of the cable into your ADSL/phone service.

Step 4 – Install the drivers and make a connection

You will be installing drivers and then proceeding to make an Internet connection. This process requires you to enter in information as prompted by the Microsoft Installation Wizard.

NOTE:You may need the Microsoft Windows Operating System installation files (CAB files) to complete the installation. The CAB files are contained in the Microsoft's system CD-ROM. Some systems may have already installed the CAB files to the hard drive, but you should have the Microsoft Windows CD-ROM handy just in case.

Proceed now to the installation procedure for the Windows Operating System installed in your computer.

Windows 95A ----------Page 5

Windows 95B ----------Page 8

Windows 98, 98SE---------- Page 12

Windows 2000 ----------Page 19

Windows NT - RFC 1483 or RFC 1577 ----------Page 26

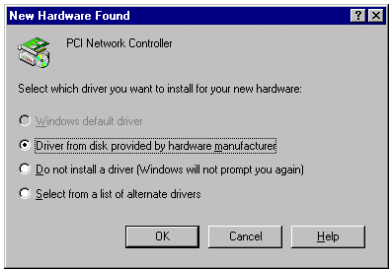
Windows NT - RFC 2364---------- ----------Page 29

Windows 95A

After installing the ADSL modem card, plug the power cable back into the PC system and turn the power on.

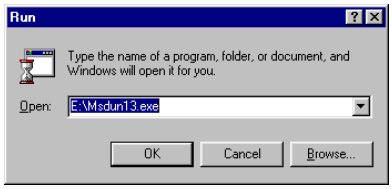
Before you proceed to install drivers you will need to upgrade your Dial-Up Networking (DUN) application to version 1.3 or above. The Microsoft DUN is conveniently contained on your ADSL Driver CD-ROM.

1. After restart, the **Update Device Driver Wizard** will detect the ADSL modem as a **PCI Network Controller. CANCEL** the **New hardware found** window**.**

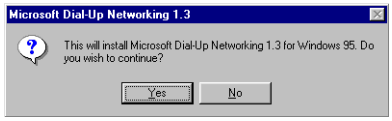


2. At your desktop, click **Start**, and then select **Run**.

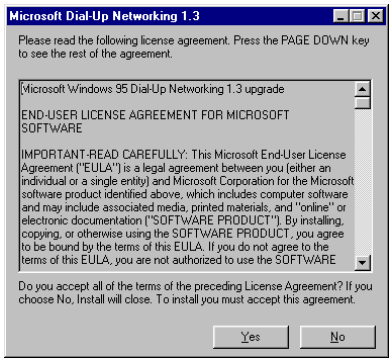
3. The **Run** window appears. **Insert** the **ADSL Driver CD**, then click on **Browse** and proceed to locate the ADSL Driver 95 CD-ROM. Then locate and select the MSDUN13.EXE file. The **Msdun13.exe** appears in the Open box. Click **OK**.



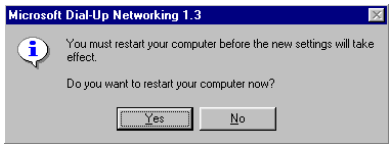
4. The **Microsoft Dial-Up Networking 1.3** window appears with the message **This will install Microsoft Dial-Up Networking 1.3 for Windows 95. Do you wish to continue?** Click **Yes**.



5. An **End-User License Agreement** will appear. To accept, click **Yes**.

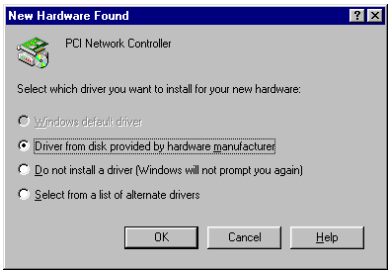


6. Back in the Microsoft Dial-Up Networking 1.3 window. You will be asked Do you want to restart your computer now? Click Yes.

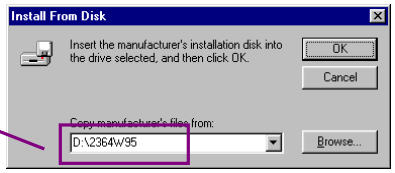


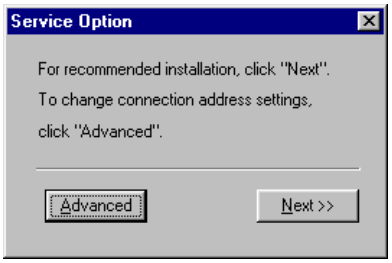
NOTE:You may need the Microsoft Windows Operating System installation files (CAB files) to complete the installation. The CAB files are contained in the Microsoft's system CD-ROM. Some systems may have already installed the CAB files to the hard drive, but you should have the CD-ROM handy just in case.

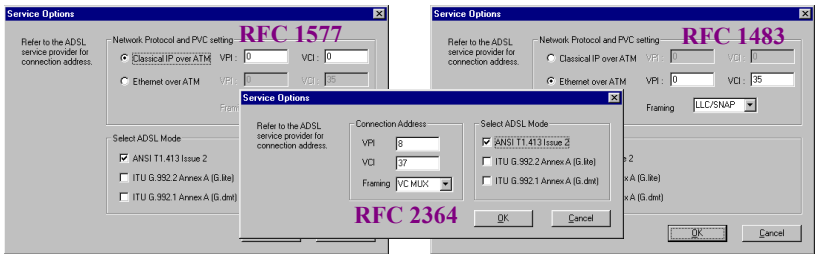
1. The **New Hardware Found** window will detect the ADSL modem card as a **PCI Network Controller.** Select the **Driver from disk provided by hardware manufacturer** option. Click **OK**.
2. Insert the **ADSL Driver** CD-ROM into your systems CD drive.



3. The **Install From Disk** window appears. Click **Browse** to locate the driver on your CD-ROM for the protocol supported by your ADSL provider: **1483w95 or 2364w95 or 1577w95** (The example uses "D" as the CD-ROM drive letter. Your drive may have a different letter.) Then click **OK**.
4. When the **Service Option** window appears, click **Advanced.**
5. The **Service Options** window displays the **Connection Address** and **Select ADSL Mode** sections. Enter in the **VPI**, **VCI** and **Framing** values supplied by your ADSL service provider.



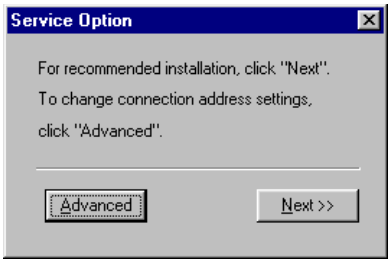




In the **Select ADSL Mode** section, select the mode(s) recommended by your ADSL service provider. Click on the mode(s) required and then click **OK**.

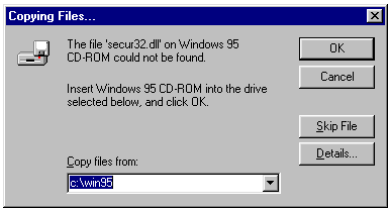
NOTE: The service mode type will be one of the following:❑ ANSI T1.413 Issue 2
❑ ITU G.992.2 Annex A(G.lite)
❑ ITU G.992.1 Annex A(G.dmt)

6. The previous **Service Option** window will appear, click **Next**.



NOTE: During the installation process you may be asked to insert your Windows 95 CD. Insert the **Windows 95 CD** into the CD drive and click **OK**.

NOTE: If during the file copying process a file is reported as "not found" enter the path <CD Drive letter> and **:\Win95** (e.g. **D:\Win95**)



7. You must now make an Internet connection. Locate the Internet protocol supported by your ADSL service provider from the following table, and proceed to that section to make the Internet connection.

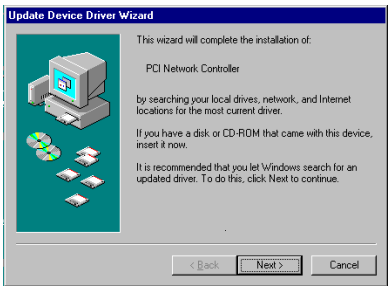
RFC1483	Bridged Ethernet over ATM	⇨	**Go to page 15**
RFC1577	Classical Internet Protocol over ATM	⇨	**Go to page 15**
RFC2364	Point-to-Point Protocol over ATM	⇨	**Go to page 17**

Windows 95B

After installing the ADSL modem card, plug the power cable back into the PC system and turn the power on.

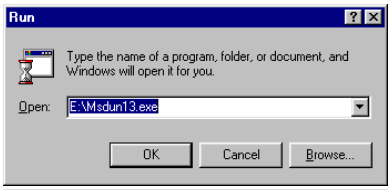
Before you proceed to install drivers you will need to upgrade your Dial-Up Networking (DUN) application to version 1.3 or above. The Microsoft DUN is conveniently contained on your ADSL Driver CD-ROM.

