



# **Table of Contents**

Congratulations!	1
Step 1 – Know your PC's Operating System	1
Step 2 – Determine your Connection Settings	2
Step 3 – Install the ADSL Modem Card	3
Step 4 – Install the Drivers and Make a Connection	4
Windows 95A	5
Windows 95B	8
Windows 98, 98SE	12
Making a RFC 1483/1577 connection - 95A, 95B, 98, 98SE Making a RFC 2364 connection - 95A, 95B, 98, 98SE	
Windows 2000	19
Making a RFC 1483/1577 connection - 2000 Making a RFC 2364 connection - 2000	
Windows NT4.0 - RFC 1483/1577	
Windows NT4.0 - RFC 2364	
Appendix	
Editing your Service Connection	
Removing Drivers	34
Diagnostic Tools	
Trouble Shooting	
Connector Pin-out	
System Requirements & Compliance information	
Copyright & Regulatory Information	

#### **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.

		System Properties	?×	
MyCo Ope Explo Find.	bre	General Device Manag	ger   Hardware Profiles   Performance   System:	
Disc	Network Drive onnect Network Drive		Microsoft Windows 98 4.10.1998	
Rena	te <u>S</u> hortcut a <u>m</u> e erties		Registered to:	
My Briefcase	elues			
Windows OS	System Properties	s Description	Release (Microsoft Web)	
Win 95A	4 00 95	ΛA	Windows 95 OSR 1	
Win 95B	4.00.95	0B	Windows 95 OSR2	
Win 98	4.10.19	98	Window 98	
Win 98SE	4.10.2222A 2n	2A 2nd Edition Windows 98 2nd Edition		
Win 2000	5.00.21	00.2195 Windows 2000		
Win NT	4.00.13	81	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**.

	Pro	tocol Selection		_	
RFC1483⇒Bridged Ethernet over ATMRFC2364⇒Point-to-Point Protocol over ATMRFC1577⇒Classical Internet Protocol over ATMRFC2516⇒Point-to-Point Protocol over Ethernet					
<b>ADSL Driver Selection</b>	RFC1483	8 RFC2364	<b>RFC1577</b>	RFC2516	
Win 95A & 95B Win 98 & 98SE Win NT 4.0 Win 2000	1483w95 1483w98 1483nt4 1483w2k	2364w98 2364nt4	1577w98	See Noteza See Noteza See Noteza See Noteza	

Note **A** : 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.



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



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





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



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



- 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.

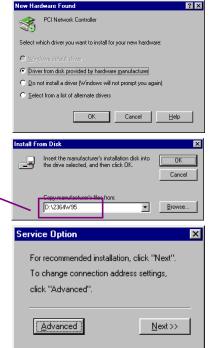
- 1. After restart, the Update Device Driver Wizard will detect the ADSL modem as a PCI Network Controller. CANCEL the New hardware found window.
- 2. At your desktop, click **Start**, and then select **Run**.
- The Run window appears. Insert the ADSL Driver CD, then click on Browse and proceed to locate the ADSL Driver 95 CD-ROM. Then locate and select the MSDUN13.EXE file. The Msdun13.exe appears in the Open box. Click OK.
- 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.

