Aztech
TOTAL POWER PERFORMANCE

DSL TURBO 900 Package

Version 1.2

Ethernet ADSL *High Speed* Modem
with optional Ethernet Network Card

(Configured for Broadband Service)

User's Manual

Contents

Product warranty does not apply to damage caused by lightning, power surges or wrong voltage usage.

Chapter 1…

Introducing DSL TURBO 900 Package

This section gives a brief introduction of DSL TURBO 900 and the optional NC2100(Lite) Network Card.

1.1   Overview

Congratulations on your purchase of **DSL TURBO 900 ADSL Bridge Modem**! This manual covers the setup information for both your **DSL TURBO 900** and **NC2100(Lite) 10/100 base-T Network Interface Card - NC2100(Lite) NetCard**.

NC2100(Lite) NetCard is an optional item in your package. It is a 10/100Mbps Fast Ethernet Adapter that gives the flexibility to connect 10Mbps Ethernet or 100Mbps Fast Ethernet without the need of tedious configurations. The support of the full duplex function allows simultaneous transmission and reception on the twisted-pair link to a full duplex Ethernet switching hub.

DSL TURBO 900 uses the latest communication technology, ADSL (Asymmetric Digital Subscriber Line) that offers faster and uninterrupted Internet access. It allows use of real-time, interactive multimedia and broadcast-quality for services such as video-on-demand, collaborative computing and distance learning.

DSL TURBO 900 is capable of data rate in both Full-Rate and G.Lite, with *Full Rate transmission at up to 8 Mbps downstream, 640 Kbps upstream[1]* and *G.Lite transmission at up to 1.5 Mbps downstream, 512 Kbps upstream[1]*. Major features include the following:

ADSL Protocols Support

To ensure the broadest customer reach, DSL TURBO 900 features multiple data encapsulation formats for DSL transport over ATM PVCs, including the widely supported ADSL protocol **RFC 1483 (Ethernet Over ATM)**.

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1   *The actual downstream and upstream rates will depend on the service package offered by your ADSL Service Provider.*

Compatibility (Interoperability)

Multimode ADSL support: ANSI T1.143 Issue 2, ITU-T G.992.1 (G.dmt) and G.992.2 (G.Lite). DSL TURBO 900 uses discrete Multi-tone (DMT) line encoding scheme which is also used by major ADSL equipment manufacturers, thus further guarantees interoperability with network service providers worldwide.

1.2   DSL TURBO 900 Features

1.2.1   Front View

Ethernet Activity LED (ACT)
Lights up when the Ethernet is transmitting/receiving data.

Ethernet Link LED (LINK)
Lights up when the Ethernet link is established.

Power LED (PWR)
Lights up when Power switch is pressed **ON**.

ADSL Status LED (LINK)
Lights up when the ADSL Line is established.

ADSL Receive LED (RX)
Lights up when the ADSL Line is receiving data.

ADSL Transmits LED (TX)
Lights up when the ADSL Line is transmitting data.

1.2.2   Rear View

Power Connector (DC IN)
To connect to your Mains supply

Power Switch (PWR)
To power on or off the modem.

I - indicates ON position
O - indicates OFF position

Ethernet Jack (ETHERNET)
10Base-T Ethernet jack (RJ-45) to
connect to your Ethernet card or Hub.

Serial Port (SERIAL)
9-pin serial port for local network management.

Line Jack (LINE)
Telephone jack (RJ-11) to connect to the
ADSL Line.

Phone Jack [2] (TEL)
Telephone jack (RJ-11) to connect to the
Telephone Handset.

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2   This optional connection provides easy access to your Telephone set while working near the modem.

Chapter 2…

Before You Begin

This chapter contains information that you need to know before setting up your DSL TURBO 900 package. It is important that you go through them.

2.1   DSL TURBO 900 Package

Ensure that you have the following items in your package. For any missing item, please contact your dealer immediately.

DSL TURBO 900

NC2100(Lite) NetCard
(optional)

DSL TURBO 900 CD-ROM

DSL TURBO 900 Package
User's Manual

Power adapter

UTP Category 5 Crossover
Ethernet cable (RJ-45)

Power cable

Telephone cable (RJ-11)

2.2   Minimum System Requirements [3]

Make sure that your computer meets the following requirements before you start your installation.

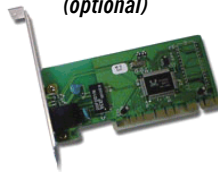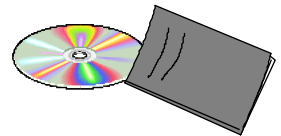- Pentium MMX 233MHz or equivalent
- 30MB free hard disk space [4] for system files and modem driver
  (Windows CD-ROM may be required during installation, depending on your system configurations.)
- Operating System: Windows® 95 / 98 / 98 Second Edition / Me / 2000

2.3   Operating Environment

For optimum performance, ensure that DSL TURBO 900 operates within the following operating environment.

2.3.1   Temperature

Operating	:	10° to 45° Celsius
		50° to 113° Fahrenheit
Non-Operating	:	-25° to 70° Celsius
		-13° to 158° Fahrenheit

2.3.2   Humidity

Operating	:	30% to 80% Relative Humidity (Non-Condensing)
Non-Operating	:	10% to 95% Relative Humidity (Non-Condensing)

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3   *The information listed are minimum system requirements needed to install your ADSL modem. Please check and ensure that your system also meets the minimum system requirements set by the Internet Service Provider (ISP) you subscribed to. Your system should meet the higher requirements of the two.*

4   *Additional free hard disk space may be required for your Internet Service Provider (ISP) installation program and browser installation. Please check with your ISP.*

2.4   Safety Precaution

2.4.1   For NC2100(Lite) NetCard - *optional*

- Do not remove your card from its protective bag until you are ready to install it.

- Always try to hold your card by its edges. Avoid touching any electronic components on your card.

- Static electricity can cause permanent damage to your card. To prevent such a damage, you must ground yourself during the installation:

  » Use a grounding strap - a coiled wire with a clip at one end and an elastic strap at the other. Wear the strap around your wrist and attach the clip to any non-painted metal surface of your computer chassis.

  » If you do not have a grounding strap, touch any non-painted surface of your computer chassis before you begin installation, and again every minute or so until the installation is completed.

2.4.2   For DSL TURBO 900

- Switch off the modem and adapter when the modem is not in use.

- During times of lightning/thunderstorms, do not use the modem.

- Keep the modem away from water and direct sunlight.

- Do not introduce any foreign material to the modem through the ventilation slits (e.g. by dropping foreign items or poking into the slits).

2.5   Installation Notes

- The graphics and screens illustrations shown in this manual may differ from what you see in your system, but the steps still apply.

- A Philips screwdriver is required for installation of your Network Card.

- The documentation for your computer should come in handy during the Network Card installation. Have it ready by your side.

Chapter 3…

Setting Up
NC2100(Lite) NetCard

This chapter contains information on installing your NetCard and its driver. Verification steps are also included to ensure correct installation.

> **This chapter provides setting up procedures for the optional NC2100(Lite) NetCard. If you have purchased a different model of Network Card, please follow the installation instructions that comes with the card. Upon successful installation, please proceed to Chapter 4 - Setting Up DSL TURBO 900.**

> **Power off your computer and any connected devices before installing your card !**

3.1   Installing NC2100(Lite) NetCard
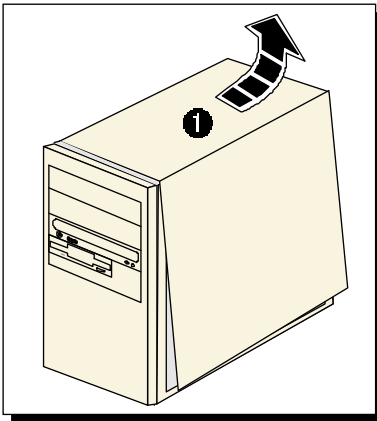
❶   Remove the cover of your computer.

❷ Locate an available PCI-Bus slot and remove its cover plate, if required.

Keep the mounting screw to secure your card later.

PCI-Bus Slot

Cover Plate

Mounting Screw
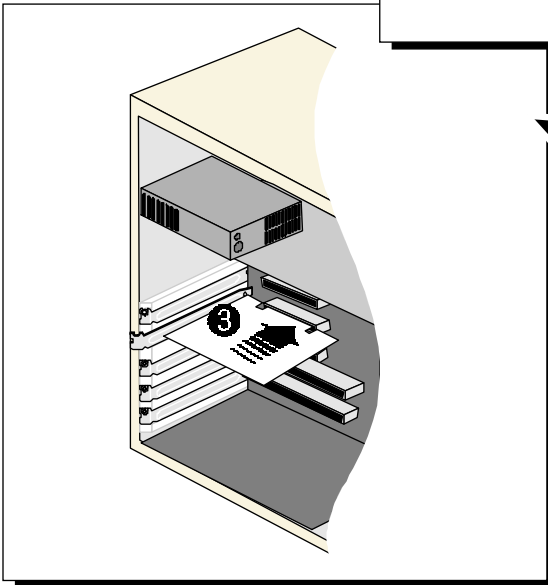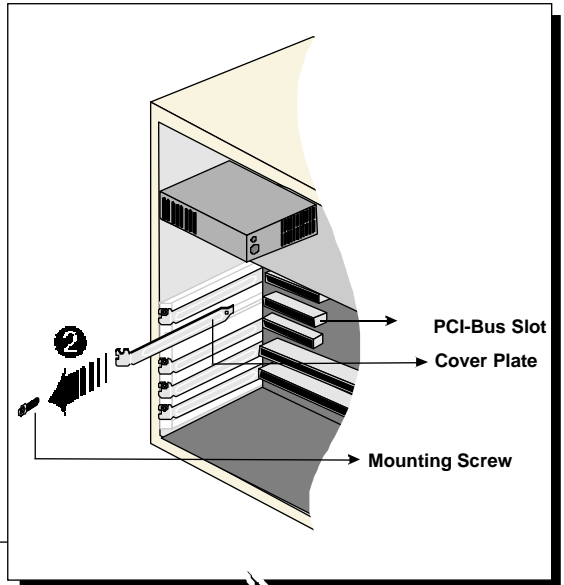
❸ Align your card with the PCI-Bus slot and firmly push it into the slot.