1. After restart, the **Update Device Driver Wizard** will detect the ADSL modem card as a **PCI Network Controller. CANCEL** the **New hardware found** window**.**

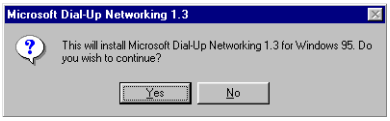


2. At your desktop, click **Start**, and then select **Run**.

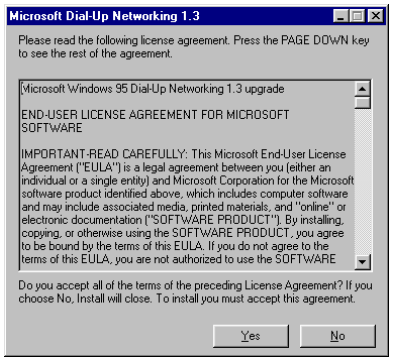
3. The **Run** window appears. **Insert** the **ADSL Driver CD**, then click on **Browse** and proceed to locate the ADSL Driver 95 CD-ROM. Then locate and select the MSDUN13.EXE file. The **Msdun13.exe** appears in the Open box. Click **OK**.



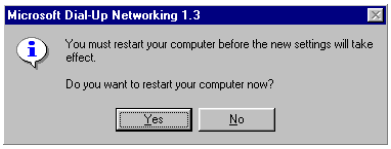
4. The **Microsoft Dial-Up Networking 1.3** window appears with the message **This will install Microsoft Dial-Up Networking 1.3 for Windows 95. Do you wish to continue?** Click **Yes**.



5. An **End-User License Agreement** will appear. To accept, click **Yes**.

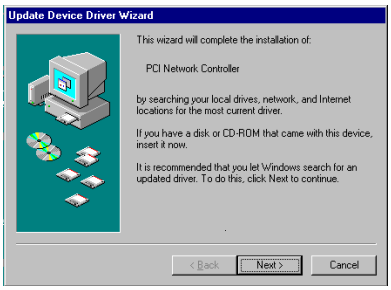


6. Back in the **Microsoft Dial-Up Networking 1.3** window. You will be asked **Do you want to restart your computer now?** Click **Yes**.



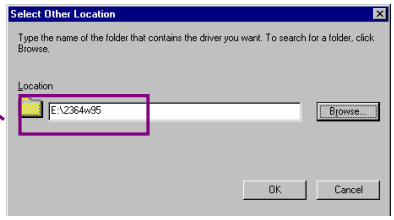
You may need the Microsoft Windows Operating System installation files (CAB files) to complete the installation. The CAB files are contained in the Microsoft's system CD-ROM. Some systems may have already installed the CAB files to the hard drive, but you should have the CD-ROM handy just in case.

1. The **Update Device Driver Wizard** will detect the ADSL modem card as a **PCI Network Controller**, click **Next**.
2. Insert the **ADSL Driver** CD-ROM into you systems CD drive.



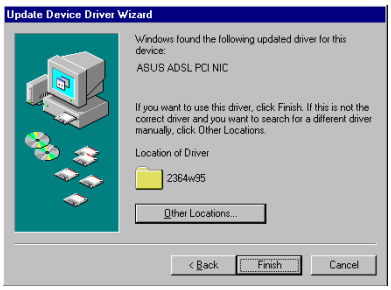
3. The **Update Device Driver Wizard** will appear and indicate that "**Windows was unable to locate a driver for this device**". Click **Other Locations**.

4. The **Select Other Location** window appears. Click **Browse** to locate the driver on your CD-ROM for the protocol supported by your ADSL provider: **1483w95 or 2364w95 or 1577w95** (The example uses "E" as the CD-ROM drive letter. Your drive may have a different letter.) Then click **OK**.

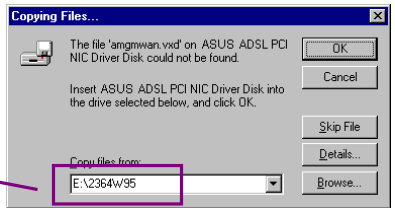


5. The **Update Device Driver Wizard** will then find the ASUS ADSL PCI NIC. Click **Finish**.

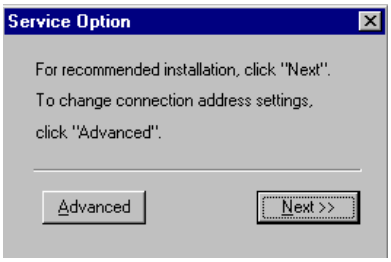
   NOTE: During the installation process you may be asked to insert your Windows 95 CD-ROM. Insert the **Windows 95 CD** into the drive and click **OK**.



NOTE: Due to an installation anomalie. The **Copying Files** window may appear again. Click **Browse** to locate the driver on your CD-ROM for the protocol supported by your ADSL provider: **1483w95 or 2364w95 or 1577w95** Click **OK**.

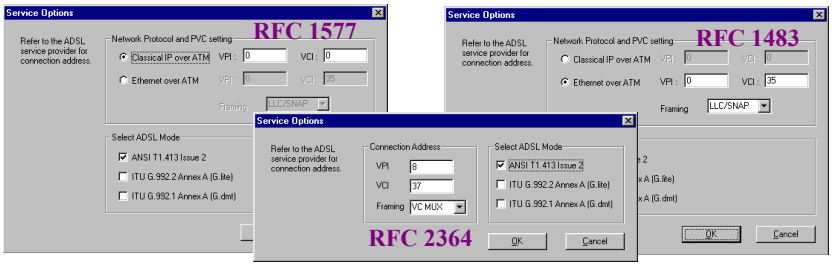


6. When the **Service Option** window appears, click **Advanced**



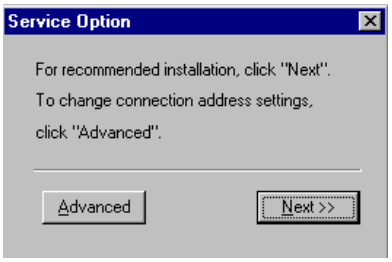
7. In the **Network Protocol and PVC Settings** section, enter in the **VPI**, **VCI** and **Framing** values supplied by your ADSL service provider.

   In the **Select ADSL Mode** section, select the mode(s) recommended by your ADSL service provider. Click on the mode(s) required and then click **OK**.



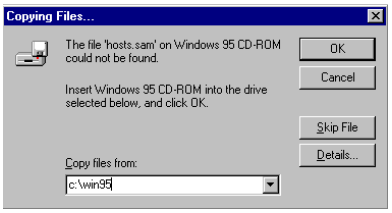
NOTE: The service mode type will be one of the following:

- ANSI T1.413 Issue 2
- ITU G.992.2 Annex A (G.lite)
- ITU G.992.1 Annex A (G.dmt)



8. The previous **Service Option** window will appear, click **Next**.

NOTE: During the installation process you may be asked to insert your Windows 95 CD-ROM. Insert the **Win95 CD** into the drive. Click **OK**.



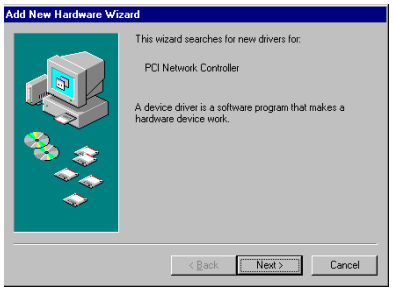
NOTE: If during the file copying process a file is reported as "not found" enter the path <CD Drive letter> and **:\Win95** (e.g. **D:\Win95**) You must now make an Internet connection. Locate the Internet protocol supported by your ADSL service provider from the following table, and proceed to that section to make the Internet connection.

RFC1483	Bridged Ethernet over ATM	⇨	**Go to page 15**
RFC1577	Classical Internet Protocol over ATM	⇨	**Go to page 15**
RFC2364	Point-to-Point Protocol over ATM	⇨	**Go to page 17**

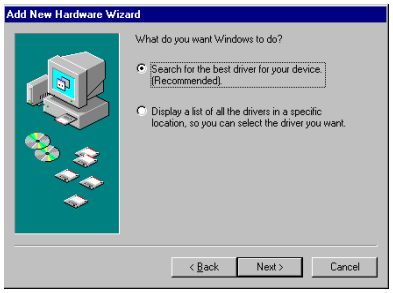
Windows 98, 98SE

After installing the ADSL modem card, plug the power cable back into the PC system and turn the power on.

1. The **Add New Hardware Wizard** window will automatically appear and indicate that a new **PCI Network Controller** has been found. Click **Next**.



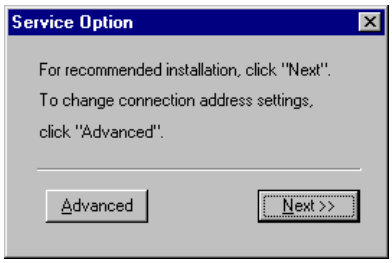
2. Still in the Add New Hardware Wizard. You will be asked "**What do you want Windows to do?**" Select "**Search for the best driver for your device**", then click **Next**.
3. Insert the **ADSL Driver** CD into your systems CD-ROM drive.