PCI Network Controller     Select which driver you want to install for your new hardware: <u>Windows detault driver</u> <u>Oniver from disk provided by hardware manufacturer</u> <u>Driver from disk provided by hardware manufacturer</u>	2
Windows default driver     Oriver from disk provided by hardware granufacturef     Do not install a driver (Windows will not prompt you again)     Select from a list of alternate drivers     OK Cancel Help Run Type the name of a program, folder, or document, an	
Driver from disk provided by hardware manufactures     Do not install a driver (Windows will not prompt you again)     Select from a list of alternate drivers     DK Cancel Help Run     Type the name of a program, folder, or document, an	
Do not install a driver (Windows will not prompt you again)     Select from a list of alternate drivers      OK Cancel Help  Run  Type the name of a program, folder, or document, and	
Select from a list of alternate drivers      OK Cancel Help  Bun  Type the name of a program, folder, or document, and	
OK Cancel Help Bun Type the name of a program, folder, or document, an	
Bun	
Type the name of a program, folder, or document, ar	2
	nd
Open: E:\Msdun13.exe	•
OK Cancel Brows	e
Yes No	
Vicrosoft Dial-Up Networking 1.3	- 🗆
Please read the following license agreement. Press the PAGE DOW to see the rest of the agreement.	
[vlicrosoft Windows 95 Dial-Up Networking 1.3 upgrade	-
END-USER LICENSE AGREEMENT FOR MICROSOFT SOFTWARE	
IMPORTANT.READ CAREFULLY: This Microsoft End-User Licens Agreement ("EULA") is a legal agreement between you (either an individual or a single entity) and Microsoft Corporation for the Microsoft software product identified above, which includes computer software and may include associated media, printed materials, and "onine" is electronic documentation ("SOFT-WARE PRODUCT"). By initialing copying, or charwise using the SOFT-WARE PRODUCT", or using to be bound by the tems of this EULA. If you do not agree to the tems of this EULA, you are not authorized to use the SOFT-WARE.	soft ire or 1.
Do you accept all of the terms of the preceding License Agreement' choose No, Install will close. To install you must accept this agreem	? If yo ent.
<u>Y</u> es <u>N</u>	0
	0
Yes N  Aicrosoft Dial-Up Networking 1.3  You must restart your computer before the new settings w  effect.	
Aicrosoft Dial-Up Networking 1.3	

**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.
- 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**.
- 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.



		🔀 Sei	vice Options			
			service provider for		· · -	RFC 1483
C Ethernet over ATM VEL:	0 Vgr; 35			<ul> <li>Ethernet over AT</li> </ul>	M VPI: 0	VCI : 35
Frami	Service Options			×	Framing	LLC/SNAP 💌
Select ADSL Mode	Refer to the ADSL service provider for connection address.	VPI 8	ANSI T1	413 Issue Z	12	
TU G.992.2 Annex A (G.Ite)			-		x A (G.lite)	
1 TO 0.332.1 Arriests (d.dini)		<b>RFC 236</b>	4 <u>o</u> k	Cancel		<u>OK</u> Cancel
	Classical Pover ATM VPI :     C Ethernet over ATM VPI :     From     Select ADSL Mode     Ø ANSI T1.413 Issue 2	Classical Power ATM VPI: 0 VCI: 0     Classical Power ATM VPI: 0 VCI: 0     Classical Power ATM VPI: 0 VCI: 0     Select ADSL Mode     Select ADSL Mode     Connection eddess     Classical Power ATM VPI: 0 VCI: 0	Network Protocol and PVC setting RFC-1577  © Elemical Prover ATM VPI: 0 VCI: 0  Eleminational Prover ATM VPI: 0 VCI: 0  Settice Dynamic Setting ACCE. From Setting Prover ATM VPI: 0 VCI: 0  From Setting Prove ATM VPI: 0 VCI: 0  From Setting	Network Protocol and PVC setting RFC 1577 © Dissicatif over ATM VPI: 0 VCI: 0 correction addess. Ethernet over ATM VPI: VCI: 0 correction addess. Setwice Dynkop Structure Dy	Network Protocol and PVC setting RFC-1577  © Extended Prover ATM VPI 0 VCI 0  © Enternet over ATM VPI 0  © Enternet over	Network Protocol and PVC tetting  Peter to the ADSL  Peter to the ADS

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 <b>Service Option</b> window will appear, click <b>Next</b> .	Service Option       Image: Comparison of the service of
	<b>NOTE</b> : During the installation process you may be asked to insert your Windows 95 CD. Insert the <b>Windows</b> <b>95 CD</b> into the CD drive and click <b>OK</b> .	Insert Disk  Flease insert the disk labeled "Windows 95 CD-RIOM", and then click OK.  OK
	<b>NOTE</b> : 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)</cd>	Copying Files  The file 'secur32 dfl' on Windows 95 CD-RDM could not be found. Insert Windows 95 CD-RDM into the drive selected below, and cick OK.  Skip File Copy files from:  Converting Copy files file Copy files from:  Converting Copy files file Copy file

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

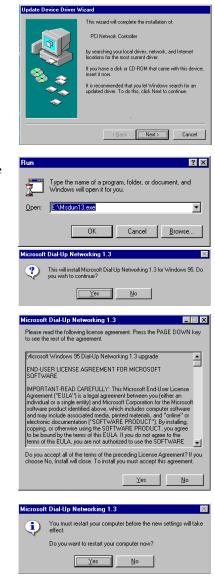
#### Windows 95B

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.

