GAN-1021
ADSL MODEM

INSTALL GUIDE

GARNET SYSTEMS CO.LTD

Scaleable ADSL Modem

Installation Guide

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Before you Start!

The Installation Guide tells you everything you need to know to install and use the GAN-1021 ADSL modem card. This guide is designed to walk you through the installation of the GAN-1021 card and drivers, and then through the establishment of an Internet service connection. This is a (3) step process.

Step 1 – **Gather system and service connection information**

Step 2 – **Install the ADSL modem card**

Step 3 – **Install the drivers and establish an Internet service connection**

! **If you're a beginner to the Internet** – or if you're experienced but have never installed an ADSL PCI card before – Start at the beginning and work your way carefully through the instructions. It is important to gather all the information required before you actually install the PCI card and ADSL drivers.

! **If you're familiar with installing PCI cards and drivers** - you may be able to browse the chapters to get the basics - However, it is still important to gather all the information required before you actually install the PCI card and ADSL drivers.

Step 1 – **Gather system and service connection information**

SYSTEM REQUIRMENTS

Make sure your PC system meets **ALL** of the following requirements:

Hardware:

" IBM PC/AT or compatible

" Pentium 500Mhz or faster

" 30Mbytes available hard disk space or more

" 2x CD-ROM drive or better

" 32Mbyte available system memory or more

Software: Your Operating System must be one of the following:

 Microsoft Windows 98, 98SE, 2000

DETERMINING YOUR 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 Compute**r. Then select **Propertie**s. 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.

Version System Description Release Name

Win 98 4.10.1998 Window 98

Win 98A 4.10.2222A 2 nd Edition Windows 98 2 nd Edition

Win 5.00.2195 Windows 2000.

DETERMINING YOUR INTERNET SERVICE PROTOCOL

Your Internet service protocol will be one of the following. Contact your ADSL service provider if you are unsure of your service type.

RFC 1483 Bridged Ethernet over ATM

RFC 2364 Point-to-Point Protocol over ATM

DETERMINING YOUR CONNECTION ADDRESS AND CONFIGURATION

You will need to know the connection address and configuration for your Internet service. Find your Internet Service Protocol below and proceed gathering the connection address and configuration. If you are unsure or do not have all the information, please contact your ADSL service provider.

!

RFC1483 - Bridged Ethernet over ATM service requires the following information:

IP Address **. . .**

Subnet Mask **. . .**

Gateway **. . .**

(Domain Name Service) DNS Host

DNS Domain

DNS Server **. . .**

VPI value

VCI value

VPI = _____ (Default VPI=0)

VCI = _____ (Default VCI=35)

ADSL Mode Type " ANSI T1.413 Issue 2

" ITU G.992.2 Annex A (G.lite)

" ITU G.992.1 Annex A (G.dmt)

！RFC2364 – Point-to-Point Protocol over ATM

User Name

Password

Logon Domain

VPI value

VCI value

VPI = ____ (Default VPI=0)

VCI = ____ (Default VCI=35)

ADSL Mode Type '' ANSI T1.413 Issue 2

'' ITU G.992.2 Annex A (G.lite)

'' ITU G.992.1 Annex A (G.dmt).

Step 2 – Install the ADSL modem card

HARDWARE INSTALLATION

WARNING! To avoid possible damage to your GAN-1021 card you need to use an anti-static grounding device or hold onto the metal chassis of the PC to provide anti-static grounding.

1. Shut down the system and switch the power **off**.

2. Unplug the AC power cable from the PC.

3. Remove the cover from the PC chassis.

4. Unscrew the "slot cover bracket" from an unused PCI slot.

5. Insert the card into an empty PCI slot.

6. Firmly press the GAN-1021 card into the slot and secure the card to the chassis with the chassis bracket screw.

7. Connect one end of a phone cable to the RJ-11 port on the GAN-1021 card and plug the other end of the cable into the ADSL data service.