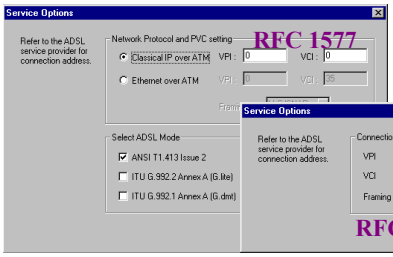
4. Then select **Specify a location** and Click **Browse** to locate the driver on your CD-ROM for the protocol supported by your ADSL provider: **1483w98 or 2364w98 or 1577w98** (The example uses "D" as the CD-ROM drive letter. Your drive may have a different letter.) Then click **Next**.

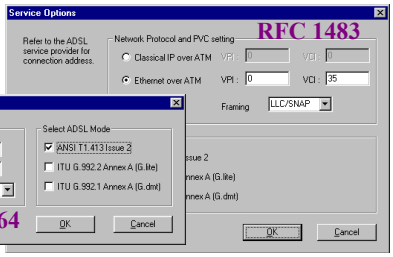
5. The **Add New Hardware Wizard** will appear and indicate the **ASUS ADSL PCI NIC**. Click **Next**.

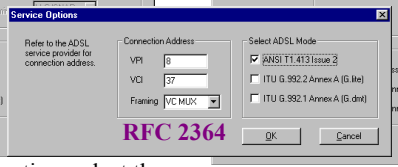
6. When the **Service Option** window appears, click **Advanced**.



7. The **Service Options** window appears. In the **Network Protocol and PVC Settings** section, enter in the **VPI**, **VCI** and **Framing** values supplied by your ADSL service provider.



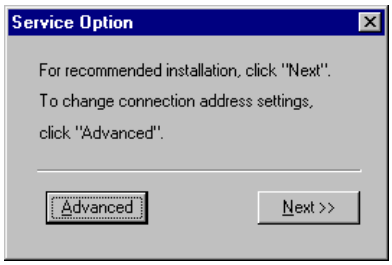




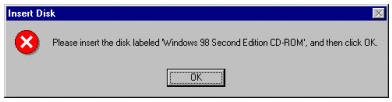
In the **Select ADSL Mode** section, select the mode(s) recommended by your ADSL service provider. Then click **OK**.

NOTE: The service mode type will be one of the following:
- ❑ ANSI T1.413 Issue 2
- ❑ ITU G.992.2 Annex A (G.lite)
- ❑ ITU G.992.1 Annex A (G.dmt)

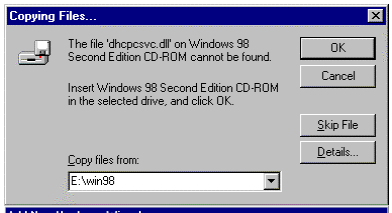
8. The previous **Service Option** window will appear, click **Next**.



9. If prompted to insert your Windows CD do so at this time then click **OK.**

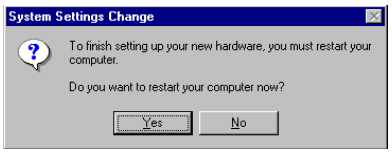


10. Enter the <CD drive Letter> and then **:\Win98** (e.g. **D:\Win98**) and click **OK**.



11. At the conclusion of the ADSL modem driver installation, the **Add New Hardware Wizard** window appears and displays you new **ASUS ADSL PCI NIC**. Click **Finish.**

12. The **System Settings Change** window appears. For the PC system to set up the **ASUS Apollo 2 Drivers**, a system **Restart** is required. Click **Yes**.



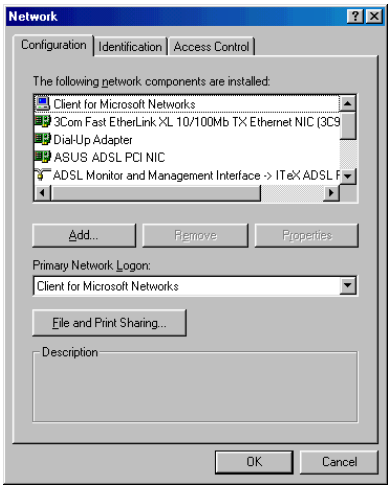
NOTE: After restarting the system, the **Diagnostic Tool** icon (See Appendix) is active and monitoring connectivity.

13. You must now make an Internet connection. Locate the Internet protocol supported by your ADSL service provider from the following table, and proceed to that section to make the Internet connection.

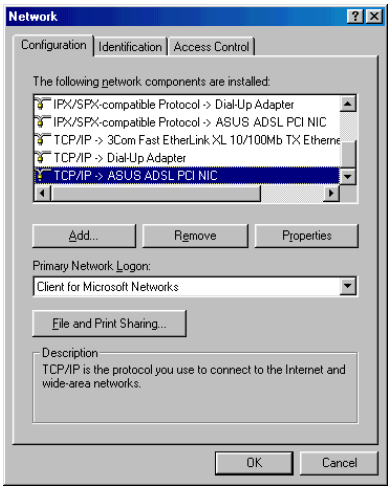
RFC1483	Bridged Ethernet over ATM	⇨	**Go to page 15**
RFC1577	Classical Internet Protocol over ATM	⇨	**Go to page 15**
RFC2364	Point-to-Point Protocol over ATM	⇨	**Go to page 17**

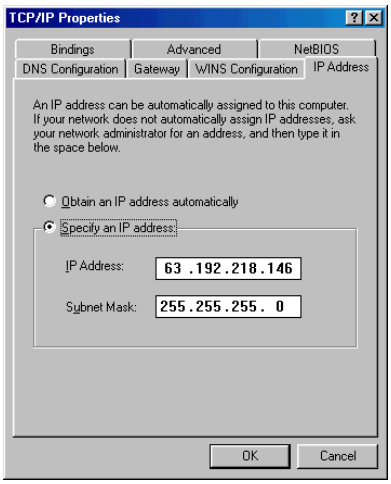
RFC 1483 – Bridged Ethernet over ATM – 95/98
RFC 1577 - Classical Internet Protocol over ATM – 95/98

1. From the **Start** menu on the tool bar, select **Settings**, **Control Panel**, and then double click on the **Network** icon.
2. The **Network** window appears. Select the **Configuration** tab, scroll the installed network component window and find **ASUS ADSL PCI NIC**.



3. When the **Network** window appears select the **Configuration** tab, scroll the installed network component window and select **TCP/IP →ASUS ADSL PCI NIC.** Then click the **Properties** button.

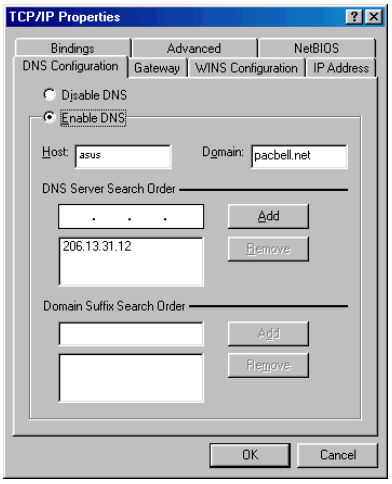




4. The **TCP/IP Properties** window will appear. Select the **IP Address** tab and then select the **Specify an IP Address** option. Enter the **IP Address** and **Subnet Mask** settings supplied by your ADSL provider.

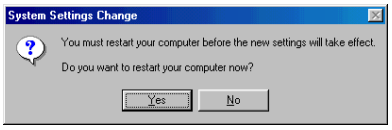
5. To setup a new gateway, select the **Gateway** tab, and then enter the setting in the **New Gateway** section. Click **Add**.
6. Select **DNS Configuration** tab. Select the **Enable DNS** option.

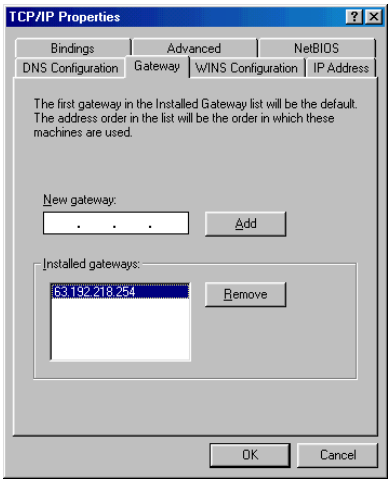
NOTE: You now need to have available the **Host**, **Domain** and **DNS** settings supplied by your ADSL service provider.