- 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**.
- 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.
- 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.

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

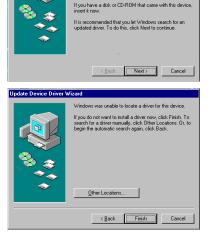




You may need the Microsoft Windows Operating System installation files (CAB files) to complete the installation. The CAB files are contained in the Microsoft's system CD-ROM. Some systems may have already installed the CAB files to the hard drive, but you should have the CD-ROM handy just in case.

pdate Device Driver

- 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.
- 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.



This wizard will complete the installation

PCI Network Controller



indows found the follo

ASUS ADSL PCI NIC

Update Device Driver W

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.

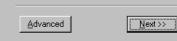
In the **Select ADSL Mode** section, select the mode(s) recommended by your ADSL service provider. Click on the mode(s) required and then click **OK**.



×

Copying File

For recommended installation, click "Next". To change connection address settings, click "Advanced".

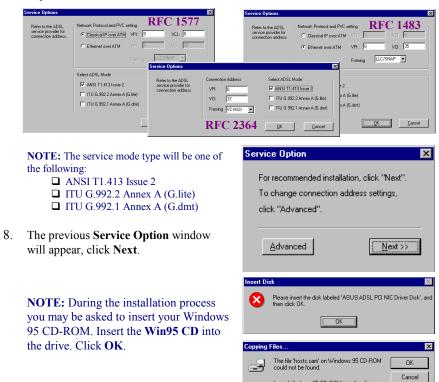


Insert Windows 95 CD-ROM into the drive selected below, and click OK.

Copy files from c:\win95 <u>S</u>kip File <u>D</u>etails...

10

•



**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.

<b>RFC1483</b>	Bridged Ethernet over ATM	⇔	Go to page 15
<b>RFC1577</b>	Classical Internet Protocol over ATM	⇔	Go to page 15
<b>RFC2364</b>	Point-to-Point Protocol over ATM	⇔	Go to page 17

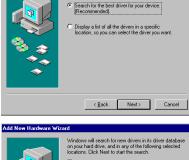
## Windows 98, 98SE

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

Add New Hardware Wizard

Add New Hardware Wizard

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



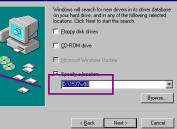
What do you want Windows to do?

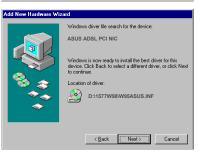
wizard searches for nev

PCI Network Controlle

A device driver is a software program that

Next > Cancel





- When the Service Option window 6. Service Option X appears, click Advanced. For recommended installation, click "Next". The Service Options window appears. In 7. To change connection address settings, the Network Protocol and PVC Settings click "Advanced". section, enter in the VPI, VCI and Framing values supplied by your ADSL service provider. Advanced <u>N</u>ext>> **RFC 1483** <u>RFC 1577</u> uk Proto Classical IP over ATM VPI C Classical IP over ATM C Ethernet over ATM VCI : 3 Ethernet over ATM VPL: × LLC/SNAP 💌 Framing Select ADSL Mode ct ADSL Mode vice provider for ANSI T1.413 Issue 2 ANSI T1.413 Issue 2 VPI VCI 2 TITU G.992.2 Annex A (G.lite) TU G.992.2 Annex A (G.Ite x A (G.lite TU G.992.1 Annex A (G.dm) Framing VC MUX ¥ TITU G.992.1 Annex A (G.dmt) **RFC 2364** <u>O</u>K <u>C</u>ancel <u><u>D</u>K <u>C</u>ancel</u> In the Select ADSL Mode section, select the mode(s) recommended by your ADSL service Service Option х provider. Then click OK. For recommended installation, click "Next". NOTE: The service mode type will be one of the To change connection address settings, following: ANSI T1.413 Issue 2 click "Advanced". □ ITU G.992.2 Annex A (G.lite) □ ITU G.992.1 Annex A (G.dmt) 8. The previous Service Option window Advanced <u>N</u>ext>> will appear, click Next. 9. If prompted to insert your Windows CD do so at this time then click **OK**. ŬК 10. Enter the <CD drive Letter> and then The file 'dhoposyc.dll' on Windows 98 Second Edition CD-ROM cannot be found OK -9 :\Win98 (e.g. D:\Win98) and click OK. Cancel Insert Windows 98 Second Edition CD-ROM in the selected drive, and click OK. <u>S</u>kip File <u>D</u>etails... Copy files from: E:\win98 -Add New Hardware Wi 11. At the conclusion of the ADSL modem driver installation, the Add New HE. ASUS ADSL PCI NIC Hardware Wizard window appears and Windows has finished installing hardware device recriment displays you new ASUS ADSL PCI NIC. Click Finish.
  - 13