If the card does not slide in, do not force it. Make sure that the card is aligned properly and try again.

❹ Secure your card to your
computer chassis with the
mounting screw.
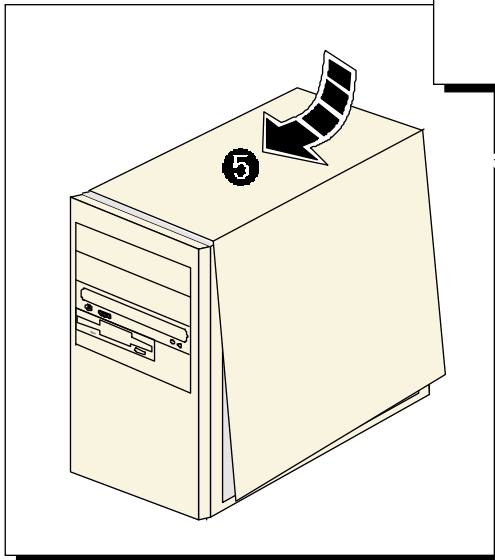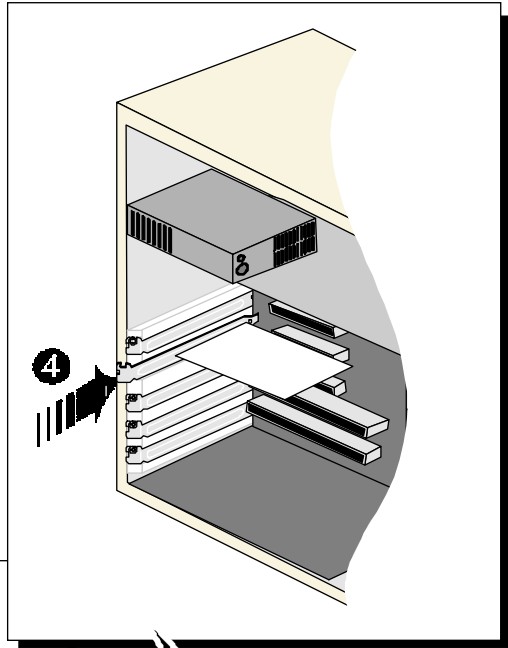
❺ Replace the cover of your
computer.

This completes the NC2100(Lite) NetCard installation. Please proceed to install the
NetCard driver.

3.2   Installing NC2100(Lite) NetCard Driver

This section contains the driver installation for **Windows® Me, 98 Second Edition, 98**, **95 OSR2**, **95 OSR1**, **95** and **Windows® 2000**.

> **The screen shots and screens information illustrated in this manual serve only as a guide. The exact information or procedures you see on your system may vary, depending on your system configurations. For any dissimilarities, follow closely to the instructions as prompted on your PC screen !**

3.2.1   Installing NC2100(Lite) NetCard Driver - For Windows® Me

1.   Start your Windows. Windows will detect your newly-installed network card and prompt for its driver.
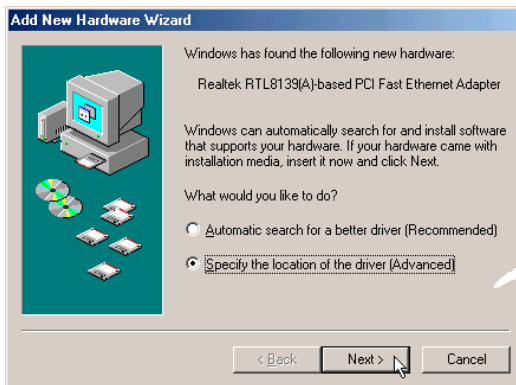
Place the **DSL 900E(B) CD-ROM** into your CD-ROM Drive. Select '**Specify the location of the driver (Advanced)**' and click **Next**.

2.   Select '**Specify a location**'.

Click **Browse** and navigate to the directory '**WinMe**' on your CD-ROM and click **Next**.
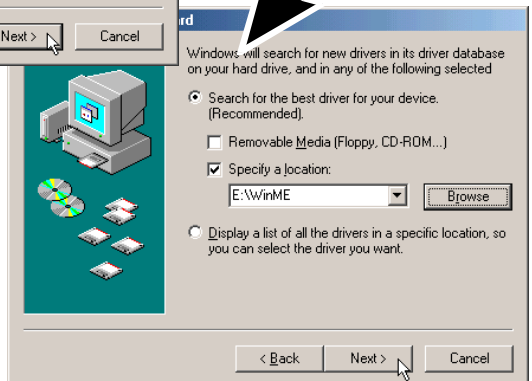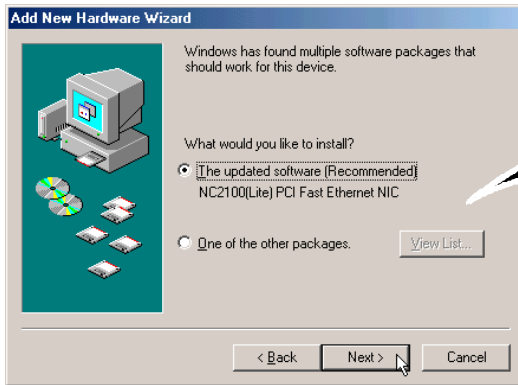
3.   At the next prompt, select '**The updated software (Recommended)**' and click **Next**.

4.   At the next prompt, click **Next** again.
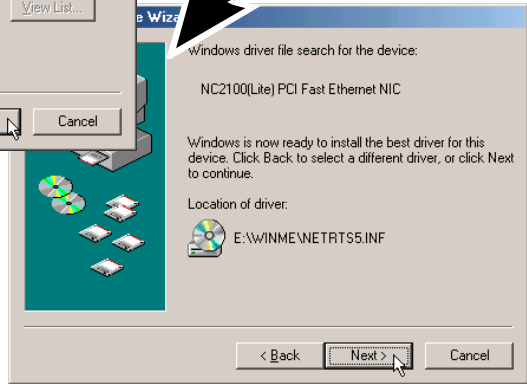
5.   Click **Finish** to complete the installation.
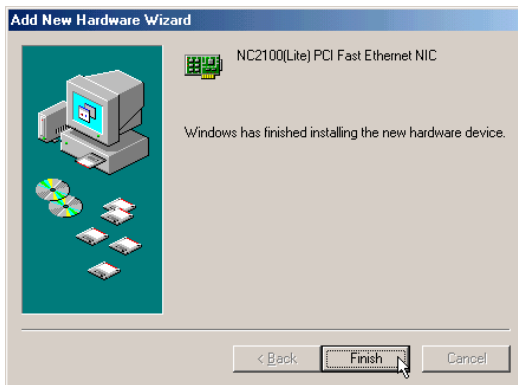
6.   At the prompt for restart, click **Yes**.

This completes the driver installation for your NC2100(Lite) NetCard. Please proceed to **section 3.3 - Verifying NC2100(Lite) NetCard**.

3.2.2   Installing NC2100(Lite) NetCard Driver - For Windows® 98 / 98 Second Edition

During installation, system may prompt for your Windows 98 / 98 Second Edition CD-ROM for some files. Have it ready by your side.

1.   Start your Windows. Windows will detect your newly-installed network card and prompt for its driver.

Place the **DSL 900E(B) CD-ROM** into your CD-ROM Drive and click **Next**.

2.   At the next prompt, click the option '**Search for the best driver for your device. (Recommended).**' and click **Next**.
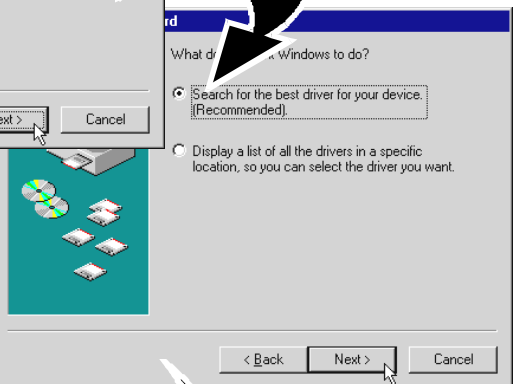
3.   Click '**Specify a location**'.

Click **Browse** and navigate to '**Win98**' directory on your CD-ROM and click **Next**.

4. At the next prompt, click **Next** again to proceed installation with the specified driver.

5. Depending on your system configurations, system *may* prompt you for your **Windows 98 / 98 Second Edition CD-ROM**, .

   Replace the **DSL 900E(B) CD-ORM** in your CD-ROM drive with your **Windows 98 / 98 Second Edition CD-ROM** and click **OK**. Windows will start copying the required files.
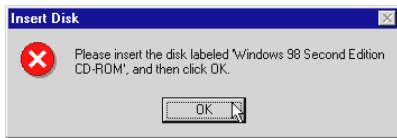
*(If you are prompted with a dialog box indicating that files cannot be found, please direct it to the location of your Windows 98 / 98 Second Edition CD-ROM and click **OK.**)*

6. Click **Finish** to complete the installation.
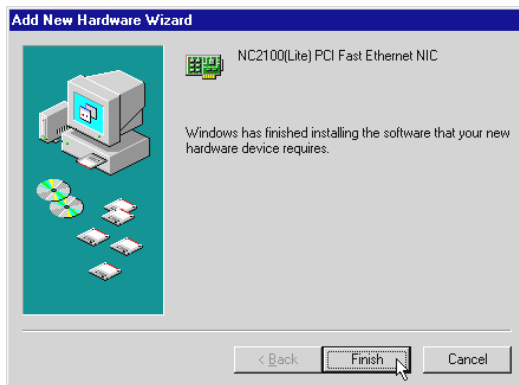
This completes the driver installation for your NC2100(Lite) NetCard. Please proceed to **section 3.3 - Verifying NC2100(Lite) NetCard**.