11. The **Network** window appears. Click **OK**.

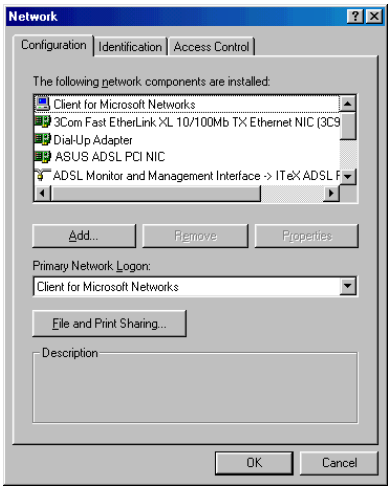
12. The **System Setting Change** window appears. You will be asked if you want to restart your computer. Click **Yes**.





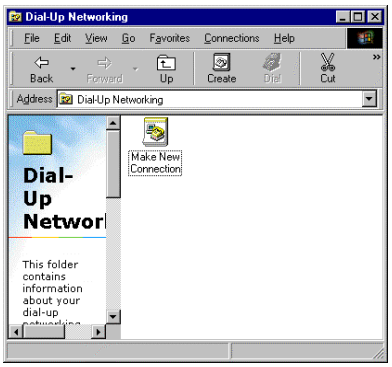
7. Enter your host name into **Host:** box.
8. Enter your domain name into **Domain:** box.
9. Enter **DNS** number into **DNS Server Search Order** box and click **Add**. If you have more than one **DNS** numbers, repeat this step.

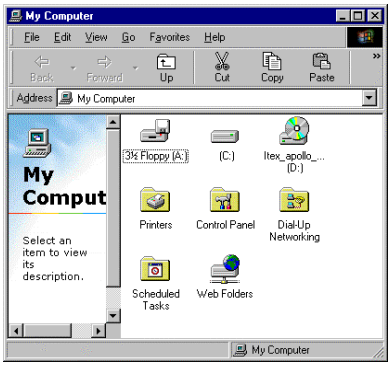
10. After setting all the necessary TCP/IP properties, click **OK.**



Congratulations, you are done. Your ADSL Internet connection is established!

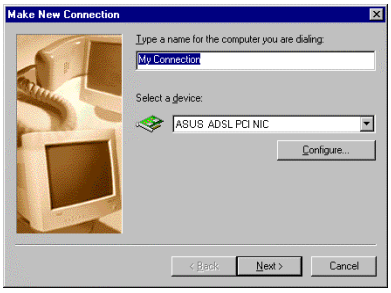
1. Double-click the **My Computer** icon on the desktop. Then double-click the **Dial-Up Networking** icon.

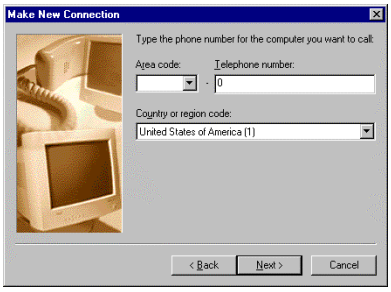




2. The **Dial-Up Networking** window appears. Double-click on the **Make New Connection** icon.

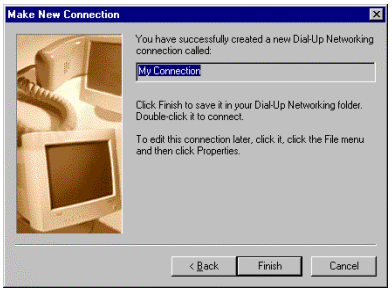
3. The **Make New Connection** window appears. The default name for the computer you are dialing is **My Connection**. However, You can name the connection anything you wish. In the **Select a device** bar, use the scroll down menu to locate the **ASUS ADSL PCI NIC**, click **Next**.



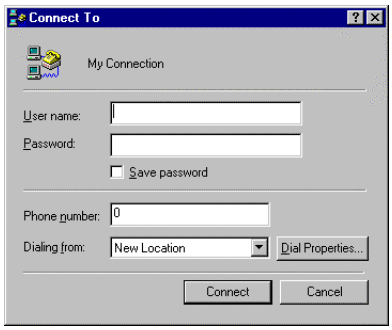


4. A new **Make New Connection** window appears. Enter (0) zero, into the **Telephone number** box. Click **Next**.

5. Another **Make New Connection** window appears. It will indicate that **You have successfully created a new Dial-Up Networking connection called "My Connection"**. Click **Finish**.

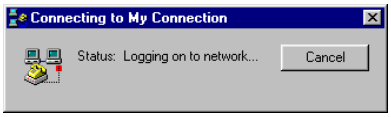


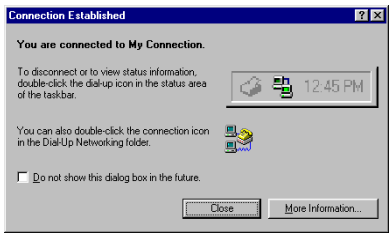
6. The new connection will appear in the **Dial-Up Networking** window. Double-click the new connection e.g. "**My Connection"** icon to begin a Dial-Up session.



7. The **Connect To** window appears. Enter the **User Name** and **Password** supplied by your Internet service provider (ISP). Then click **Connect**.

8. The **Connecting to My Connection** window appears. The message **Logging on to network** confirms a valid connecting process.





9. The **Connection Established** window appears. Internet service is now established. Click **Close** and the **Diagnostic tool** icon appears on the task bar.

Congratulations, you are done. Your ADSL Internet connection is established!

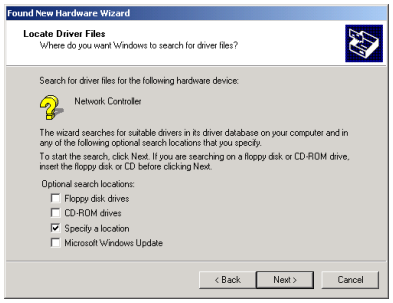
Windows 2000

After installing the ADSL modem card, plug the power cable back into the PC system and turn the power on.

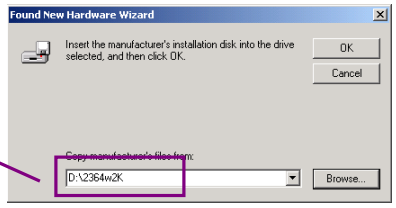
1. After installing the ADSL modem card, power on the PC system. After start-up, the **Found New Hardware Wizard** will appear. Click **Next**.

2. Still in the **Found New Hardware Wizard**, select **Search for a suitable device...** Click **Next**.

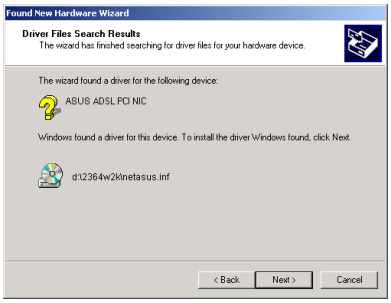
3. Next you will be prompted for software drivers. Select **Specify a location.** Click **Next**.



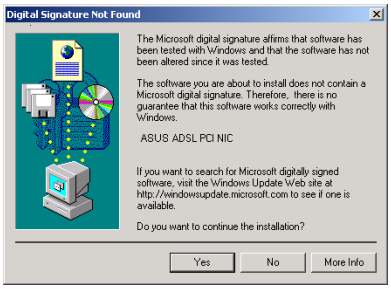
4. Insert the **ADSL Driver** CD into the systems CD-ROM drive. Click **Browse** to locate the driver on your CD-ROM for the protocol supported by your ADSL provider: **1483w2K or 2364w2K or 1577w2K** (The example uses "D" as the CD-ROM drive letter. Your drive may have a different letter.) Click **OK**.



5. The **Found New Hardware Wizard** will then find the ASUS ADSL PCI NIC, click **Next**.



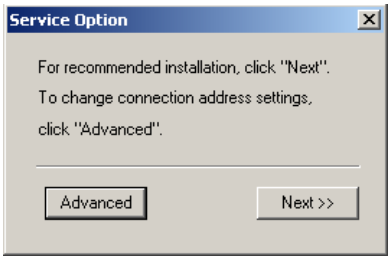
6. The **Digital Signature Not Found** window appears. You will be asked; **Do you want to continue installation?** Click **Yes**.

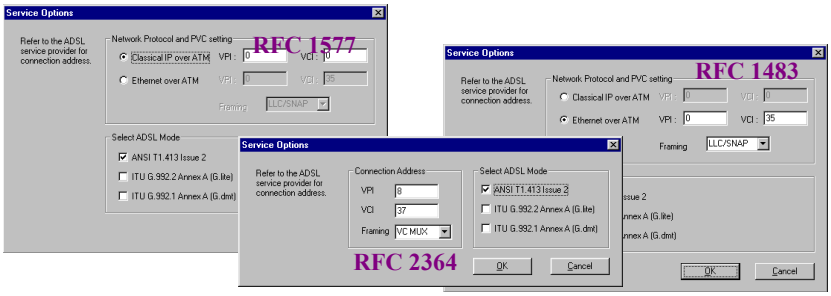


7. When the **Service Option** window appears click **Advance.**

8. The advanced **Service Options** window appears. In the **Network Protocol and PVC Settings** section, enter in the **VPI**, **VCI** and **Framing** values supplied by your ADSL service provider.