Finish Cancel

12.	The System Settings Change window	System	Settings Change
	appears. For the PC system to set up the <b>ASUS Apollo 2 Drivers</b> , a system <b>Restart</b> is required. Click <b>Yes</b> .	?	To finish setting up your new hardware, you must restart your computer. Do you want to restart your computer now?
			<u>Yes</u> <u>No</u>

**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.

<b>RFC1483</b>	Bridged Ethernet over ATM	⇔	Go to page 15
<b>RFC1577</b>	Classical Internet Protocol over ATM	⇔	Go to page 15
<b>RFC2364</b>	Point-to-Point Protocol over ATM	⇔	Go to page 17

## **Making an ADSL connection**

# 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.

Configuration   Identification   Access Control
The following network components are installed:
Client for Microsoft Networks
3Com Fast EtherLink XL 10/100Mb TX Ethernet NIC (3C9
🕮 Dial-Up Adapter
ASUS ADSL PCI NIC
ADSL Monitor and Management Interface -> ITeX ADSL F
Add Remove Properties
Primary Network Logon:
Client for Microsoft Networks
File and Print Sharing
Description
OK Cancel

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.

TCP/IP Properties		? ×		
Bindings	Advanced	NetBIOS		
DNS Configuration	Gateway WINS Conf	iguration IP Address		
An IP address can be automatically assigned to this computer. If your network does not automatically assign IP addresses, ask your network administrator for an address, and then type it in the space below.				
○ <u>O</u> btain an IP	address automatically			
Specify an IP	address			
IP Address:	63.192.218	1.146		
S <u>u</u> bnet Masl	k 255.255.255	i. O		
	01	Cancel		

- Configuration | Identification | Access Control | The following network components are installed: 
   IPX/SPX-compatible Protocol -> Dial-Up Adapter

   IPX/SPX-compatible Protocol -> ASUS ADSL PCI NIC

   TCP/IP -> 3Com Fast EtherLink XL 10/100Mb TX Etherne
   TCP/IP -> Dial-Up Adapter -• Þ <u>A</u>dd... R<u>e</u>move Properties Primary Network Logon: Client for Microsoft Networks • File and Print Sharing... Description TCP/IP is the protoc wide-area networks. otocol you use to connect to the Internet and OK Cancel
- 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.

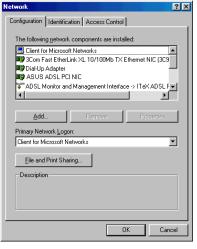
TCP/IP Properties
Bindings Advanced NetBIOS DNS Configuration Gateway WINS Configuration IP Address
C Disable DNS C Enable DNS
Host: asus Domain: pacbell.net
DNS Server Search Order
206.13.31.12
Domain Suffix Search Order
Add
Remove
OK Cancel

- 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**.

System S	Settings Change
?	You must restart your computer before the new settings will take effect. Do you want to restart your computer now?
	<u>Yes</u> <u>N</u> o

TCP/IP Properties	? ×
	anced NetBIOS WINS Configuration IP Address
The first gateway in the Install The address order in the list wi machines are used.	ed Gateway list will be the default. Il be the order in which these
New gateway:	Add
[Installed gateways:	<u>R</u> emove
	OK Cancel

- 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!

## Making an ADSL connection

# RFC 2364 - Point-to-Point Protocol over ATM – 95/98

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



 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.



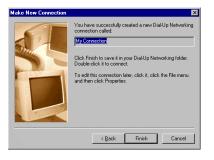
5. Another Make New Connection window appears. It will indicate that You have successfully created a new Dial-Up Networking connection called "My Connection". Click Finish.