## 3.2.3   Installing NC2100(Lite) NetCard Driver - For Windows® 95 OSR2 (Windows® 95B)

> **During installation, system may prompt for your Windows 95 CD-ROM / diskettes for some files. Have it ready by your side.**

1.   Start your Windows. Windows will detect your newly-installed network card and prompt for its driver. Place the **DSL 900E(B) CD-ROM** into your CD-ROM Drive and click **Next**.

> For **Windows® 95x users**, you need to have **Microsoft Dial-Up Networking (DUN), version 1.3** (or higher) installed in your system. If you already have it installed in your system, please proceed with the following steps. Else, from the **Update Device Driver Wizard**, click **Cancel** and proceed to install DUN first.
>
> For DUN installation instructions, you may refer to the **Frequently Asked Questions**, *'How Do I Install Microsoft Dial-Up Networking (DUN)'*.

2.   System will prompt for the location of your network card driver. Click **Other Locations...** .

3.   At the next prompt, click **Browse** and navigate to the '**\Win95**' directory on your CD-ROM and click **OK**.

4.   Click **Finish** to proceed installation with the specified driver.

5.   Upon system prompt for **DSL 900E(B) CD-ROM**, ensure that your CD-ROM is in your CD-ROM drive and click **OK**.

*(If you are prompted with dialog box indicating that files cannot be found, please direct it to the location of your DSL 900E(B) CD-ROM and click **OK**.)*

6.   If you have not installed a network card in your system before, you may be prompted with the some Network prompts.

  i)   At the prompt to provide computer and workgroup names, click **OK**.

  ii)   Enter the relevant information and click **Close**.

7.   Depending on your system configurations, system *may* prompt you for your **Windows 95 CD-ROM or disketttes**.

  Replace the **DSL 900E(B) CD-ROM** in your CD-ROM drive / Floppy disk drive with your **Windows 95 CD-ROM / diskettes** and click **OK**. Windows will start copying the required files.

  *(If you are prompted with dialog box indicating that files cannot be found, please direct it to the location of your Windows 95 CD-ROM / diskettes and click **OK**.)*

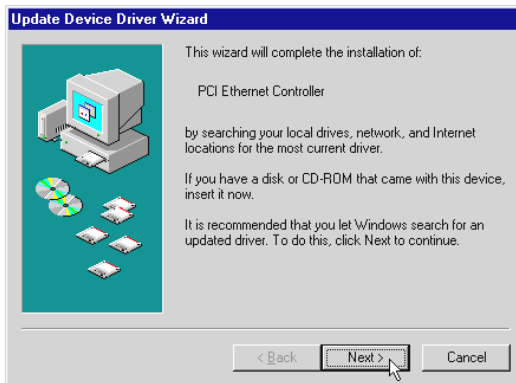8.   Restart your system when prompted.

This completes the driver installation for your NC2100(Lite) NetCard. Please proceed to **section 3.3 - Verifying NC2100(Lite) NetCard**.

3.2.4 Installing NC2100(Lite) NetCard Driver - For Windows® 95 OSR1 (Windows® 95A) / Windows® 95

> **During installation, system may prompt for your Windows 95 CD-ROM / diskettes for some files. Have it ready by your side.**

1.   Power on your computer to start Windows. Windows will detect your newly-installed Network Card and a **New Hardware Found** window will appear.
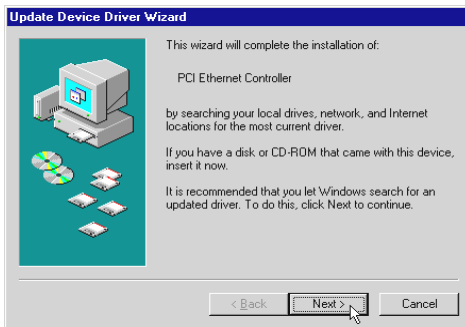
Select the option '**Driver from disk provided by hardware manufacturer**'.

Place your **DSL 900E(B) CD-ROM** in your CD-ROM Drive and click **OK**.

> For **Windows® 95x users**, you need to have **Microsoft Dial-Up Networking (DUN), version 1.3** (or higher) installed in your system. If you already have it installed in your system, please proceed with the following steps. Else, from the **Update Device Driver Wizard**, click **Cancel** and proceed to install DUN first.
>
> For DUN installation instructions, you may refer to the **Frequently Asked Questions**, *'How Do I Install Microsoft Dial-Up Networking (DUN)'*.

3.   Click **Browse** and navigate to '**\Win95'** directory on your CD-ROM and click **OK**.
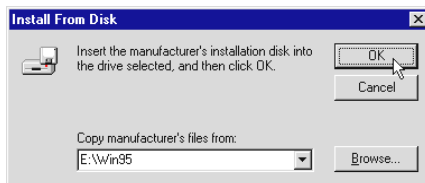
4. If you have not installed a network card in your system before, you may be prompted with the some Network prompts.

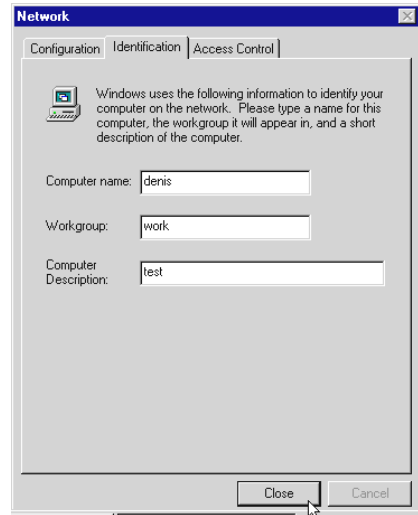   i) At the prompt to provide computer and workgroup names, click **OK**.

   ii) Enter the relevant information and click **Close**.

5. System may prompt you for your **Windows 95 CD-ROM or diskettes**.

   Replace the **DSL 900E(B) CD-ROM** in your CD-ROM drive / Floppy disk drive with your **Windows 95 CD-ROM / diskettes** and click **OK**.

   Windows will start copying the required files.

   (If you are prompted with dialog box indicating file cannot be found, please direct it to the location of your Windows 95 CD-ROM / diskettes and click OK.)
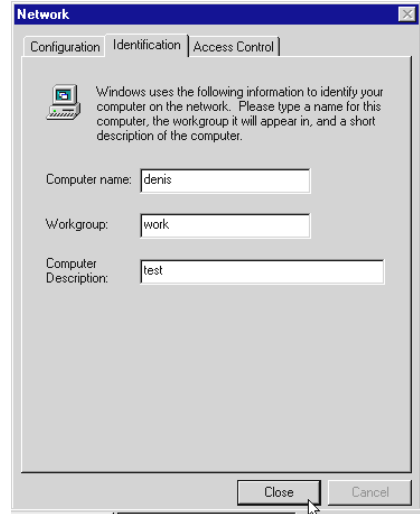
6. Upon installation completes, Windows will prompt you to restart your system. Click **Yes**.

This completes the driver installation for your NC2100(Lite) NetCard. Please proceed to **section 3.3 - Verifying NC2100(Lite) NetCard**.

3.2.5 Installing NC2100(Lite) NetCard Driver - For Windows® 2000

1. Start your Windows. Upon detecting your newly-installed Network Card, Windows will automatically install the Network Card driver that is pre-loaded in Windows® 2000.

    Proceed with the following steps to update the installed Network Card driver.

2. From your Windows desktop, right-click on **My Computer**. Select **Properties**. Click **Hardware** tab and click **Device Manager…** .

3. Double-click on **Network adapters**. You should see **Realtek RTL8139(A)-based PCI Fast Ethernet Adapter** [5] listed as shown.
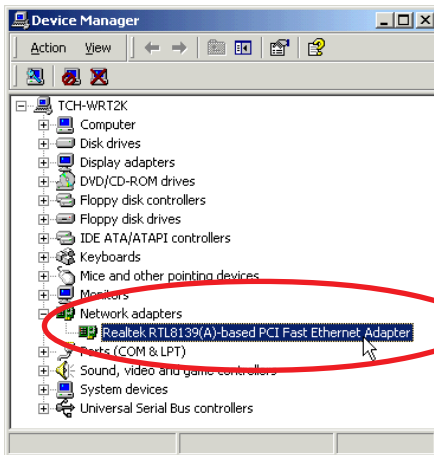
Double-click on it. Select the **Driver** tab and click **Update Driver…** button.

4. From the **Upgrade Device Driver Wizard**, click **Next**.

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[5] *Model name may differ slightly from what you see on your computer screen.*

5.   Select '**Display a list of the known drivers for this device so that I can choose a specific driver**' and click **Next**.

6.   At the next prompt, click **Have Disk…** .

7.   Click **Browse** and navigate to '**Win2000'** directory on your CD-ROM and click **OK**.

8.   At the next prompt, click **Next** to proceed with the specified driver.
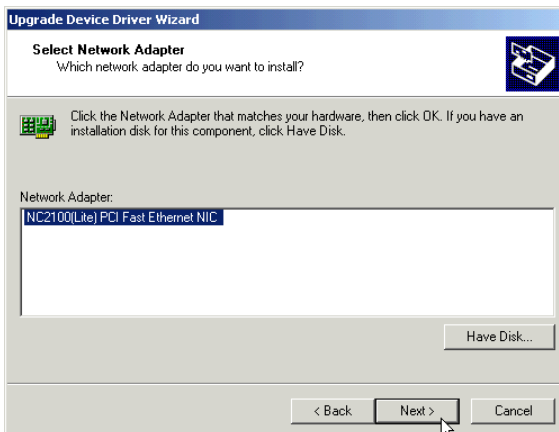
9.   Click **Next** again.