   In the **Select ADSL Mode** section, select the mode(s) recommended by your ADSL service provider. Click on the mode(s) required and then click **OK**.

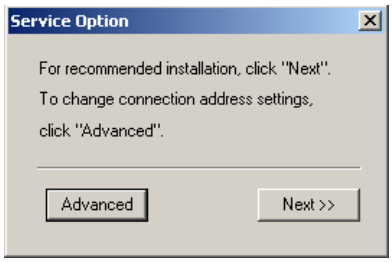




NOTE: The service mode type will be one of the following:

- ANSI T1.413 Issue 2
- ITU G.992.2 Annex A (G.lite)
- ITU G.992.1 Annex A (G.dmt)

9. The previous **Service Option** window will appear, click **Next**.



10. The **Found New Hardware Wizard** will prompt that **Windows has finish installing the software for this device**. Click Finish.

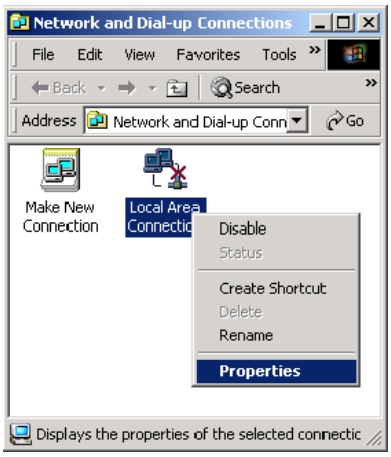
    NOTE: You may be asked if you want to restart your computer, if so click **Yes.** If you are not asked, you need to restart your computer manually at this time.

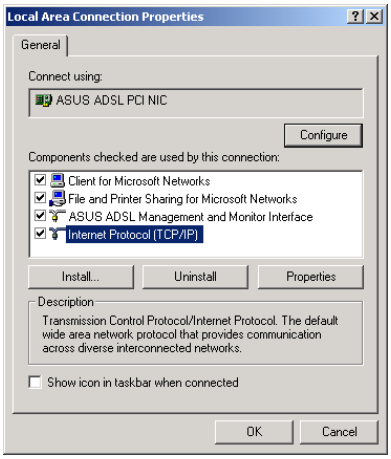
11. You must now make an Internet connection. Locate the Internet protocol supported by your ADSL service provider from the following table, and proceed to that section to make the Internet connection.

RFC1483	Bridged Ethernet over ATM	⇨	**Go to page 22**
RFC1577	Classical Internet Protocol over ATM	⇨	**Go to page 22**
RFC2364	Point-to-Point Protocol over ATM	⇨	**Go to page 24**

RFC 1483 – Bridged Ethernet over ATM – 2000
RFC 1577 - Classical Internet Protocol over ATM – 2000

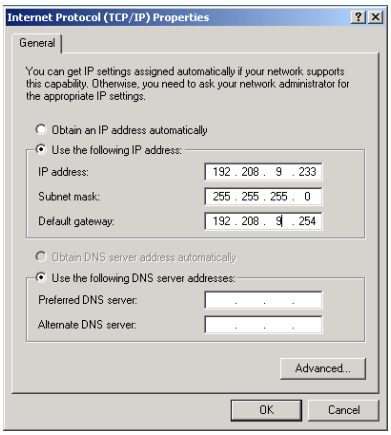
1. Double-click **My Computer**, **Control Panel**, and then **Network and Dial-up Connections**.
2. The **Network and Dial-up Connections** window appears. Right-click on the **Local Area Connection** for your **ASUS ADSL PCI NIC**.

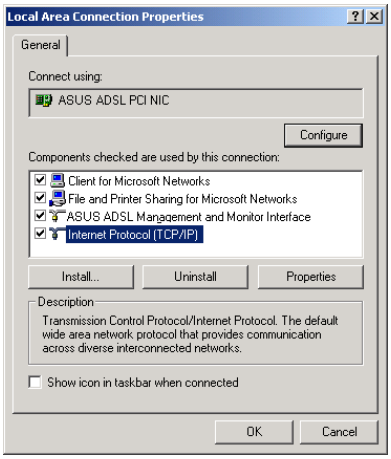




3. The **Local Area Connection** window appears. Click on **Internet Protocol (TCP/IP)**, then click on **Properties**.

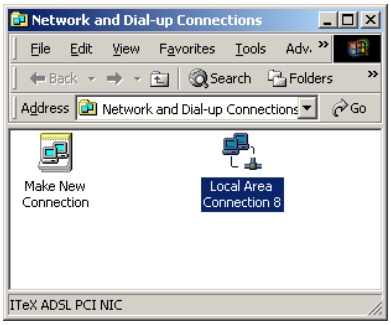
4. The **Internet Protocol (TCP/IP)** window appears. Under the **General** tab, enable **Use the following IP address**. The default settings for IP configurations will turn from gray to clear. Enter in the **IP address**, **Subnet Mask**, and **Default Gateway** supplied by your ADSL service provider. Click **OK**.





5. The previous **General Tab** window appears. Click **OK**.

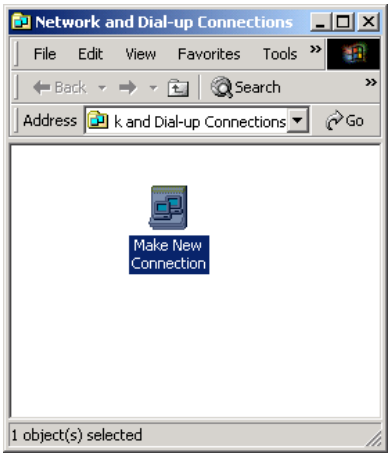
6. The **Network and Dial-up Connection** window appears. **CLOSE** this window and your connection is complete



Congratulations, you are done. Your ADSL Internet connection is established!

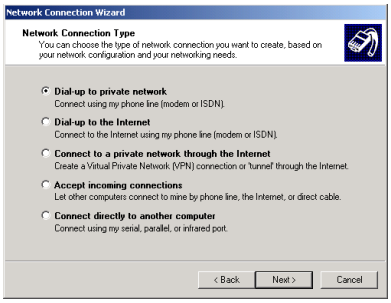
RFC 2364 - Point-to-Point Protocol over ATM – 2000

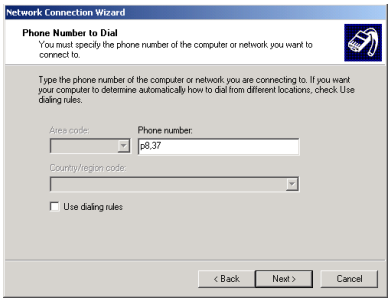
1. On your desktop right-click **My Network places**.
2. The **Network and Dial-up Connections** window appears. Double-click **Make New Connection**.



3. The **Network Connection Wizard** window appears. Click **Next**.

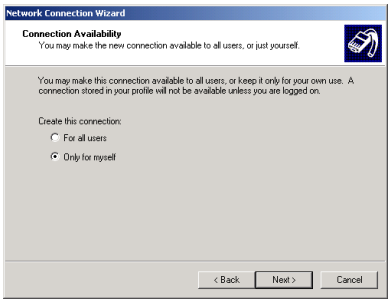
4. Set the connection option to **Dial-up to private network**, then click **Next**.

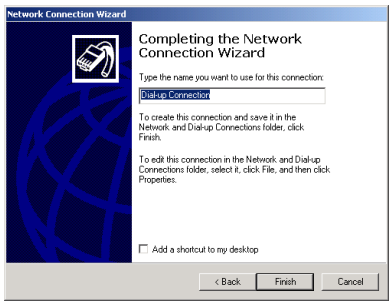




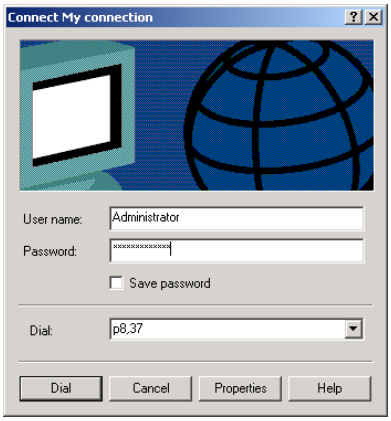
5. The **Network Connection Wizard** appears. You will be prompted for a phone number. Enter the phone number supplied by your ADSL service provider. Click **Next**.

6. You will then be prompted to select your user configuration, typically **only for myself**. Click **Next**.

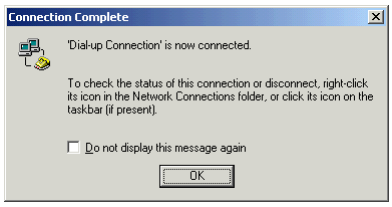




7. The **Network Connection Wizard** appears. You will be prompted to name your network connection. The default is **Dial-up Connection**. Rename the connection as you choose and then click **Finish**.