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



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





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

🛃 Connect To		? ×
Hy My	Connection	
User name:		
Password:		
	Save password	
Phone <u>n</u> umber:	0	
Dialing from:	New Location	Dial Properties
	Connect	Cancel

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

🔯 Dial-Uj	o Netw	orking		_ 🗆 🗵
<u>File E</u> dit	⊻iew	<u>C</u> onnections	<u>H</u> elp	
Make Ne Connectio	w My on	Connection		
1 object(s) s	elected	1		

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



?×
🏈 🖏 12:45 PM
<b></b>
ose More Information

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!

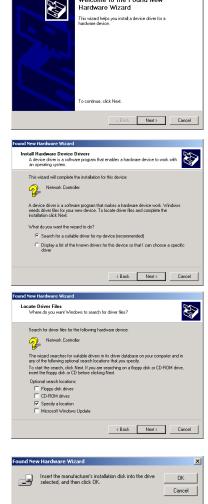


## Windows 2000

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.
- Still in the Found New Hardware 2. 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.



D:\2364w2K

Welcome to the Found New

Hardware Wizard



▼ Browse...

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

Found New Hardware Wizarc	
Driver Files Search Res	
The wizard found a drive	a for the following device:
asus adsl PC	3 NIC
Windows found a driver	for this device. To install the driver Windows found, click Next.
d:12364w2Kin	ietasus inf
	< Back Next > Cancel
Digital Signature Not Fou	nd ×
	The Microsoft digital signature affirms that software has been tated with Windows and that the software has not been altered incred was tested. The software you are about to instal does not contain a functional digital insplate. Therefore, there is no guarantee that this software works correctly with Windows. ABUS ADSL PCI NIC If you want to search for Microsoft digitally signed software, visit the Windows Update Web site at http://windows.update.microsoft.com to see if one is available. Do you want to continue the installation? Yes No More Info
Service Option	X
For recomme	nded installation, click "Next".
To change c	onnection address settings,
click "Advan	ced".

When the Service Option window appears click Advance. 8. The advanced Service Options window

The Digital Signature Not Found

window appears. You will be asked; Do you want to continue installation? Click

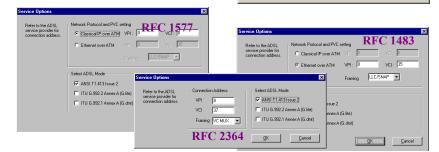
6.

7.

Yes.

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.



Advanced

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)



Next>>

9.	The previous <b>Service Option</b> window will appear, click <b>Next</b> .	Service Option       X         For recommended installation, click "Next".       To change connection address settings, click "Advanced".         Advanced       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.	Completing the Found New Database         Completing the Found New Database         Subscription         Subscription         Automation         Subscription         Vindows has finished rataling the software for this device.         To obse this weard, clok. Finish.

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.

<b>RFC1483</b>	Bridged Ethernet over ATM	⇔	Go to page 22
<b>RFC1577</b>	Classical Internet Protocol over ATM	⇔	Go to page 22
<b>RFC2364</b>	Point-to-Point Protocol over ATM	⇔	Go to page 24

## **Making an ADSL connection**

# 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.

Local Area Connection	Properties		? ×
General			
Connect using:			
B ASUS ADSL PC	I NIC		
		Config	gure
Components checked	are used by this conne	ction:	
	r Sharing for Microsoft M Management and Moni col (TCP/IP)		
Install	Uninstall	Propertie	es
Description			
Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.			
Show icon in taskb	ar when connected		
	0	к _ с	Cancel

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.



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

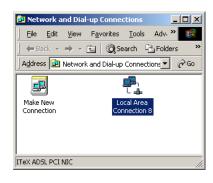
Internet Protocol (TCP/IP) Propertie	25	? ×
General		
You can get IP settings assigned auton this capability. Otherwise, you need to a the appropriate IP settings.		
C Obtain an IP address automatical	ly	
- Use the following IP address:		-
IP address:	192.208.9.233	
Subnet mask:	255 . 255 . 255 . 0	
Default gateway:	192.208.9 .254	
C Obtain DNS server address autor	natically	
Use the following DNS server add	dresses:	۱ ۲
Preferred DNS server:		
Alternate DNS server:		
	Advanced	
	OK Cance	*