10. You may be prompted with **Digital Signature Not Found** dialog box. This happens when Windows is not able to detect a newer version of your driver.

Click **Yes** to proceed.

11. Click **Finish** to complete the installation process.

This completes the driver installation for your NC2100(Lite) NetCard. Please proceed to **section 3.3 - Verifying NC2100(Lite) NetCard**.

3.3   Verifying NC2100(Lite) NetCard

This section contains information on how to verify your NC2100(Lite) NetCard in **Windows®
Me**, **98 Second Edition**, **98**, **95 OSR2**, **95 OSR1, 95 and Windows® 2000.**

3.3.1   Verifying Your NC2100(Lite) NetCard
- For Windows® Me, 98 Second Edition, 98, 95 OSR2, 95 OSR1, 95

1.   From your Windows desktop, right-click **Network Neighborhood** icon. Select **Properties**.

2.   Select the **Device Manager** tab. Double-click on the **Network adapters**.
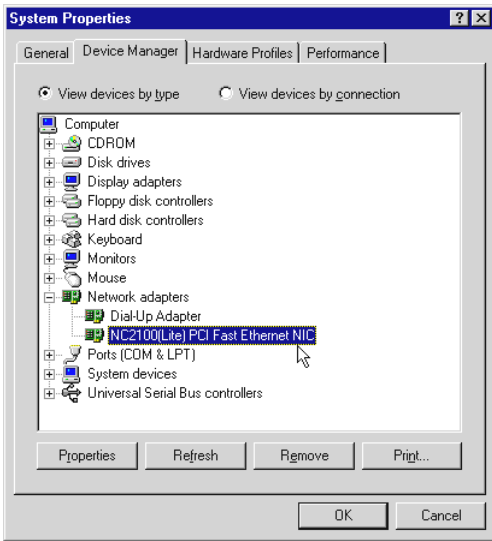
(If there is a yellow exclamation mark on the network device, select the device, click on **Remove** and re-install your NC2100(Lite) NetCard driver.)

You should see **NC2100(Lite) PCI Fast Ethernet NIC** listed as shown. This means that your network card is installed successfully.

3.   For **Windows® Me, 98 Second Edition and 98 users**, please proceed to **section 3.3.3 - LEDs Description**.

For **Windows® 95 OSR2, 95 OSR1 and 95 users**, proceed with the following to check if **TCP/IP** is installed in your system.

i. From your Windows desktop, right-click on **Network Neighborhood** icon. Select **Properties**.

ii. From the **Configuration** tab, check for **TCP/IP** listed (as shown on your right).
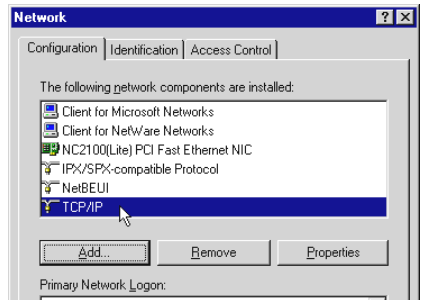
If **TCP/IP** is listed, please proceed to **section 3.3.3** - **LEDs Description**.

If your system is not installed with TCP/IP, please carry out the following instructions:

iii. From the above **step (ii)**, select **NC2100(Lite) PCI Fast Ethernet NIC** and click **Add**.
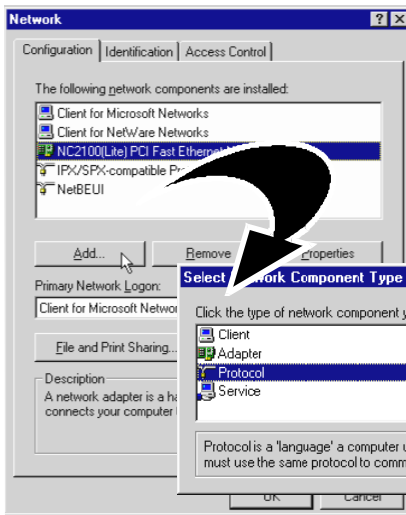
iv. At the **Select Network Component Type** prompt, select **Protocol** and click **Add…**.

v.   At the **Manufacturers** field, select **Microsoft**. At the **Network Protocols** field, select **TCP/IP**. Click **OK**.
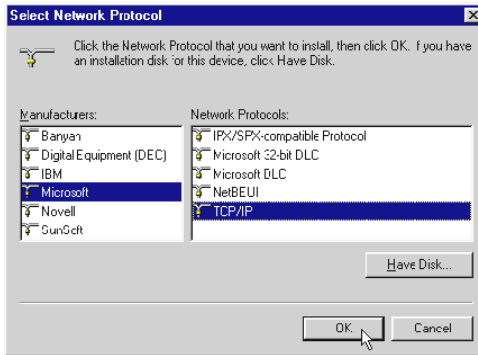
Click **OK** again.

vi.   You will be prompted for your **Windows 95 CD-ROM / diskettes**. Place your Windows 95 CD-ROM / diskettes in your CD-ROM Drive / Floppy disk drive and click **OK**.

If you are prompted with DHCP prompt, asking if you want to see future DHCP messages, click **No**. Restart your system when prompted.

Please proceed to **section 3.3.3** - **LEDs Description**.

3.3.2   Verifying Your NC2100(Lite) NetCard - For Windows® 2000

1. From your Windows desktop, right-click **My Computer** icon. Select **Properties**.

2. Select the **Hardware** tab and click **Device Manager** button.

Double-click on the **Network adapters**. You should see '**NC2100(Lite) PCI Fast Ethernet NIC**' listed. This means that your NC2100(Lite) NetCard driver is successfully installed.

(If there is a yellow exclamation mark on the network device, right-click on the device and select **Remove**. Re-install your NC2100(Lite) NetCard driver.)

Please proceed to **section 3.3.3** - **LEDs Description**.
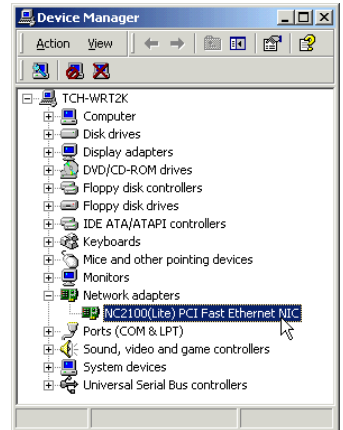
3.3.3   LEDs Description

The following table explains the LEDs state for your NC2100(Lite) NetCard.

LEDs	Light	Description
Activity	ON	transmission of data is in progress
	OFF	no transmission of data
Link	ON	the link is good
	OFF	there is no link
100M	ON	card is configured at 100Mbps
	OFF	card is configured at 10Mbps

This completes the verification for your NC2100(Lite) NetCard. Please proceed to the next chapter on **Setting Up DSL TURBO 900**.

Chapter 4...

Setting Up
DSL TURBO 900

This chapter contains information on setting up DSL TURBO 900. Verification steps are also included to ensure correct connections.

4.1   Setup Overview

The following gives an overview of the DSL TURBO 900 setup.
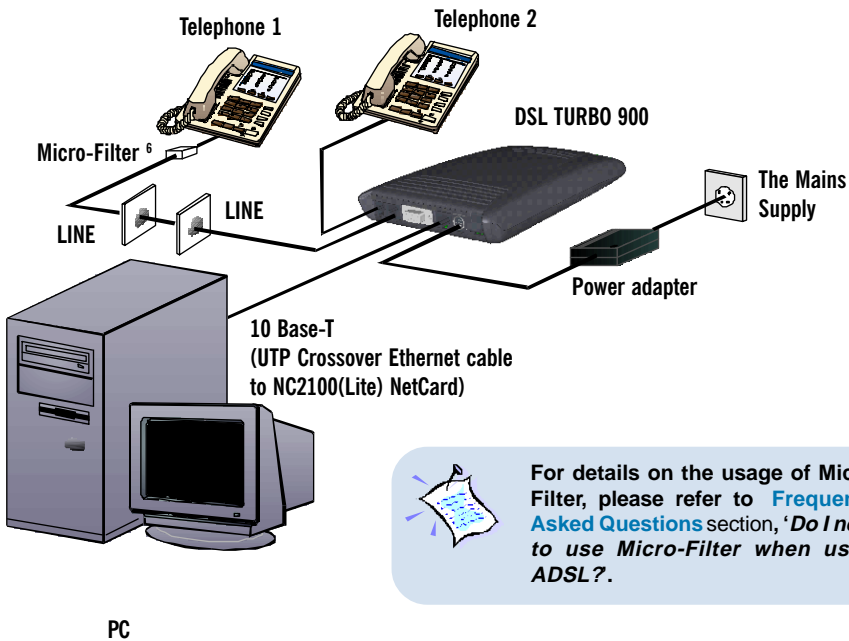
For details on the usage of Micro-Filter, please refer to **Frequently Asked Questions** section, '*Do I need to use Micro-Filter when using ADSL?*'.

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6   *The Micro-Filter can be purchased separately from your dealer.*

4.2   Connecting DSL TURBO 900

Please carry out the following steps to connect your modem to your computer.

Power off your computer and any connected devices before installing your modem!

4.2.1   Connecting the UTP Ethernet Cable

Connect one end of the **Ethernet cable** to the **ETHERNET** jack on DSL TURBO 900 and the other end to the **Ethernet** jack on NC2100(Lite) NetCard.