8. Replace the cover of the PC chassis.

！Before you plug the power cable back into the PC system and turn the power on, go to Step 3 and determine the section/page you need to be on to install the drivers.

Step 3 – Install the drivers and establish an Internet service connection

ADSL CONNECTION MODE SELECTION

The GAN-1021 Multi-Mode Drivers will automatically determine the ADSL connection mode supplied by your ADSL service provider. If for any reason you require a mode setting different from the automatic default setting, you can manually set the mode as required. Please refer to **Appendix E – ADSL Configuration – Select Protocol/Mod**e. The connection mode is one of the following:

" ITU G.992.1 (G.dmt) ....referred to as **G.dmt**

" ITU G.992.2 (G.lite)..............referred to as **G.lite**

" ANSI T1.413 ....referred to as **ANSI**

DRIVER INSTALLATION AND INTERNET SERVICE CONNECTION

Refer to the following chart and locate your connection protocol with your corresponding Operating System (OS). Then proceed to the appropriate section/page.

! **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..

RFC 2364 – POINT TO POINT PROTOCOL OVER ATM – WINDOWS 98, 98A

system and turn the power on.

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

2. Still in the Add New Hardware Wizard. You will be asked **"What do you want Windows to do**?" Select **"Search for the best driver for your devic**e", then click **Next**.

3. Insert the CD labeled **GARNET SYSTEMS CO.LTD. GAN-1021 Drivers** into your systems CD-ROM drive.

4. Then select **Specify a location** and in the text entry bar type in your systems CD drive location letter (**D** for example), followed by a colon (**:**), then a back slash (\ ), followed by the RFC 2364 driver for Windows 98 (**2364w9** x). For example, type in: **D:\2364w9x** Then click **Next**.

5. The **Add New Hardware Wizard** will appear and indicate the **GARNET SYSTEMS CO.LTD. ADSL PCI NIC-GAN-1021**.

Click **Next**.

6. When the **Service Option** window appears, click **Advance**d.

7. The **Service Options** window now displays the **Connection Address**. Enter in the **VPI, VCI** and **Framing** values provided by your ADSL service provider. Click **OK.**

NOTE: The default **Framing** setting is **VC MU**X. However, some ADSL service providers require **LLC/SNA**P. GARNET SYSTEMS CO.LTD. drivers also support **LLC/SNA**P. Please consult your ADSL

service provider if you are unsure of the **Framing** setting or require more information.

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

9. If prompted to insert your Windows CD do so at this time then click **OK.** Enter the <CD drive Letter> and then **:\Win98** (e.g. **D:\Win9**8) and click **OK**.

10. At the conclusion of the **GARNET SYSTEMS CO.LTD. GAN-1021** driver installation, the **Add New Hardware Wizard**

window appears and displays you new **GARNET SYSTEMS CO.LTD. ADSL PCI NIC-GAN-1021**. Click **Finish.**

11. The **System Settings Change** window appears. For the PC system to set up the **GARNET SYSTEMS CO.LTD. GAN-1021**

Drivers, a system **Restart** is required. Click **Ye**s.

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

12. You must now make a dial-up network connection. At the **Task ba**r, click on **Star**t, and then select **Program**s, **Accessorie**s, **Communication**s, followed by **Dial-Up Networkin**g.

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

14. The **Make New Connection** window appears. The default name for the computer you are dialing is **My Connectio**n. However, you can name the connection anything you wish. In the **Select a device** bar, use the scroll down menu to locate the **GARNET SYSTEMS CO.LTD. GAN-1021 ADAPTE**R, then

click **Nex**t.

15. A new **Make New Connection** window appears. Enter in the **Host Name or IP Address** provided by your ADSL service provider, otherwise enter (0) zero, and click **Nex**t.

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

17. The new **"My Connectio**n" will appear in the **Dial-Up Networking** window. Double-click the new **"My Connection"** icon to begin a Dial-Up session.

18. The **Connect To** window appears indicating **"My Connectio**n". Type in the **User name** and **Password** supplied by your Internet Service Provider (ISP). Click **Connec**t.