Local Area Connection Properties				
General				
Connect using:				
ASUS ADSL PCI NIC				
Configure				
Components checked are used by this connection:				
File and Printer Sharing for Microsoft Networks     STASUS ADSL Management and Monitor Interface     Internet Protocol (TCP/IP)				
Install Uninstall Properties				
Description Transmission Control Protocol/Internet Protocol. The default wide area network protocol (hat provides communication across diverse interconnected networks. Show icon in taskbar when connected				
OK Cancel				

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

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



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

## Making an ADSL connection

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

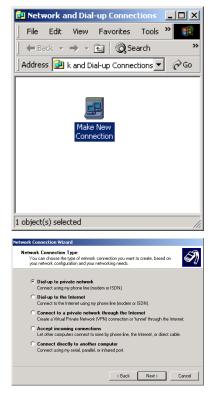
- 1. On your desktop right-click **My Network** places.
- 2. The Network and Dial-up Connections window appears. Double-click Make New Connection.
- 3. The Network Connection Wizard window appears. Click Next.

Network Connection Wizard	
	Welcome to the Network Connection Wizard Using the instal or or enable a concelloin to other content and network, coshing applications such as e-mail. Web browing, life sharing, and printing To continue, click Next.
	< Back Next > Cancel

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

Network Lonnection Wizard
Phone Number to Dial You must specify the phone number of the computer or network you want to connect to.
Type the phone number of the computer or network you are connecting to. If you want your computer to determine automatically how to dial from different locations, check Use dialing rules.
Area code: Phone number:
Country/region code:
Use diaing rules
< Back Next> Cancel

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







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**.

Connecti	on Complete
<b>P</b>	'Dial-up Connection' is now connected.
	To check the status of this connection or disconnect, right-click its icon in the Network Connections folder, or click its icon on the taskbar (if present).
	Do not display this message again
	ОК

 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.

Connect My co	nnection
User name:	Administrator
Password:	нинининин
	Save password
Dial:	p8,37
Dial	Cancel Properties Help

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

Mat

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

Identification Services Protocols Adapters Bindings
Network Adapters:
Add Bemove Broperties Update Item Notes:
OK Cancel
Select Network Adapter
Click the Network Adapter that matches your hardware, and then click OK. If you have an installation disk for this component, click Have Disk.
Network Adapter:
POCON SCROOT ISA 16 AL Ethernet Adapter     POCON SCROOT ISA 16 AL Ethernet Adapter     POCON SCROOT ISA 16 AL Ethernet Adapter     POCON Etherink III FAA/POMCIA ETHATING (CEGON     POMCIA     POMC
OK Cancel
Insert Disk
Inset disk with software provided by the software or hardware manufacturer. If the files can be found at a different location, for example on another drive type a new path to the files below.
K
d:\1483nt4
Select OEM Option
Choose a software supported by this hardware manufacturer's disk.
ASUS ADSLIPCINIC
OK Cancel Help

2	C
	υ

- 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, cl
- 8. The advan appears. In **PVC Setti** VCI and F your ADSI

lick Advanced. ced Service Options window in the Network Protocol and ing section, enter in the VPI, Framing values supplied by L service provider.	For recommended installation, click "Next". To change connection address settings, click "Advanced". <u>A</u> dvanced			
Network Protocol and PVC setting Consider of PVC setting Constraint over ATM VPF Ethernet over ATM Figure Setect ADSL, Mode Figure ANSLT1.413 taxe 2 Figure				

Service Ontion

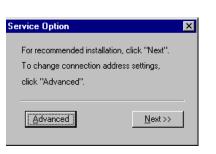
In the Select ADSL Mode section, select the mode(s) recommended by your ADSL service provider, then click OK.

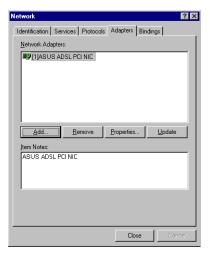
**NOTE**: The service mode type will be one of the following:

- 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.