NC2100(Lite) NetCard

ETHERNET

Rear view of DSL
TURBO 900

Rear view of a PC

UTP Crossover
Ethernet cable
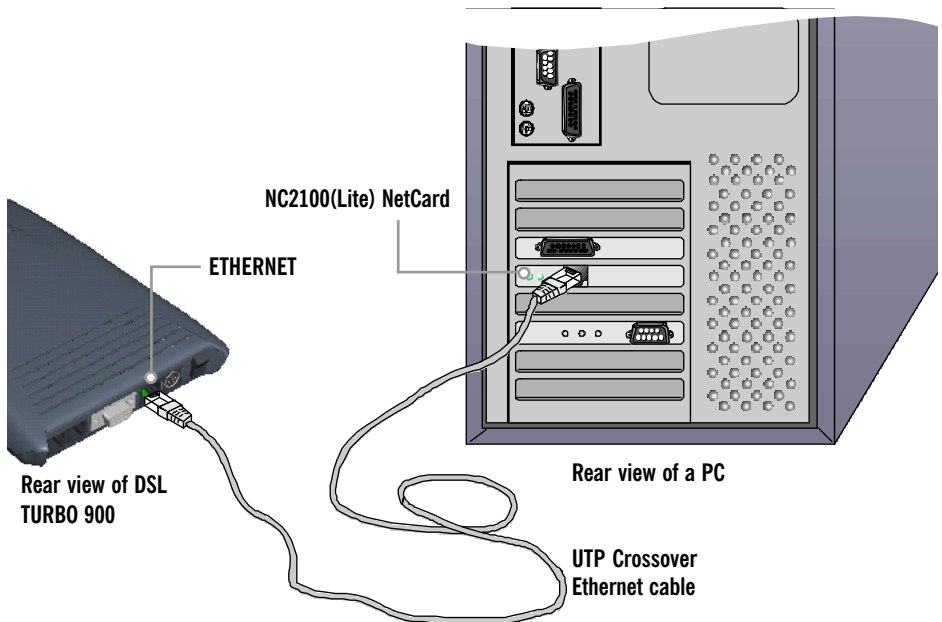
4.2.2 Connecting the Telephone cable (RJ-11)

Connect one end of the **telephone cable** to the **LINE** jack on DSL TURBO 900 and the other end to your **Telephone wall socket**.
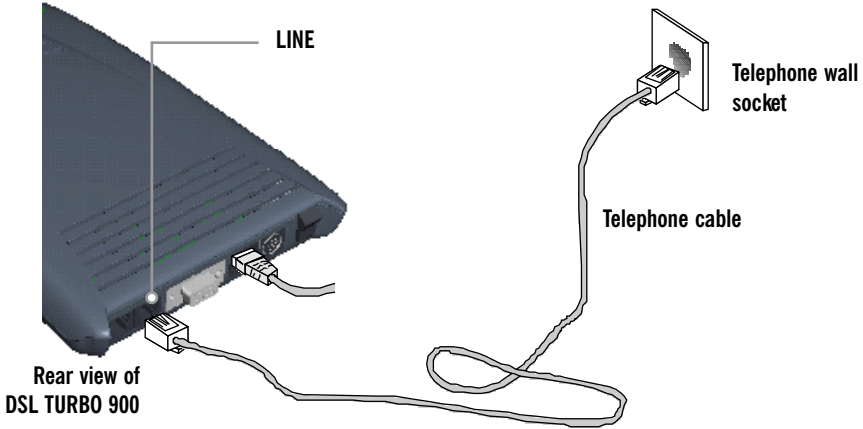
4.2.3 Connecting to a Telephone Set

*This connection is optional. The **TEL** jack provides easy access to your Telephone set while working near DSL TURBO 900.*

Connect the **Phone cable** to the **TEL** jack on DSL TURBO 900.
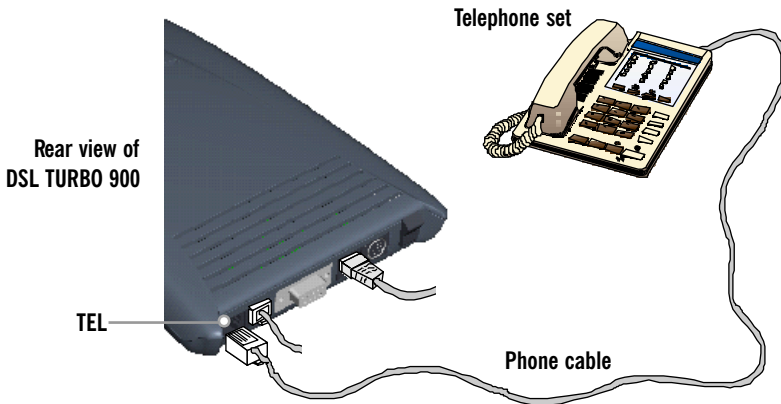
4.2.4   Connecting to The Mains

Connect the connector of the **Power adapter** to the **DC IN** on DSL TURBO 900.

Attach the jack of the **Power cable** to the **Power adapter** as shown, and the Power plug to **The Mains**.

The Mains

DC IN

Power adapter

Power cable

Rear view of DSL TURBO 900
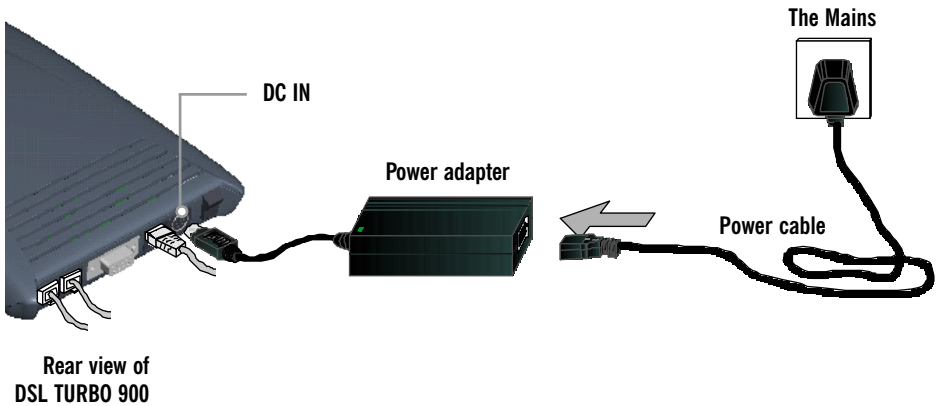
4.3 Verifying Your Connections

To verify the connections that you have made for DSL TURBO 900,

Power on DSL TURBO 900:

i)   On the Switch at The Mains, connected to the power adapter.
ii)   On the Switch at the rear of DSL TURBO 900.

Observe the following LEDs on your modem:

4.3.1 Power LED (PWR)
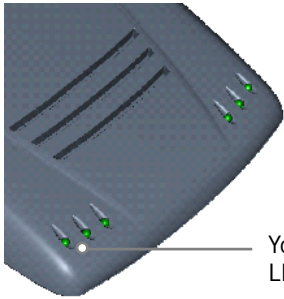
You should see this Power LED lights up.

If your **Power LED** does not light up, check that:

i)   the **Mains Supply** is powered on and the **Power switch** on the modem is at '**I**' position.

ii) the connection is carried out as described in **section 4.2.4 - Connecting to The Mains**.

4.3.2 Ethernet Link LED (LINK)

You should see this Ethernet Link LED lights up.

If your **Ethernet Link LED** does not light up, check that:

i)   the connection is carried out as described in **section 4.2.1 - Connecting the UTP Ethernet Cable**.

4.3.3   ADSL Status LED (LINK)
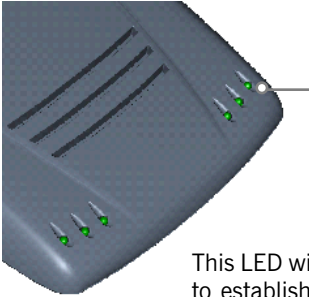
This LED will start blinking, trying to establish a connection. Once the connection is established, this LED will remain lit.

If your **ADSL Status LED** does not light up, check that:

i) the **Mains Supply** is powered on and the **Power switch** on the modem is at '**I**' position.

ii) the connection is carried out as described in **section 4.2.2 - Connecting the Telephone cable (RJ-11)**.

If the mentioned 3 LEDs all light up, it means that your modem are successfully connected.

4.3.4   Phone connection

If you have connected a **Telephone set** to your modem, pick up the handset of the Telephone. You should hear the normal dial-tone.

If you do not hear the normal dial-tone of a telephone, check that the connection is done as described in **section 4.2.3 - Connecting to a Telephone Set**. If your connections are correct, it may be due to a faulty phone cable that you are using.

This completes the verification on DSL TURBO 900 connections. Please proceed to the next chapter to install both WinPoET Dialer (for dialing-up to Internet) and DSLTEST utility (for testing the functionality of DSL TURBO 900).

Chapter 5…

Installing WinPoET Dialer [7] & DSLTEST [8]

> The installation procedures for Windows® 95, 98, 98 Second Edition, Me and Window® 2000 are similar. The following installation is based on Windows® 98 Second Edition. For any dissimilarities, follow closely to the instructions as prompted on your PC screen.

1. Place the **DSL TURBO 900 CD-ROM** in your CD-ROM drive. At the following prompt, click **OK**.
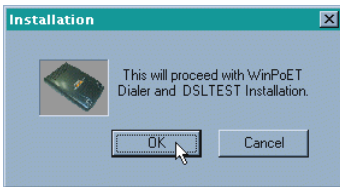
2. Ensure that you have powered on DSL TURBO 900 before clicking **OK** at the prompt.

---
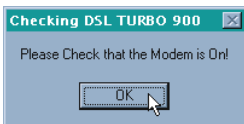
7   WinPoET is a dial-up client that allows you to connect to the Internet. (see **Chapter 7 - Connecting to the Internet** for details)

8   DSLTEST is a diagnostic utility that allows you to test your Ethernet Card, DSL TURBO 900 and your connection to the Internet. (see **Appendix C - Troubleshooting Guide, ' I am not able to connect to the Internet'** for details.)