19. The **Connection Established** window will appear indicating **You are connected to "My Computer"**. Click **Close** and the **Diagnostic tool** icon appears on the task bar.

RFC 2364 – POINT TO POINT PROTOCOL OVER ATM – WINDOWS 2000

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

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

2. Still in the **Found New Hardware Wizar**d, select **Search for a Suitable Devic**e..Click **Next.**

3. Next you will be prompted to software drivers. Select **Specify a locatio**n. Click **Next.**

4. Insert **the GARNET SYSTEMS CO.LTD. ADSL Driver** CD into the System CD-ROM drive. Click **Browse** to locate

the : **2364w**2k driver on your CD-ROM then Click **OK.**

5. The **Found New Hardware Wizard** will then Find the **GARNET SYSTEMS CO.LTD. ADSL PCI NIC-GAN-1021.** Click**Next.**

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

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

8. The Advance **Service Option** appears. In the **Network Protocol and the PVC Settings** section, enter the **VPI/VCI** and **Framing** values supplied by your ADSL service provider.

9. In **the Select ADSL Mode Sectio**n, select the modes(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:

" ITU G.992.1 (G.dmt) ....referred to as **G.dmt**

" ITU G.992.2 (G.lite)..............referred to as **G.lite**

" ANSI T1.413 ....referred to as **ANSI**

10. The **Previous Service Option** window will appear. Click **Next.**

11. The **Found New Hardware Wizard** will prompt that **windows has finished installing the software for this device.** Click **Finish.**

NOTE: You may be asked if you want to restart your computer, if so click **Ye**s. Otherwise you will need to manually restart your computer at this time.

12. On your desktop double-click **My Computer, Control Pane**l, and then **Network and Dial-up Connections.**

13. The **Network and Dial-up Connections** window appears. Double **click on Make a New Connection.**

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

15. Set the Connection option to **Dial-up to Private Networ**k, and then click **Next.**

16. The **Network Connection Wizard** appears. You will be prompted for a phone number. Enter

the phone number provided by your ADSL service provider. Click **Next.**

17. You will be prompted to select your user configuration, typically **only for mysel**f. Click **Next.**

18. The **Network Connection Wizard** appears. You will be prompted to name your Network

Connection. The default is **Dial-up Connectio**n. Rename the connection as you choose and

then click **Finis**h..**GAN-1021 Installation Guide**

19. The **Connect My Connection** window will appear. Enter your **User Name** and **Password**

supplied by your ADSL service provider. You are now ready to make a network connection.

Click **Dial.**

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

RFC 1483 – BRIDGED ETHERNET OVER ATM – WINDOWS 98, 98A

After installing the **GARNET SYSTEMS CO.LTD. GAN-1021** card, plug the power cable back into

the PC system and turn the power on.

1. The **Add New Hardware Wizard** will detect the GARNET SYSTEMS CO.LTD. GAN-1021 as a **PCI**

Network Controller,

click **Next.**

2. Still in the **Add New Hardware Wizard** you will be prompted **What do you want Windows**

to do? Select the **Search for the best driver for your devic**e. Click **Nex**t.

3. Again in the **Add New Hardware Wizar**d, select the **Specify a location** option and then type

in your systems CD drive location letter (**D** for example), followed by a colon (**:**), then a

back slash (\ ), followed by the RFC1483 driver for Windows 98 (**1483w9** x). For example,

type in: **D:\1483w9x** Then click **Nex**t.

4. The **Add New Hardware Wizard** will then find the **GARNET SYSTEMS CO.LTD. ADSL PC**

NIC-GAN-1021, click **Nex**t.

5. When the **Service Option** window appears, click **Advance**d.

6. The **Service Options** window now displays the **Connection Addres**s. Enter in the **VPI** and

VCI values provided by your ADSL service provider. Make sure the **Framing** is set to

LLC/SNAP. Click **OK**.