8. The **Connect My Connection** window will appears. Enter your **User Name** and **Password** supplied by your ADSL service provider. You are now ready to make a network connection. Click **Dial**.



9. The **Connection complete** window appears, click **OK**.

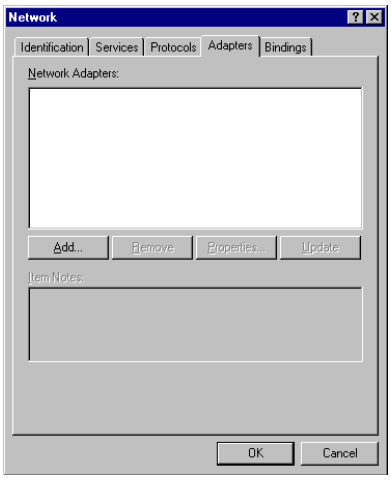
Congratulations, you are done. Your ADSL connection is established!

Windows NT4.0

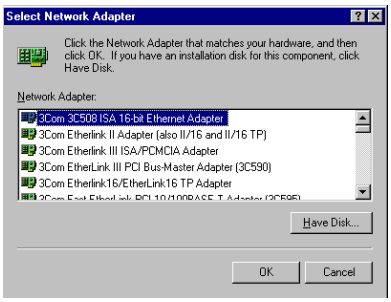
RFC 1483 – Bridged Ethernet over ATM

RFC 1577 - Classical Internet Protocol over ATM

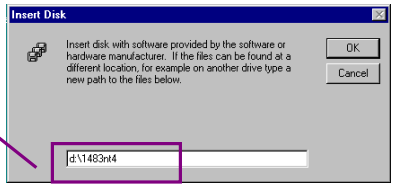
1. On the Desktop, double-click **My Computer**, and then double-click **Control Panel**.
2. In the **Control Panel** window, double-click the **Network** icon. The **Network** window appears. Select the **Adapters** tab and then click **Add**.



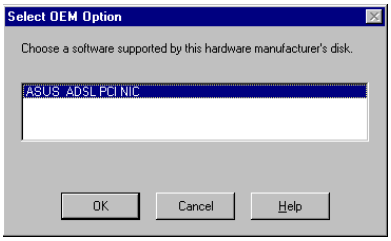
3. The **Select Network Adapter** window appears. Click **Have Disk**.
4. Insert **ADSL Driver** CD-ROM into your systems CD drive.



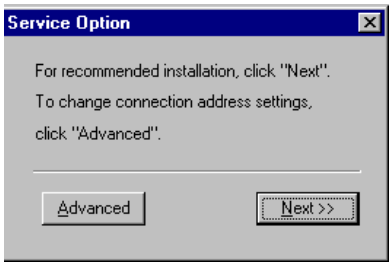
5. The **Insert Disk** window appears. Click **Browse** to locate the driver on your CD-ROM for the protocol supported by your ADSL provider: **1483NT4 or 1577NT4** (The example uses "d" as the CD-ROM drive letter. Your drive may have a different letter.) Click **OK**.



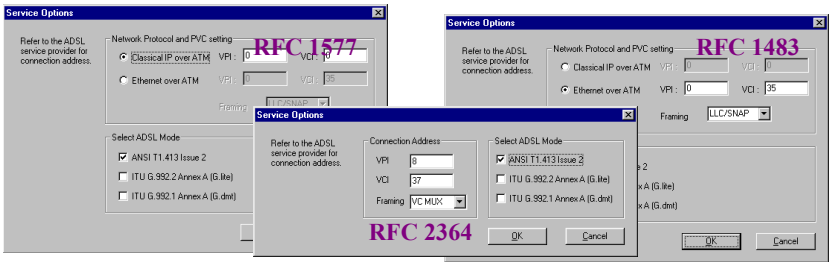
6. The **Select OEM Option** window will find the **ASUS ADSL PCI NIC**, Click **OK**.



7. When the **Service Option** window appears, click **Advanced**.



8. The advanced **Service Options** window appears. In the **Network Protocol and PVC Setting** section, enter in the **VPI, VCI** and **Framing** values supplied by your ADSL service provider.

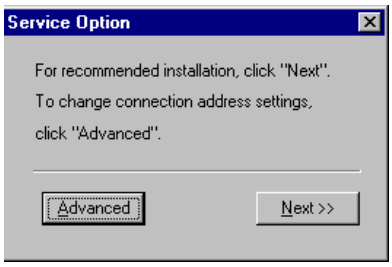


In the **Select ADSL Mode** section, select the mode(s) recommended by your ADSL service provider, then click **OK**.

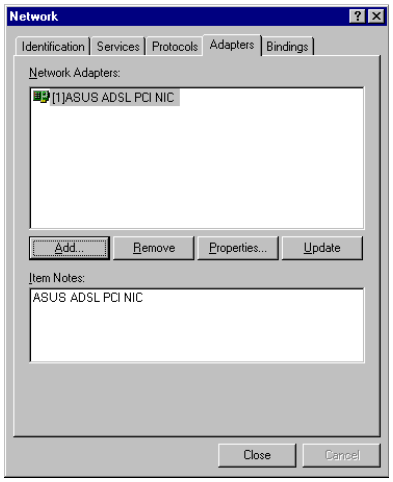
NOTE: The service mode type will be one of the following:

- ANSI T1.413 Issue 2
- ITU G.992.2 Annex A (G.lite)
- ITU G.992.1 Annex A (G.dmt)

9. The previous **Service Option** window will appear, click **Next**.



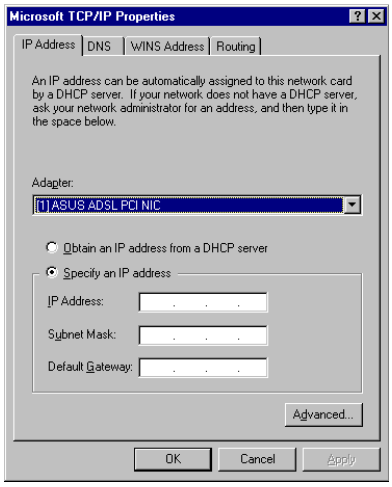
10. The **Network** window will appear. Click the **Adapters** tab to verify that the **ASUS ADSL PC NIC** has been found. Click on the **Protocols** tab and verify that the **ADSL Management and Monitor Interface** is present.



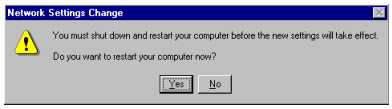
NOTE: To review the Network window properties at any time, right-click the **Network Neighborhood** icon and select **Properties**.

NOTE: If no previous network devices have been installed, then the Network Neighborhood icon will not be present on the desktop. To open the Network window, double-click **My Computer** then **Control Panel** then **Network**.

11. The **Microsoft TCP/IP Properties** window appears. Enter in the **IP Address**, **Subnet Mask** and **Default Gateway** supplied by your ADSL service provider. Click **OK**.



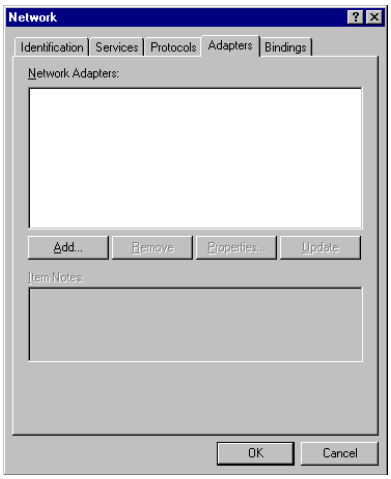
12. The Network Settings Change window appears. You must now re-start your computer for the settings to take effect. Click **Yes**.



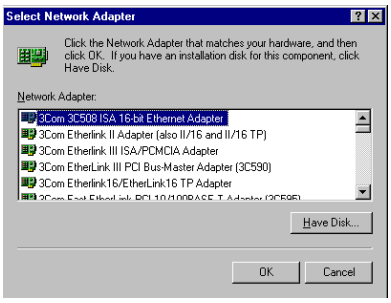
Congratulations, you are done. Your ADSL Internet connection is established!

1. On the Desktop, double-click **My Computer**, and then double-click **Control Panel**.

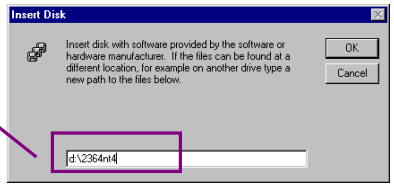
2. In the **Control Panel** window, double-click the **Network** icon. The **Network** window appears. Select the **Adapters** tab and then click **Add**.



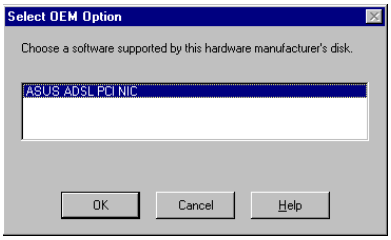
3. The **Select Network Adapter** window appears. Click **Have Disk**.
4. Insert **ADSL Driver** CD-ROM into your systems CD drive.