3. For Windows® 98 Second Edition users, Windows will prompt for your Windows CD-ROM during WinPoET installation. Please have the CD-ROM by your side.

    Click **OK**.
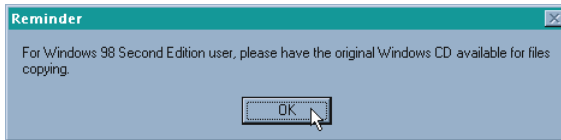
4. The setup program will commence. The following **WinPoET Setup - Welcome** window will be prompted.

    Click **Next**.
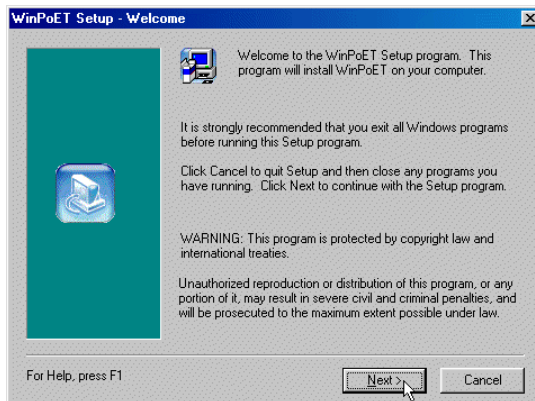
5. At the **Software License Agreement** prompt, click **Accept** to proceed.
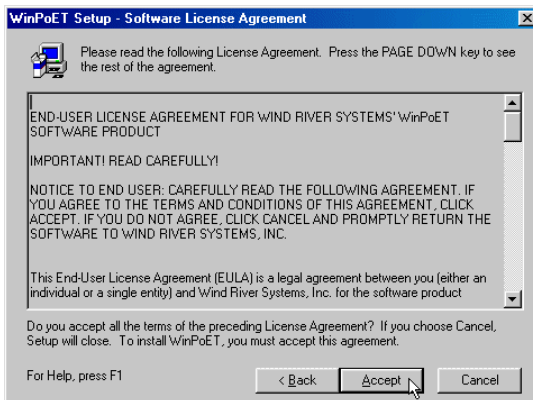
6. Click **Next** again.
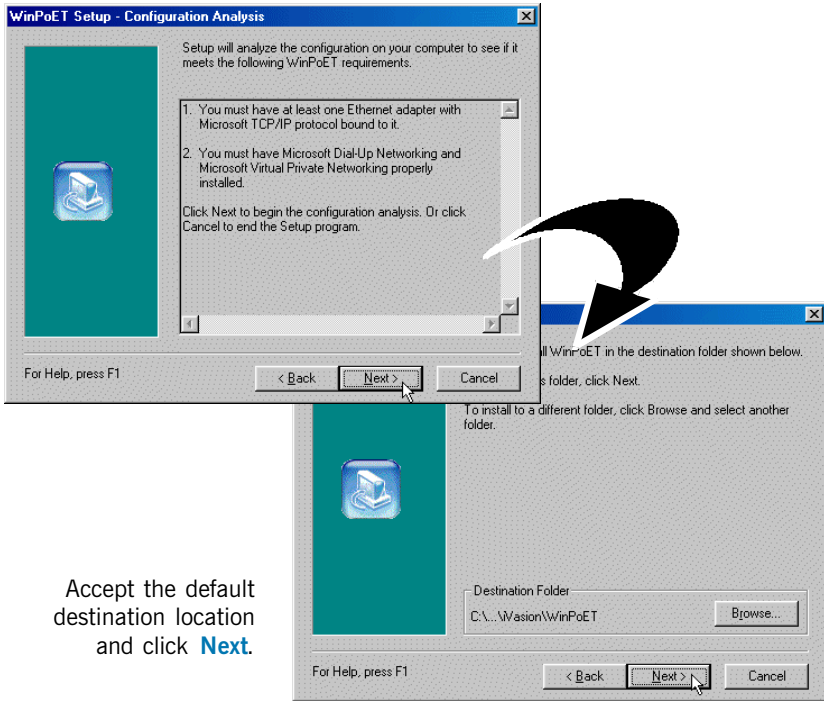
7. Accept the default destination location and click **Next**.

8. You *may* be prompted for your Windows CD-ROM. Replace the **DSL 900E(B) CD-ROM** in your CD-ROM Drive with your **Windows CD-ROM** and click **OK**.
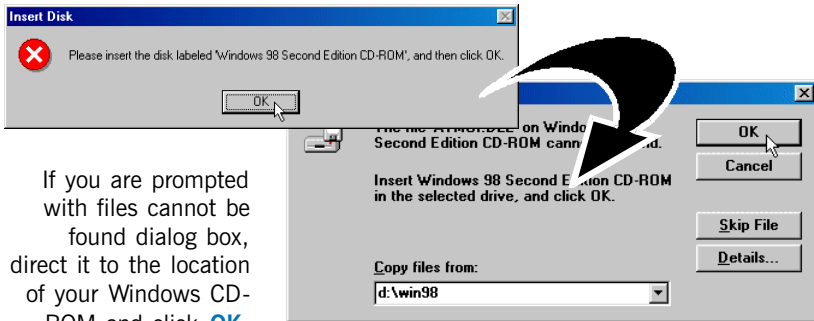
If you are prompted with files cannot be found dialog box, direct it to the location of your Windows CD-ROM and click **OK**.

9.   Click **Finish** to restart your system.   (Not applicable for Windows® 2000)
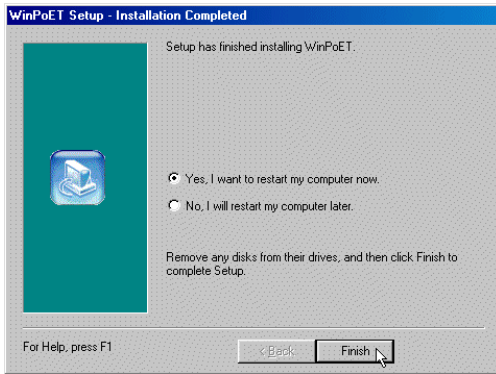
Upon system restarts, you should see the following icons on your Window desktop.

WinPoET: Double-click to establish your Internet connection. See **Chapter 7 - Connecting to the Internet**.

DSLTEST: Double-click to run the diagnostic utility if you are not able to establish your Internet connection. See **Appendix C - Troubleshooting Guide** on '*I am not able to connect to the Internet*'.

Proceed to **Chapter 6 - Configuring Your Ethernet Card (optional)** only if you are running DSLTEST.

Proceed to **Chapter 7 - Connecting to the Internet** to establish your Internet connection.

Chapter 6...

Configuring Your
Network Card (optional)

This chapter guides you on how to configure your Ethernet Network Card on your computer to work with DSLTEST for DSL TURBO 900.

1. **The instructions apply to NC2100(Lite) NetCard as well as the model of your Network Card.**

2. **Proceed with this chapter only if you are not able to connect to the Internet and requires DSLTEST utility for troubleshooting.**

1. Power on your computer. From your Windows desktop, right-click on **Network Neighborhood**. Select **Properties**.

2. From the **Configuration** tab, select your TCP/IP protocol.

   (The example shown here is **TCP/IP-> 3Com EtherLink III ISA [3C509b-TPO] in PnP mode**. Select the Network Card model that is listed in your system.)

   Click **Properties**.

   (If you do not see your networking protocol, re-install your Network card.)
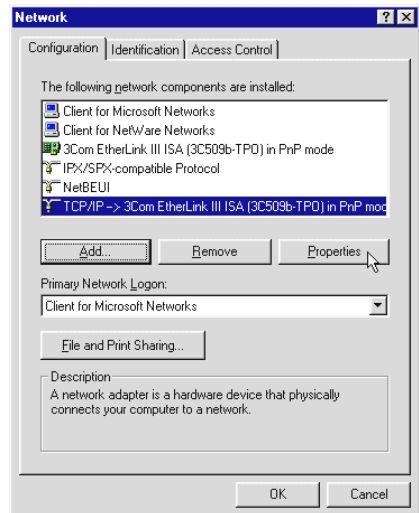
3.   Select the **IP Address** tab.

Click the option '**Specify an IP address**'.

Enter the **IP Address** as **192.168.1.2** and the **Subnet Mask** as **255.255.255.0**.
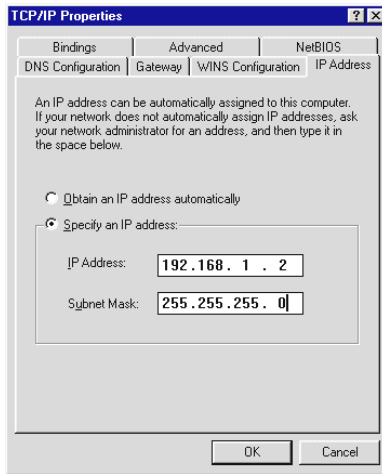
Click **OK**.

This completes your Network Card configuration. You can now run the DSLTEST utility. Please refer to **Appendix C - Troubleshooting Guide, '***I am not able to connect to the Internet.***'** for details.

Chapter 7…

Connecting to the Internet

This chapter guides you on how to establish your connection for Broadband Service.

7.1 Establishing the Connection for Broadband Service

1. To connect to the Internet, double-click on the **WinPoET** dial-up icon on your Windows desktop.

    (This icon was generated during the installation of WinPoET software. If you do not see the icon from your Windows desktop, re-install your WinPoET Dialer as described in **Chapter 5 - Installing WinPoET Dialer & DSLTEST**.)

2. Enter your **user-id@isp** and **password** as given by your Internet Service Provider.

    Select **Save password** if you want the password to be 'remembered' by your system.

    (You do not have to re-enter the password the next time you connect.)

    Click **Connect.**

    If you are not able to establish your Internet connection, please refer to Appendix C - Troubleshooting Guide on '*I am not able to connect to the Internet.*'

Upon successful connection, you should be able to see an icon (🖥️) displayed at the corner of your Windows taskbar.