NOTE: The default **Framing** setting is **LLC/SNA**P. However, some ADSL service providers

require **VC MU**X. GARNET SYSTEMS CO.LTD. drivers also support **VC MU**X. Please consult your

ADSL service

provider if you are unsure of the **Framing** setting or require more information.

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

NOTE: During the installation process you may be asked to insert your Windows 98 CD.

Insert the **Windows 98 CD** into your systems CD drive and click **OK**. If during the file

copying process a file is reported as "not found" enter the path <CD Drive letter> and

:\Win98 (e.g. **D:\Win9**8)

8. The **Add New Hardware Wizard** appears, click **Finish.**

9. When the System Settings Change window appears and asks; **Do you want to restart your**

computer now? Click **Ye**s.

NOTE: You must now make an Internet connection

10. Double click **My Compute**r, **Control Pane**l, and then **Networ**k.

11. In the **Network** window, select the **Configuration** tab.

12. Scroll through the installed network components list. Highlight the **TCP/IP-> GARNET SYSTEMS**

CO.LTD. ADSL

PCI NIC-GAN-1021 and click **Propertie**s.

13. The **TCP/IP Properties** window appears. Select **IP Address** tab. Select **Specify an IP**

address. The **IP address** and **Subnet Mask** will turn from gray to clear. Enter your **IP**

Address and **Subnet Mask** provided by your ADSL service provider.

14. Select the **Gateway** tab. Enter your gateway information provided by your ADSL service

provider into the **New gateway** box and click **Ad**d. If you have more than one gateway

number, repeat this step.

15. Select **DNS Configuration** tab. Select the **Enable DNS** option.

NOTE: You now need to have available the **Hos**t, **Domain** and **DNS** settings provided by

your ADSL service provider.

16. Enter your host name into **Host:** box.

17. Enter your domain name into **Domain:** box.

18. Enter **DNS** number into **DNS Server Search Order** box and click **Ad**d. If you have more

than one **DNS** numbers, repeat this step.

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

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

21. The **System Setting Change** window appears. You will be asked if you want to restart your

computer. Click **Ye**s.

RFC 1483 – BRIDGED ETHERNET OVER ATM – WINDOWS 2000

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

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

2. Still in the **Found New Hardware Wizar**d, select **Search for a Suitable Devic**e. Click **Next.**

3. Next you will be prompted to software drivers. Select **Specify a locatio**n. Click **Next.**

4. Insert **the ADSL Driver** CD into the System CD-ROM drive. Click **Browse** to locate the : **2364w**2k driver on your CD-ROM then Click **OK.**

5. The **Found New Hardware Wizard** will then Find the **GARNET SYSTEMS CO.LTD. ADSL PCI NIC-GAN-1021.** Click **Next.**

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

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

8. The Advance **Service Option** appears. In the **Network Protocol and the PVC Settings** section, enter the **VPI/VCI** and **Framing** values supplied by your ADSL service provider.

9. In **the Select ADSL Mode Sectio**n, select the modes(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:

" ITU G.992.1 (G.dmt) ....referred to as **G.dmt**

" ITU G.992.2 (G.lite).............referred to as **G.lite**

" ANSI T1.413 ....referred to as **ANSI**

10. The **Previous Service Option** window will appear. Click **Next.**

11. The **Found New Hardware Wizard** will prompt that **windows has finished installing the software for this device.** Click **Finish.**

NOTE: You may be asked if you want to restart your computer, if so click **Ye**s. Otherwise you will need to manually restart your computer at this time.

12. On Desktop Double-click **My Computer, Control Pane**l, and then **Network and Dial-up Connections.**

13. The **Network and Dial-up Connections** window appears. Right-click on the **Local Area Connection** for your **GARNET SYSTEMS CO.LTD. ADSL PCI NIC- GAN-1021.**

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

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

16. The previous **General Tab** window appears. Click **OK.GAN-1021 Installation Guide**

17. The **Network and Dial-up Connection** window appear**s. Close** this window and your connection is complete.

APPENDIX A - EDITING RFC 2364 INTERNET SERVICE CONNECTION W98, 2000

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 addres**s, select and enter the VPI and VCI address in the field shown and click **PVC Settin**g.