27

X

11.	The Microsoft TCP/IP Properties	Microsoft TCP/IP Properties	? ×
	window appears. Enter in the IP Address,	IP Address DNS WINS Address Routing	
	Subnet Mask and Default Gateway supplied by your ADSL service provider. Click OK.	An IP address can be automatically assigned to this network ca by a DHCP server. If your network does not have a DHCP serv ask your network administrator for an address, and then type it the space below.	ver,
		Adagter: [[1] ASUS ADSL PCI NIC	•
		O Obtain an IP address from a DHCP server	
		© Specify an IP address	
		IP Address:	
		Subnet Mask:	
		Default <u>G</u> ateway:	
		Advanced	±
		OK Cancel	ply.
12	The Network Settings Change window		

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

Network Settings Change 
You must shuld down and restart your computer before the new settings will take effect.
Do you want to restart your computer new?

<u>Yes</u> No

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

# Windows NT4.0

# **RFC 2364 – Point to Point Protocol over ATM**

- 1. On the Desktop, <u>double</u>-click **My Computer**, and then <u>double</u>-click **Control Panel**.
- 2. In the **Control Panel** window, doubleclick 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.
- 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.

Network			? ×
Identification	Services Protocol	s Adapters Bi	ndings
<u>N</u> etwork Ada	apters:		
	<u>H</u> emove	Broperties	Црdate
Item Notes:		/	
		OK	Cancel
Gelect Network	Adapter		? ×
Have		nat matches your h tallation disk for thi	ardware, and then s component, click
Network Adapte			
B 3Com Ether B 3Com Ether B 3Com Ether B 3Com Ether B 3Com Ether	18 ISA 16-bit Ethernet A rlink II Adapter (also II/ rlink III ISA/PCMCIA A rLink III PCI Bus-Maste rlink16/EtherLink16 TF EtherLink BCI 10/1005	16 and II/16 TP) dapter r Adapter (3C590) ? Adapter	TEOE)
		OK	Cancel
Insert Disk			X
insert hardw differe new p	disk with software provid are manufacturer. If the nt location, for example ath to the files below.	led by the software files can be found a on another drive type	or OK e a Cancel
d\23	64nt4		
Select OEM O	ption		X
Choose a soft	ware supported by th	nis hardware man	ufacturer's disk.
ASUS ADSI	L PCI NIC		
,			



- 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.

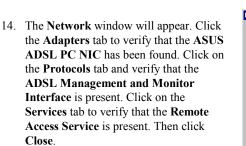
	Service Options		×	_	Refer to the ADSL	- Network Protocol and	IPVC setting	KFC 14	83
	Refer to the ADSL	Network Protocol and PVC setting	<b>RFC 1577</b>	_	service provider for connection address.	C Classical IP ove	ratm VPI: 0	VCI: 0	
	service provider for connection address.	Classical IP over ATM VPI : 0	Service Options			Þ	t VPI: 0	VCI : 35	5
		C Ethernet over ATM VPI:		on Address	Select ADS	L Mode	Framing	LLC/SNAP 💌	
			service provider for connection address. VPI	8	P ANSI T	1.413 Issue 2			
		Select ADSL Mode	va	37		392.2 Annex A (G.lite)	2		
		ANSI T1.413 Issue 2	Framing	ИС МИХ	<ul> <li>ITU 6.9</li> </ul>	392.1 Annex A (G.dmt)	x A (G.lite)		
		TIU G.992.2 Annex A (G.lite)	RF	C 236	<u>б4 ок</u>	Cancel	x A (G.dmt)		
		TU G.992.1 Annex A (G.dmt)		-				OK I	Cancel
			OK Cancel				1	<u></u>	guncer
		_							
	NOTE: T	he service mode t	ype will be one of	9	Service Op	ption			×
	the follow		<b>7</b>						
		NSI T1.413 Issue	e 2		For reco	mmended inst	allation, cli	ck "Next".	
		ГU G.992.2 Anne	x A (G.lite)		To chan	ge connectio	n address s	settings,	
		ГU G.992.1 Anne	x A (G.dmt)	- 1	click "Ad	dvanced".			
				_					
				_					_
9.	The prov	ious Service O	tion window	_	( Adva	inced		Next>>	
9.	-	-	Juon window	_	[	inced ;		<u>H</u> on( //	
	will appe	ar, click Next.		_					
				s	ietup Message				
10		. ·	1	-	<u> </u>	cess Services (RAS) will r	ow be installed. Pla	see configure the ite	ation core
10.		p Message win	dow appears.		in RAS set	up to enable you to use R.	AS over itexwana.	ase conligue the lite	winana pons
	Click Ok	Κ.				[	OK		
				×	√indows NT Set	tup			×
					Setup 1	needs to copy some V	/indows NT files.	Γ	Continue
11.	The Win	dows NT Setu	window		Setup	will look for the files in want Setup to look in a	the location speci	ified below.	Cancel
11.						cation. When the loca			
			.0 CD-ROM in	to	CONTRACT				
		stem CD drive							
	"D:\i386'	" Click Continu	ie.		C:\WI	NNT\System32			
				_					
				P	Add RAS Devi	ce			×
					RAS Capable [	Devices:		ОК	
10	The A 11	DAC Davia			ISDN1 - Asusa	-	-		
12.		RAS Device w			protein readen	vana		Cano	sel
	Click on	the "Scroll arro	w" to locate					Hel	p
	ISDN1-A	SUSwana. The	en click OK.					Install <u>M</u> o	odem