7.2   Ready to Go!

You are now connected to the Internet.

Launch your Internet Browser (**Internet Explorer** / **Netscape Navigator** / **Netscape Communicator** and so on).

You may start surfing!

7.2.1   Checking the Session Connection time

If your connection to the Internet is established, you should see an icon (🖥️) displayed at the corner of your Windows taskbar. Double-click on the icon. Check your connection time by looking at the **Duration**.
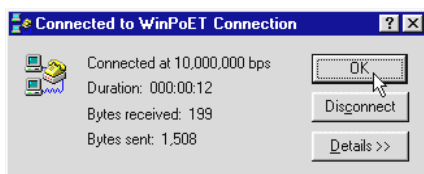
(The connection speed shown is only an example. Your actual connection speed will depend on the subscription plan that you have signed-up with your Internet Service Provider.)

7.2.2   Disconnecting from the Internet

If your connection to the Internet is established, you should see an icon (🖥️) displayed at the corner of your Windows taskbar. Close your web browser. Double-click on the icon (🖥️). Click **Disconnect**.
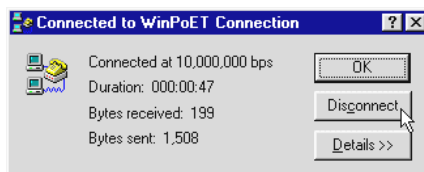
(The connection speed shown is only an example. Your actual connection speed will depend on the subscription plan that you have signed-up with your Internet Service Provider.)

Chapter 8...

Uninstalling WinPoET Dialer & DSLTEST

> For Windows® 98 Second Edition users, depending on your system configurations, Windows may prompt for your Windows CD-ROM to complete the uninstallation of WinPoET software. Please have the CD-ROM by your side.

1. From your Windows taskbar, click **Start** > **Settings** > **Control Panel**. Double-click on the **Add/Remove Programs** icon.

2. To uninstall **WinPoET Dialer**, select **WinPoET** and click **Add/Remove**.

    Follow the on-screen instructions to complete the uninstallation.
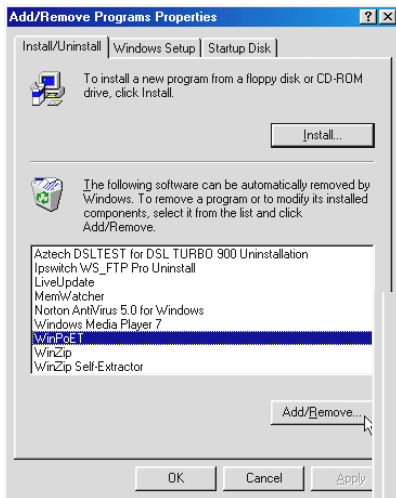
3. To uninstall **DSLTEST**, select **Aztech DSLTEST for DSL TURBO 900 Uninstallation** and click **Add/Remove**.

    Follow your on-screen instructions to complete the uninstallation.
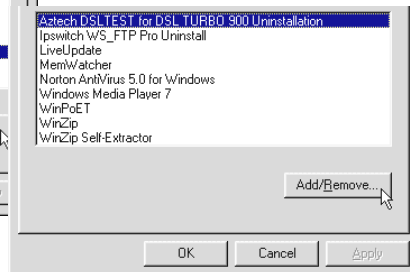
Appendix A...

Technical Specifications

This chapter contains the technical specifications for your NC2100(Lite) NetCard and DSL TURBO 900. The information may be more useful for technically inclined users.

A.1 For NC2100(Lite) NetCard

A.1.1 Main Features

- Highly integrated and cost-effective single-chip fast ethernet controller
- Supports 32-bit PCI-Bus Master for high performance
- Compliant to PCI Revision 2.2 specification
- Supports IEEE 802.3 Auto-Negotiation algorithm of full-duplex and half-duplex operation for 10Mbps and 100Mbps, that is, the network speed is auto-detected
- Compliant to PC98/99
- Half/Full duplex capability
- Supports LED pins for various network activity indications

A.1.2 Technical Data

Network Type:

- **Ethernet 10BASE-T**

  IEEE 802.3 industry standard for a 10Mbps baseband CSMA/CD local area network.

- **Fast Ethernet 100BASE-TX**

  IEEE 802.3u industry standard for a 100Mbps baseband CSMA/CD local area network.

A.1.3 Network Operating System

- Window® 95, 98, Me
- Window® 2000

A.1.4 Electrical

Power: 2Watts (max) @ 400 mA

A.1.5 Connector and Sockets

- 1 RJ-45 Shielded Phone Jack

A.1.6 LED

3 Green 3.0mm LEDs:

- LINK
- ACTIVE
- 100Mbps

---

1   *The actual downstream and upstream rates will depend on the service package offered by your ADSL Service Provider.*

A.2   For DSL TURBO 900

A.2.1   Main Features

- Controller-based External ADSL Modem
- UTOPIA Specifications Level I and Level II compliant
- ANSI T1.413 issue 2, ITU-T G.992.1 (G.dmt) and G.992.2 (G.lite) compliant
- Using Discrete Multi-Tone (DMT) line encoding scheme
- Full Rate transmission at up to 8 Mbps downstream and 640 Kbps upstream[1]
- G.lite transmission at up to 1.5 Mbps downstream and 512 Kbps upstream[1]
- Rate Adaptive modem at 32 Kbps steps
- Up to 18,000 ft loop reach
- Flash ROM upgradable for future feature enhancement
- RFC1483 Bridged (Ethernet Over ATM) protocol stack support
- Remote management through Telnet console access
- TFTP Software update
- Spectral compatibility with POTs

A.2.1.1   ADSL Chipset

Using ST Microelectronics Ascot solution:

- Virata VC8410 (Helium) – ATM Communications Controller
- STLC70135 - ADSL DMT Modem and ATM Framer
- STLC70134 - ADSL Analog Front End
- 4MB Dual-ported SDRAM
- 1MB Flash ROM

A.2.1.2   Virata VC8410 (HELIUM) – ATM Communications Controller

- Built-in 48MHz ARM-based Protocol and Network Processor
- UTOPIA Level I v1.0 and Level II interface
- 10BaseT Ethernet interface with integrated PHY
- Dual-ported SDRAM Interface
- ATM Cell Header Filter
- STLC70135 Configuration Register Interface
- +3.3-volt, 208-pin PQFP

A.2.1.3   STLC70135 ADSL DMT MODEM & ATM FRAMER

- ANSI T1.413 Issue 2 standard DMT modem with embedded ATM Framer
- ITU-T G.992.1 (G.dmt) and G.992.2 (G.lite) compliant
- Standard Utopia Level I and Level II ATM Interfaces
- DMT Modulation up to maximum of 256 tones (14 bits)
- ADSL/ATM cell-specific Framing and Deframing
- Rotor and Frequency Domain Gain Correction and Equalization
- Performs DMT Modulation, Demodulation, Reed-Solomon Encoding, Bit Interleaving, and 4D Trellis Coding
- 3.3-volt, 144-pin PQFP

A.2.1.4   STLC70134 ADSL Analog Front-end

- Integrated Analog Front End (AFE) for ADSL
- High sampling rate at 8.832 MHz for both ADC and DACs
- Two (2) 12-bit DACs, One 13-bit ADC
- Differential Analog Input/Output
- Accurate continuous-time low pass filters for channel filtering
- 3.3-volt, 64-pin LQFP

A.2.2   ADSL Software Support

- ATM Transmission Convergence (TC) layer
- ATM Layer with Traffic shaping
- AAL ATM Attributes - AAL5
- RFC-1483 Bridged (Ethernet Over ATM)
- RFC-2516 PPP over Ethernet (Supported via Optional Software)
- PPTP Tunneling Protocol (when available)
- UNI 3.0, 3.1 and UNI 4.0 ATM Signaling (support for SVCS)

A.2.3   Platform Support

- Windows® 95, 98, Me
- Windows® 2000

A.2.4 External Connectors

- 1 x RJ11 Telephone socket for ADSL line
- 1 x RJ11 Telephone socket for Telephone Handset
- 1 x RJ45 for 10Base-T Ethernet
- 1 x MiniDIN Power Connector
- 1 x On/Off Power Switch
- 9 pin Serial Port for local management

A.2.5 LED Indicators

- 1 x Power LED
- 1 x Ethernet Link Status LED
- 1 x Ethernet Activity LED
- 1 x ADSL Receive LED
- 1 x ADSL Transmit LED
- 1 x ADSL Link Status LED

A.2.6 Environmental

A.2.6.1 Temperature

Operating	:	10° to 45° Celsius (50° to 113° Fahrenheit)
Non-Operating	:	-25° to 70° Celsius (-13° to 158° Fahrenheit)

A.2.6.2 Humidity

Operating	:	30% to 80% Relative Humidity (Non-Condensing)
Non-Operating	:	10% to 95% Relative Humidity (Non-Condensing)

A.2.7 System Requirements

- Pentium MMX 233MHz or equivalent

The specifications herein are subject to change without prior notifications.

Appendix B...

This section provides answers to the commonly asked questions on your ADSL modem.

What is ADSL ?

ADSL, Asymmetric Digital Subscriber Line, is a broadband communication technology designed for use on regular phone lines. It has the ability to move data over the phone lines at speeds up to 140 times faster than the analog modem available today.

Why is it called Asymmetric ?

It is called asymmetric because more bandwidth is reserved for receiving data than for sending data. This is useful because many users of the Internet receive much more data than they send.

What are the benefits of ADSL over analog modems ?

Besides the high-speed advantage, ADSL connection is always on. There is no longer a need to log on and off, no more busy signals and no more waiting for the connection to established - it is always there. On top of these, you can use the phone even when the data connection is on. You do not need to switch between surfing the Net and talking over the phone.