4. To accept a **Connection Address** that has been changed **(Restart** the PC system) click **Ye**s.

APPENDIX B - EDITING RFC 1483 INTERNET SERVICE CONNECTION W98

NOTE: This section includes the IP configuration specifics for Windows 98, 98SE. Windows 98 is slightly different from that of Windows 98SE. Other than minor screen differences, the process for editing the IP address settings is the GAN-1021e for Windows 98 and Windows 98SE.

1. At the desktop, double click **My Compute**r, 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 **Propertie**s.

2. Select the **Protocols** tab of the network window. Select **TCP/IP** Protocol and click **Propertie**s.

3. Select the **IP address** option and note that the IP Address and Subnet Mask regions will turn from gray to active.

4. Enter the IP Address (e.g. 192.168.4.39) and subnet mask (e.g. 255.255.255.0).

5. The Default Gateway is also entered in this window.

NOTE: Please refer to your ADSL service provider and enter (or edit) the following fields:

6. Enter the **Host Name** (e.g. GAN-1021) and **Domain** (e.g. pacbell.net).

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.

7. Click **OK** to update the changes.

EDITING RFC 1483 INTERNET SERVICE CONNECTION W2000

1. At the Desktop, Right Click **My Network Place**s, select and click on **Propertie**s.

2. The **Network and Dial-up Connections** window appears, Right click on the **Local area**

Connection and select **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 then the Subnet mask (e.g. 255.255.255.0).

6. The Default Gateway is also enter in this window.

7. Enter the Preferred **Domain address (DNS)** server, and Alternate **(DNS)** server, provided

by your ADSL service provider, Click OK to update the Changes..

APPENDIX C – REMOVING DRIVERS

WINDOWS 98

1. To Delete **GARNET SYSTEMS CO.LTD. GAN-1021** drive**rs;** on the desktop, right-click on **My**

Computer, then select

Properties, click on the **Device Manager** tab, then double click **Network adapter**s.

2. Select the **GARNET SYSTEMS CO.LTD. ADSL PCI NIC-GAN-1021**, 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 **Ye**s.

WINDOWS 2000

1. On the desktop, right click on **My Computer.**

2. Select **Propertie**s, the system window appears.

3. Select the **Hardware Ta**b, and click on the **Device Manager** button.

4. Double click on **Network Adapter**s.

5. Select the **GARNET SYSTEMS CO.LTD. ADSL PCI NIC-GAN-1021**, 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..

APPENIDX D - DIAGNOSTIC TOOLS

ACCESSING THE DIAGNOSTIC TOOLS: The diagnostic tools allow 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 line rates of the ADSL connection are displayed.

The Diagnostic Tools 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 or handshaking. Check your cable connections.

Black/Yellow flashing ADSL Handshaking – Connection not established.

Black, Black ADSL connection established – no data traffic or idle connection

Black, Green ADSL connection established – receiving data (TX/off, RX/on)

Green, Black ADSL connection established – transmitting data (TX/on, RX/off)

Green, Green Connection established – transmitting and receiving data (TX/on, RX/on)

Disconnected or a driver problem exists. Try using **Connect** command in

Diagnostic Tools. If persists, **restart** the PC system and/or last reload drivers.

ADVANCED DIAGNOSTICS TOOLS

Right-click the **Diagnostic Tools** icon on the right hand side of the status bar to display the menu, then Click **Open**.

The **ADSL Diagnostic Tools** window appears on the desktop. The three tabs of the Diagnostic Tools are **ADSL Status**, **ATM / ADSL Statistics** and **Diagnosis**.

ADSL STATUS

window displays the

current state of the GARNET SYSTEMS CO.LTD. ADSL connection,

including current ADSL State, ADSL rotocol in use and the net data rates for upstream and downstream

data.