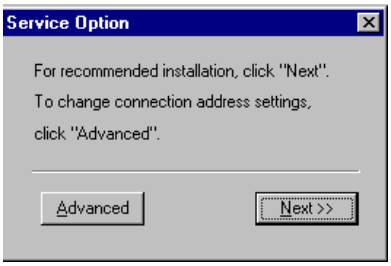
5. The **Insert Disk** window appears. Click **Browse** to locate the driver on your CD-ROM for the protocol supported by your ADSL provider: **2364NT4** (The example uses "d" as the CD-ROM drive letter. Your drive may have a different letter.) Click **OK**.



6. The **Select OEM Option** window will find the **ASUS ADSL PCI NIC**, Click **OK**.

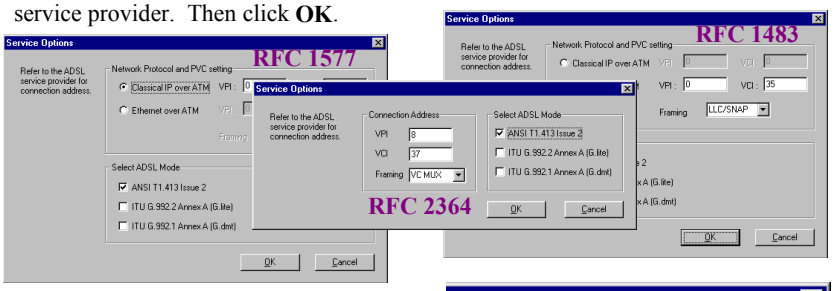


7. When the **Service Option** window appears, click **Advanced**.



8. The advanced **Service Options** window appears. In the **Network Protocol and PVC Setting** section, enter in the **VPI, VCI** and **Framing** values supplied by your ADSL service provider.

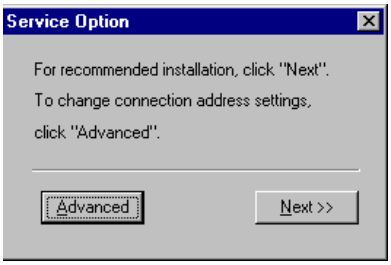
   In the **Select ADSL Mode** section, select the mode(s) recommended by your ADSL service provider. Then click **OK**.



NOTE: The service mode type will be one of the following:

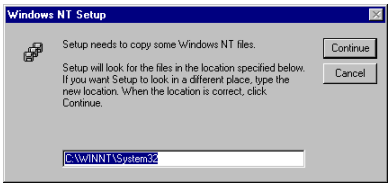
- ANSI T1.413 Issue 2
- ITU G.992.2 Annex A (G.lite)
- ITU G.992.1 Annex A (G.dmt)

9. The previous **Service Option** window will appear, click **Next**.

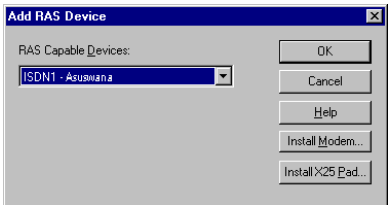


10. The **Setup Message** window appears. Click **OK**.

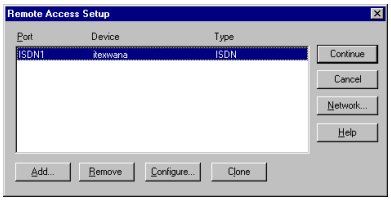
11. The **Windows NT Setup** window appears. Insert your NT4.0 CD-ROM into the PC system CD drive, and type in "D:\i386" Click **Continue**.



12. The Add RAS Device window appears. Click on the "Scroll arrow" to locate **ISDN1-ASUSwana**. Then click **OK**.



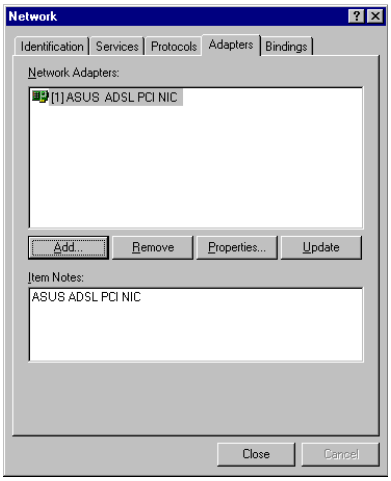
13. The **Remote Access Setup** window appears. Click **Continue**.



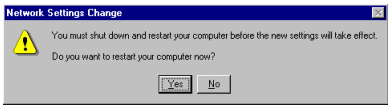
14. The **Network** window will appear. Click the **Adapters** tab to verify that the **ASUS ADSL PC NIC** has been found. Click on the **Protocols** tab and verify that the **ADSL Management and Monitor Interface** is present. Click on the **Services** tab to verify that the **Remote Access Service** is present. Then click **Close**.

    NOTE: To review the Network window properties at any time, right-click the **Network Neighborhood** icon and select **Properties**.

    NOTE: If no previous network devices have been installed, then the Network Neighborhood icon will not be present on the desktop. To open the Network window, double-click **My Computer** then **Control Panel** then **Network**.

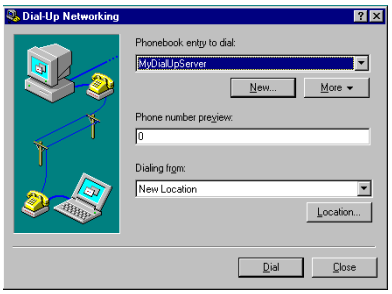


15. The Network Settings Change window appears. You must now re-start your computer for the settings to take effect. Click **Yes**.



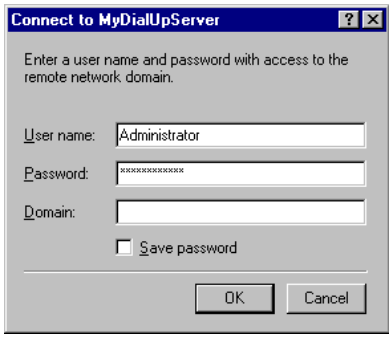
16. You must now make a dial-up network connection. To begin a dial-up connection, double-click **My Computer,** then double-click **Dial-Up Networking**.

17. The **Dial-Up Networking** window prompts for the phone number of the dial-up server. Unless instructed to enter a phone number by the ADSL service provider, enter zero “0”. Click **Dial**.



18. The **Connect to MyDialUpServer** window appears. Enter the **User name, Password** and **Domain** supplied by your ADSL service provider. Click **OK**.

    NOTE: If this screen persists and a connection logon error is reported, confirm that the correct User name and Password are entered and try the connection again. Also verify that the connection address is correct.



19. The **Connection Complete** window is displayed at the completion of a successful Dial-Up logon. Choose a display behavior and click **OK** to close.

Congratulations, you are done. Your ADSL Internet connection is established!

Editing Your Service Connection

Service Connection

1. To view or edit the ADSL connection service address, Right-click the **Diagnostic Tool** icon (located on the Taskbar), and select the **Configuration** option.
2. The **PVC Setup** (Permanent Virtual Connection) window displays the connection service address. Click **Close** to exit window.
3. To edit the **connection service address**, select and enter the VPI and VCI address in the field shown and click **PVC Setting**.
4. To accept a **Connection Address** that has been changed (**Restart** the PC System) Click **Yes**.

   NOTE: A PC system restart will begin once the connection address change is accepted.

IP Configuration

1. This section includes the IP configuration specifics for Windows NT4.0. The NT 4.0 windows are slightly different from those of Windows 95 /98. Other than minor screen differences, the process for editing the IP address settings is the same for Windows NT 4.0 and Windows 95/98.
2. At the desktop, double click **My Computer**, then double click **Control Panel** to view the contents of the control panel. In the **Control Panel** window, double click the **Network** icon.

   Note: The Network window shortcut is a right-click the **Network Neighborhood** on your desktop then left-click **Properties**.
3. Select the **Protocols** tab of the network window. Select **TCP/IP** Protocol and click **Properties**.
4. Select the **IP address** option and note that the IP Address and Subnet Mask regions will turn from gray to active.
5. Enter the IP Address (e.g. 192.168.4.39) and Subnet mask (e.g. 255.255.255.0).
6. The **Default Gateway** is also entered in this window.

   NOTE: Please refer to your ADSL service provider and enter (or edit) the following fields:
7. Enter the **Host Name** and **Domain**

   NOTE: To enter the Domain search (DNS) entries, click **Add** then enter the address. Click **Add** to save the address. Repeat the process for additional DNS entries. Click **OK** to update the changes.

Removing Drivers

Windows 95, 98

1. To delete the **ADSL drivers;** on the desktop, right-click on **My Computer**, then select **Properties**, then click on the **Device Manager** tab, then double click **Network adapters**.
2. Select the **ASUS ADSL PCI NIC**, then click on the **Remove** button.
3. A warning message "You are about to remove this device from your system" will appear. Click **OK** to remove drivers or click **Cancel** to abort the driver removal.
4. The PC system must be restarted for the changes to take effect. Click **Yes**.