Will my modem constantly connect near the maximum speed ?

At ADSL speeds, the limitations depend on the performance or load of the Internet Service Provider that you are trying to reach, as well as the line condition specific to your location.

Can I connect to Broadband Service everywhere I go?

No, you cannot. You can connect to this service, only via ADSL phone line enabled for Broadband Service provided by your Internet Service Provider (ISP).

Can I use my Broadband Service user ID to log in to 56K dial-up access on a normal telephone line using a 56K dial-up modem?

Yes, you can.

Can I run both dial-up modem and ADSL modem ?

Yes, but it is not recommended. You may experience slowness during surfing as well as incurring additional cost of maintaining two active connections.

Do I need to use Micro-Filter when using ADSL ?

DSL TURBO 900 has a built-in Micro-Filter at the Phone jack. Thus no Micro-Filter is required between your Telephone set and the modem.

However, if you are sharing the ADSL line with other telephone line extensions, you will need to have a Micro-Filter connected between the Telephone set and the telephone wall socket as shown in **section 4.1 - Setup Overview**.

(The Micro-Filters can be purchased separately from your dealer.)

Can I determine which version of Dial-Up Network (DUN) is installed ?

There is no easy way to determine the version of the DUN. The safest approach is to install the latest DUN version downloaded from the Microsoft website.

How do I install Microsoft Dial-Up Networking version 1.3 and above ?

i.   Download **Microsoft Dial-Up Networking** program from the Microsoft's website: **http://www.microsoft.com.**

ii. In the Microsoft **Search** path, enter '**Msdun13.exe**'. From the results listed, locate and select the listing *similar* to '**MSDUN13.EXE: Dial-Up Networking 1.3 Upgrade**'.

iii. Click **Msdun13.exe** to download the file to your harddisk.
     [file size is about 2.4MBytes]

iv. From your Windows taskbar, click **Start** > **Run...**. Browse to the directory where you have downloaded **Msdun13.exe**. Select the file and click **OK**.
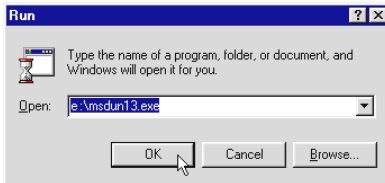
Click **OK** again.

v. Click **Yes** to proceed.
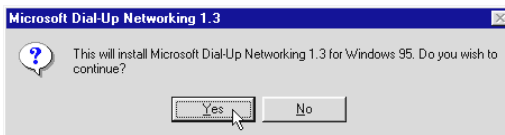
vi. At the **Microsoft TCP/IP Networking** prompt, click **OK**.

vii. When prompted to restart, click **OK**.

Appendix C…

Troubleshooting Guide

This section provides a step-by-step solutions to problems that you may encounter when setting up or using your ADSL modem.

I am not getting any connection. The modem Power LED lights up and the ADSL Link LED keeps blinking. (The ADSL Link LED does not remain light up.)

Power off your modem and check the following:

i)   Ensure that the Power adapter is tightly fitted into the **DC IN**.

ii) Check that the Telephone cable (RJ-11) is connected to **LINE** jack on your modem and not to the **TEL** jack.

iii) Power on your modem.

If the problem still persist, please check with your Internet Service Provider.

I am getting poor ADSL speed performance from my modem.

i)   Ensure that the **ADSL line** is at least 10cm away from the **Power adapter**. (see Figure C-1. Distance between your ADSL Line and Power adapter)

ii) Place your modem away from devices or appliances such as monitors, exposed computer systems (with chassis covers removed) or another modem which exhibit magnetic fields that may cause interferences to your modem line.

iii) Ensure that **Micro-Filters** are used for phone sockets that are sharing the same ADSL line.

If your modem speed or performance is still unsatisfactory, please contact your Internet Service Provider.
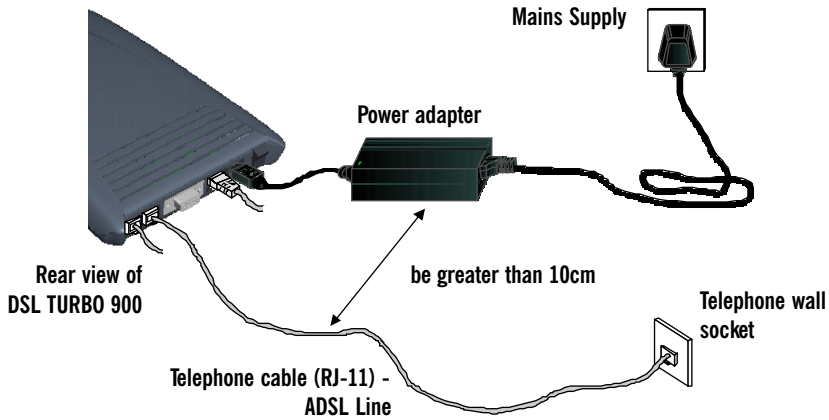
Figure C-1. Distance between your ADSL Line and Power adapter

My WinPoET dialer seems to hang at the status 'Connecting to communications device.'.

Verify the following:

i)   Your modem is connected to the ADSL line.

ii) The Mains Supply at the power adapter is powered on.

iii) The Switch on your modem is at the '**I**' position.

iv) The Ethernet cable is connected from your modem to your Ethernet card. (see **section 4.2 - Connecting DSL TURBO 900**)

For any re-connections made, allow some time for system to re-establish the Internet link. If the connection still fail, please proceed with the next question, '**I am not able to connect to the Internet.**' for further tests.
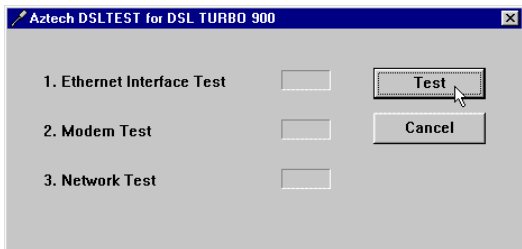
I am not able to connect to the Internet.

Carry out the following test to verify your connections.

> 1. **Please ensure that you have proceeded with Chapter 6 - Configuring Your Network Card before running DSLTEST for DSL TURBO 900.**
>
> 2. **If one of the test failed, subsequent tests will be skipped. Please proceed to fix the problem first before running the test program again.**

1. From your Windows desktop, double-click on **DSLTEST** dsltest.exe icon.

2. Click **Test**. (Table C-2 gives the description of the tests.)

Aztech DSLTEST for DSL TURBO 900	✕
1. Ethernet Interface Test	Test
2. Modem Test	Cancel
3. Network Test	

The tests listed will commence. You should get a **PASS** for all the tests.

Should your test(s) fails, please refer to **Table C-2** for the solution.

| Test	Description	Result=FAIL
Interface test	To test if your driver is installed properly.	Re-install your modem driver.
Modem test	To check if your system is communicating with the modem.	Check with your Internet ADSL Service Provider.
Network test	To check if the Internet connection is ok.	

Table C-2. Test Descriptions.

During the installation of WinPOET, an error message, 'No Microsoft TCP/IP stack installed. Please install the Microsoft TCP/IP stack in Control Panel, Network.' is prompted. *(For Windows® 95 users only)*

You need to install Microsoft TCP/IP before installing WinPOET. Please refer to **section 3.3.1 - Verifying NC2100(Lite) NetCard, step 3** on the installation procedures.

**The following window is prompted when I run WinPoET setup.**
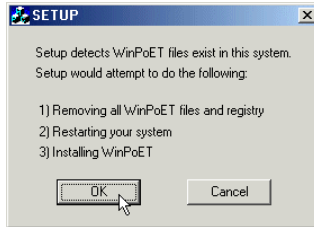
The setup detected that you already have WinPoET installed in your system. It would remove all WinPoET's files and registry entries before reinstalling WinPoET again. Click **OK** to proceed.

I cannot uninstall WinPoET from Add/Remove Programs and reinstall WinPoET again.

Locate a **Clean** folder on your DSL 900E CD-ROM. Double-click on **Clean.exe** from the folder. You should see the following window. Click **OK** to proceed.
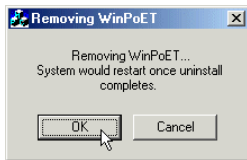
Follow on-screen instructions. Restart your system once the cleaning up of the WinPoET's files and registry entries are completed. You can now reinstall WinPoET again.

A blue screen suddenly popped up, indicating *PgDetect.exe* is the cause of the problem.

Refer to the above solution '**I cannot uninstall WinPoET from Add/Remove Programs and reinstall WinPoET again**' to reinstall your WinPOET.

Appendix D...

Technical Support

D.1   Aztech Sales Enquiries

Hotline   :   (65) 741 7211 (Marketing and Sales Department)

Email   :   sales@aztech.com

Fax   :   (65) 749 1198

Working Hours   :   Monday to Friday - 0900 to 1700
                     Saturday/Sunday/Public Holidays - Closed

D.2   Aztech Technical Support

Hotline   :   (65) 749 2062

Email   :   support@aztech.com

Fax   :   (65) 749 1198

Working Hours   :   Monday to Friday - 0900 to 1700
                     Saturday/Sunday/Public Holidays - Closed

D.3   Technical Support Considerations

Majority of enquiries can be resolved efficiently. However, there may be cases when it is beyond our technical support to assist you. We may not be able to assist you in:

- **Hardware conflicts**

  We will try to discover them and make suggestions but we are unable to repair them over the telephone.

- **Software conflicts**

  Removal of other software and reinstalling our software may be the only solution.

- **O/S problem**

  If you encounter problems like fatal exception or illegal operation, kindly refer to your PC vendor.

- **Modifications made to your software**

  Our technical support officers are trained to support the software we provide as part of our service and they are knowledgable about a wide range of other programs. However, we are unable to support software that has been modified.

Notes