NOTE: ADSL protocols supported by the GARNET SYSTEMS CO.LTD.

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 GARNET SYSTEMS CO.LTD. drivers use the protocol that results in

the most efficient ADSL connection..

ATM / ADSL STATISTIC window keeps tabs on errors that might affect overall system performance.

The counts are reset whenever the PC system is restarted.

Re-training Count tracks the number of ADSL connections performed. Due to unexpected line condition

changes, the GARNET SYSTEMS CO.LTD. 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 Receive** d. An error rate of less than 0.1% is reasonable under clean

ADSL line conditions.

. If you have Bad Received Packets and are concerned about your service, multiply the **Bad Received**

Packets count by 1000 and compare the result with the total **Packets**

Received count. If the number is smaller than the total **Packets Received** count, then the board is

operating normally.

DIAGNOSIS window is used to verify the GAN-1021 card functionality. Running the Diagnosis

program will disconnect the NIC from the ADSL line.

Close all Dial-up sessions and close all files before running the Diagnostic program. Right-click the

Diagnosis Tool icon (located on the Taskbar), then select the Diagnosis option.

Product Information, e.g. driver revisions, are displayed by clicking the Product Infotab.

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

iagnostic program performs a brief hardware check and displays the hardware status.

If the GAN-1021 fails the Diagnostic tests (shown below), then record the test result and contact customer

support..

CONNECTOR PIN-OUT

The GARNET SYSTEMS CO.LTD. GAN-1021 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 GAN-1021 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..

APPENDIX E – ADSL CONFIGURATION

1. On the task bar on the right hand side locate the **GARNET SYSTEMS CO.LTD. ADSL Diagnostic**

Tool icon. Right

click on the **Diagnostic Tool** icon, then click **Configuratio**n.

2. The **Configuration** window appears. From the Configuration window the **PVC Setu**p,

Protocol /Mode and **Rate** can all be set as required by your ADSL service provider.

PVC SETUP

NOTE: Your ADSL PVC settings are typically set through the **Systems Options** window of the driver

installation wizard. However, the values can easily be changed as follows:

1. Enter in the **VPI** and **VCI** and Framing values provided by your ADSL service provider, then click the

Setting button.

2. Verify that the **Protocol/Mode** and **Rate** settings are correct and the click **Clos**e.

! **SELECT PROTOCOL/MODE**

NOTE: The GAN-1021 Multi-Mode Drivers will automatically determine the ADSL connection

mode supplied by your ADSL service provider. The priority of selection is G.lite, G.dmt, and

T1.413. If for any reason you require a mode setting different from the automatic default

setting, you can manually set the mode(s) as required. To change the ADSL connection mode

setting proceed as follows:

1. In the **Select Protocol & Rate** section you shall find the ADSL Mode selection options. Select the ADSL mode(s) you require, by clicking in the selection box(s).

" ITU G.992.1 (G.dmt) ....referred to as **G.dmt**

" ITU G.992.2 (G.lite)..............referred to as **G.lite**

" ANSI T1.413 ....referred to as **ANSI**

2. After you select and check the mode(s) you require, click **Set Protocol & Rat**e. Your new ADSL Mode settings are now in effect.

3. Verify that the **PVC** and **Rate** settings are correct and the click **Clos**e.

! **SELECT RATE**

NOTE: The default downstream rate of 1.5Mbps is recommended, as the majority of service providers today supply 1.5Mbps. This allows for video streaming of about 1Mbps resulting in A CPU utilization of under 30% @ 300 MHz. However, for higher speed ADSL service and /or CPU' s, the rate can be increased. The rates can be easily be changed as follows:

1. To change the rate settings enter in the **Downstream Rate** and **Upstream Rate** required, then click the **Set Protocol & Rate** button.

2. Verify that the **Protocol/Mode** and **PVC** settings are correct and the click **Clos**e..

APPENDIX F - SYSTEM REQUIREMENTS

Power Requirements

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

Environmental Requirements

  Operating Temperature: 0 °C to 70C 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