Windows NT4.0

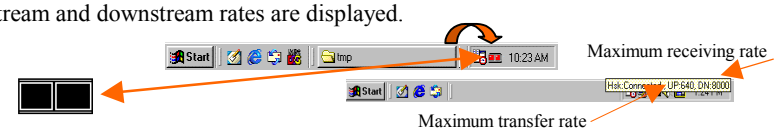
1. On the desktop; double click **My Computer**, double click **Control Panel,** double click the **Network** icon and select the **Adapters** tab.
2. Select the **ASUS ADSL PCI NIC**, then click **Remove**.
3. A warning message will inform you that a component is about to be removed. Click **Yes**.
4. Once the **ASUS ADSL PCI NIC** is removed from the adapter list, click **Close**.
5. The PC system must be restarted for the changes to take effect. Click **Yes**.

Windows 2000

1. On the desktop, right click on **My Computer.**
2. Select **Properties**, the system window appears.
3. Select the **Hardware Tab**, and click on the **Device Manager** button.
4. Double click on **Network Adapters**.
5. Select the **ASUS ADSL PCI NIC**, right click on it and select **uninstall**.
6. A warning message window appears " **You are about to remove this device from your system**", click **OK** to **remove** drivers or click **Cancel** to abort the driver Removal.

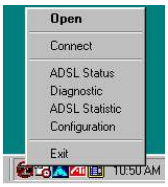
Diagnostic Tools

The diagnostic tool icon allows the user to monitor the ADSL connectivity, setup the service connection address, and run diagnostic tests. The Diagnostic Tools icon is displayed on the task bar as shown. By positioning the mouse cursor over the icon, the upstream and downstream rates are displayed.



The Diagnostic Tool icon consists of two lights side by side. The left light indicates data is being transmitted whereas the right light indicates data is being received. The state of the connection can be determined as follows:

Color Code	Description
Red, Red	**No** ADSL connection and **No** ADSL handshaking. Check your cable
Black, Yellow	ADSL handshaking – Connection not established. Precursor to establishing
Black, Black	ADSL connection established – no data traffic or idle connection
Black, Green	ADSL connection established – NIC is receiving data (TX/off, RX/on)
Green, Black	ADSL connection established – NIC is transmitting data (TX/on, RX/off)
Green, Green	ADSL connection established – NIC is transmitting and receiving data
∅	NIC is disconnected or a driver problem exists.

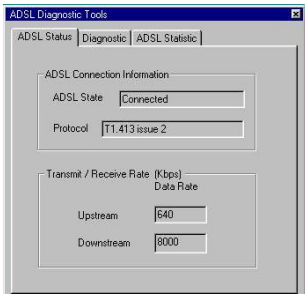


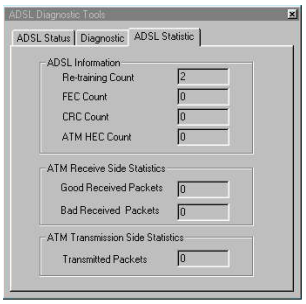
On the **Diagnostic Tool** icon, located on the right hand side of the status bar, right-click the icon to display the menu, then click **Open**. **The ADSL Diagnostic Tool** window appears on the desktop. The four tabs of the Diagnostic Tools are **ADSL Status**, **Diagnostic**, **ADSL Statistics** and **Configuration**.

ADSL Status window displays the current state of the ADSL connection, including current ADSL State, ADSL protocol in use and the net data rates for upstream and downstream data.

NOTE: ADSL protocols supported by the ADSL drivers are T1.413, G.dmt and G.lite. The protocol must be supported also by the ADSL equipment located at the central office. The ADSL drivers use the protocol that results in the most efficient Internet connection.

ADSL Statistic window keeps tabs on errors that that might affect overall system performance. The counts are reset whenever the PC system is restarted.





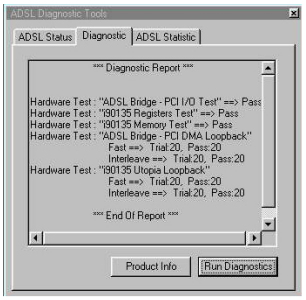
Re-training Count tracks the number of ADSL connections performed. Due to unexpected line condition changes, the drivers can retrain the connection causing the **Re-training Count** total to increment. The Diagnostic Tool icon will flash yellow while reconnecting.

ADSL implements Reed Solomon (RS) error checking: **FEC Count** tracks the forward error correction count. **CRC Count** tracks the accuracy of correcting data errors over each 17msec.

ATM HEC Count (header error check) errors are recorded as an indication of ATM packet accuracy.

As a measure of packet transfer performance, the **Packet Errors** are counted and tracked against the total number of **Packets Received**.

Diagnostic window is used to verify the ADSL modem card functionality. Running the **Diagnostic** program will disconnect the NIC from the ADSL line. Close all Dial-up sessions and close all files before running the Diagnostic program. Product Information, e.g. driver revisions are displayed by clicking the **Product Info** tab.



Product Information lists the versions of the Diagnostic Tools and the driver version. The DLL version describes the software being used by both the drivers and Diagnostic Tool software.

Click **Run Diagnostics** to run the diagnostic program that will test PC functionality and report the status. A warning message pops up that the ADSL service will disconnect before performing the diagnostic test. If connected to the Internet at this time, disconnect any Dial-up sessions. Click **Yes** to begin the **diagnostic** program or click **No** to exit diagnostic program. The diagnostic program performs a brief hardware check and displays the hardware status.

Trouble Shooting

If you have completed the ADSL modem card installation procedures and your ADSL connection is not operational, then refer to the following guidelines for assistance in getting your ADSL modem connection up and running.

Is there a Diagnostic ICON on the Taskbar?

- ✓Try **Restarting** the PC system.
- ✓Are the correct drivers installed for the Operating system used?
- ✓Point-to-Point - If system OS is Windows 95, is the DUN upgraded v1.3?
- ✓Have you deleted the drivers and tried the installation again?

Is the NIC achieving ADSL connection?

- ✓Try using the Diagnostic Tools **Connect** option
- ✓Is the cable installed between the ADSL modem card and the ADSL service?
- ✓Try **Restarting** the PC system.
- ✓Has any cabling adapter or wiring converter been removed?

Is the NIC constantly trying to make a connection – with blinking yellow panels ?

- ✓Select **Disconnect** from the Diagnostic Tools then try to reconnect.
- ✓Restart the PC system and try to reconnect.
- ✓Examine the RJ-11 connectors and cable for any deterioration.
- ✓Has the wiring for your ADSL service been altered recently?
- ✓Does condition change with time of day? (a possible problem with line noise)
- ✓Are appliances near the PC system introducing noise into your ADSL service?
- ✓Power down the PC system and re-seat the ADSL modem card.

Is the NIC achieving ADSL connection - but you can't reach the Internet?

- ✓Is the service connection address correct?
- ✓Bridged Ethernet – Are the TCP/IP, Gateway and DNS addresses correct (refer to your ADSL or ISP provider documentation)
- ✓Point-to-Point – For Windows 95 is the Dial-Up Network Upgrade v1.3 installed?
- ✓Browser configured correctly – check your browser documentation.

How can I determine the TCP/IP address for Point-to-Point?

- ✓ For Windows 95/98, run the program Ipconfig from the DOS prompt (e.g. C:\Windows\IPCONFIG)

Must TCP/IP be loaded for both Point-to-Point and Bridged Ethernet protocols?

- ✓Yes. Please carry out the TCP/IP installation procedure before loading the driver.

Driver installation resulted in errors or warnings, and you can't connect.

- ✓Perform the driver removal procedure.
- ✓Verify which version of Microsoft Windows is loaded in the PC system.
- ✓Perform the driver removal procedure
- ✓For Point-to-Point – Reload Dial-Up Network upgrade 1.3
- ✓Install the driver again.

Connector Pin-out

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

System Requirements & Compliance Certification

System Requirements

- IBM PC/AT or compatible
- Pentium 100Mhz or faster
- 30Mbytes available hard disk space or more
- 2x CD-ROM drive or better
- 32Mbyte available system memory or more

Power Requirements

- 0.75A Max @ +5V ± 5%, 0.1A max @ ± 12V, ± 5%

Environmental Requirements

- Operating Temperature: 0 °C to 70°C with airflow
- Non-operating Temperature: -10 °C to 85 °C
- Operating Humidity: 10% to 90% non-condensing
- Non-operating storage humidity: 5% to 95% non-condensing

Compliance Certification

- UL 1950
- CE approved
- FCC Part 15 Class B

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FCC Statement

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

- Reorient or relocated the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into a different outlet circuit from than the receiver.
- Consult an experienced radio/TV technician for help.
- Shielded cables must be used to comply with FCC regulations.

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