Service Options

	•
	U
_	-

Install X25 Pad...

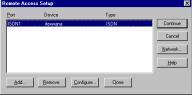
13. The **Remote Access Setup** window appears. Click **Continue**.



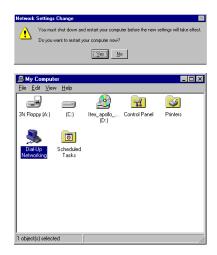
**NOTE:** To review the Network window properties at any time, right-click the **Network Neighborhood** icon and select **Properties**.

**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**.
- 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.



Network 🔗 🔀
Identification Services Protocols Adapters Bindings
Network Adapters:
TO ASUS ADSL PCINIC
Add <u>R</u> emove <u>Properties</u> <u>Update</u>
Item Notes: ASUS ADSL PCI NIC
Close Cancel





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

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

Phone number preview: [0 Dialing from: New Location	More V
Dial	
<u></u>	Close
Connect to MyDialUpServer	? ×
Enter a user name and password with access to remote network domain.	o the
User name: Administrator	
Password: ********	
Domain:	
Save password	
OK Ca	incel
Connection Complete	×
You have successfully connected to the remu- server. You may now use the usual Windows programs and utilities as if you were directly	
connected to the network.	
connected to the network. Right-click the Dial-Up Networking Monitor or task bar to hang up or check the status of yo connection.	
Right-click the Dial-Up Networking Monitor or task bar to hang up or check the status of yo	ur ok
Right-Click the Dial-Up Networking Monitor or task bar to hang up or check the status of yo connection. The 'Close on dial' option hides the phoneboo while dialing and closes it as soon as you con I ⊂ Close on gial	ur ok
Right-Click the Dial-Up Networking Monitor or task bar to hang up or check the status of yo connection. The 'Close on dial' option hides the phoneboo while dialing and closes it as soon as you cor	ur ok

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**

- 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
Ø	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.

ADSL Diagnostic Tools	L.
ADSL Status Diagnostic ADSL Statistic	
ADSL Connection Information	
ADSL State Connected	
Protocol T1.413 issue 2	
Transmit / Receive Rate (Kbps) Data Rate	
Upstream 640	
Downstream 8000	



SL Status Diagnostic ADSL SI	
ADSL Information	In
Re-training Count	2
FEC Count	0
CRC Count	0
ATM HEC Count	0
ATM Receive Side Statistics	
Good Received Packets	0
Bad Received Packets	0
ATM Transmission Side Statis	tics
Transmitted Packets	0

**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.



	*** Diagnostic Report ***	4
Hardware Hardware Hardware	Test: "ADSL Bridge - PCI I/O Tes Test: "190135 Registers Test" ==> Test: "190135 Memoy Test" ==> Test: "ADSL Bridge - PCI DMA L Fast ==> Trial20, Pasc2 Interleave ==> Trial20, F Fast ==> Trial20, Pasc2 Interleave ==> Trial20, F	Pass Pass iopback" 0 Pass:20 10
	*** End Of Report ***	
4		- I + [

**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?**  $\checkmark$  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 @  $+5V \pm 5\%$ , 0.1A max @  $\pm 12V$ ,  $\pm 5\%$ 

#### **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

## **Copyright & Regulatory Information**

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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.
- $\Rightarrow$  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.
- $\Rightarrow$  Shielded cables must be used to comply with FCC regulations.



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