

# **Model : IA-300**

ADSL PC Network Interface Modem

Installation Guide

Microsoft Windows 95, 98, and NT4.0

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## SYSTEM REQUIREMENTS

Make sure your PC system meets **ALL** of the following minimum hardware and software requirements:

### Hardware:

- 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

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

- ✓ Microsoft Windows 95.x – 95A, 95B
- ✓ Microsoft Windows 98.x – 98, 98A
- ✓ Microsoft Windows 98 2<sup>nd</sup> Edition
- ✓ Microsoft NT – NT 4.0 Service Pack 3



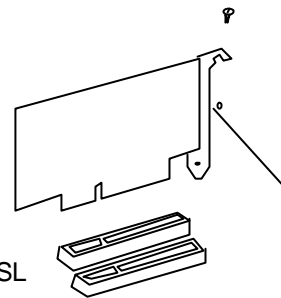
## BEFORE INSTALLATION

If you are installing PPPoA service for Win95A, 95B or Bridged Ethernet service for Win95A, you need to upgrade your Dial-Up Networking (DUN) application to version 1.3 or above. Please refer to **Appendix A** on how to upgrade your system's DUN.

## HARDWARE INSTALLATION

**WARNING!** To avoid possible damage to your IA-300 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 IA-300 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 IA-300 card and plug the other end of the cable into the ADSL data service.
8. Plug the power cable back into the PC system.
9. Power-up the PC and proceed to software installation.



## SOFTWARE INSTALLATION AND SERVICE CONFIGURATION

**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. Some systems may have already installed the CAB files to the hard drive, but you should have the Microsoft CD handy just in case.

### TO INSTALL POINT TO POINT PROTOCOL OVER ATM (RFC 2364) SERVICE

- ⇒ Win95A go to page 2
- ⇒ Win95B go to page 3
- ⇒ Win98, 98A go to page 4
- ⇒ NT 4.0 go to page 6

### TO INSTALL BRIDGED ETHERNET PROTOCOL OVER ATM (RFC 1483) SERVICE

- ⇒ Win95A go to page 11
- ⇒ Win95B go to page 12
- ⇒ Win98, 98A go to page 13
- ⇒ NT 4.0 go to page 15

### TO INSTALL CLASSICAL IP PROTOCOL OVER ATM (RFC 1577) SERVICE

- ⇒ Win98 SE go to page 9

### **POINT TO POINT SERVICE FOR WINDOWS 95A**

1. After installing the **IA-300** card, power on the PC system. The **Hardware Wizard** will detect the card as a **PCI Network Controller**. Select the Driver from disk provided by hardware manufacturer option. Click **OK**.
2. Insert the **IA-300 Driver** CD into the CD-ROM drive.
3. The **Install From Disk** window appears. Enter the <CD drive letter>:\Drivers\Win95\_98\ PPPoA (e.g. D:\Drivers\Win95\_98\PPPoA), then click **OK**.
4. When the **Service Option** window appears, click **Next** for the default installation (VPI=0, VCI=35, Framing=VC MUX). For **Advanced** settings, please consult your ADSL service provider for detailed information.

**NOTE:** If you clicked **Advanced**, the **Service Options** window shows the **Connection Address**. Enter the service **Connection Address**, click **OK**. The previous **Service Option** window will appear, click **Next**.

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

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

5. At the conclusion of the IA-300 driver installation, the Diagnostic Tools icon is active and monitoring connectivity. The **Diagnostic Tools** – found on the task bar – with blinking (or solid) **Black or Green** lights indicates a good connection. **Diagnostic Tools** with **Red** lights indicate a connection error or driver load error. Verify that the cable is properly connected to the data port of the service and the IA-300 card.
6. You must now make a network connection, **go to page 8**.

**POINT TO POINT SERVICE FOR WINDOWS 95B**

1. After installing the **IA-300** card, power-up the PC system. The Hardware wizard will detect the **IA-300** as a **PCI Network Controller**, click **Next**.
2. Insert the CD labeled **IA-300 Driver** into your CD-ROM drive. Then click **Other Locations**.

**NOTE** If the driver is not detected, click **Back**, insert the **IA-300 Driver** CD, then click **NEXT**.

3. When the **Select Other Location** window appears, enter <CD drive letter>\Driver\PPPoA9x (e.g. D:\Driver\PPPoA9x) and click **OK**.
4. The **Update Device Driver Wizard** window appears. Click **Finish**. The **Insert Disk** window appears. Click **OK**.
5. The **Copying Files** window appears. Enter <CD drive letter> \Driver\PPPoA9x (e.g. D:\Driver\PPPoA9x) and click **OK**.
6. When the **Service Option** window appears, click **Next** for the default installation (VPI=0, VCI=35, Framing=VC MUX). For **Advanced** settings, please consult your ADSL service provider for detailed information.

**NOTE:** If you clicked **Advanced**, the **Service Options** window shows the **Connection Address**. Enter the service **Connection Address**, click **OK**. The previous **Service Option** window will appear, click **Next**.

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

7. The **Copying Files** window will now appear. Enter <CD driver letter>:\WIN95 (e.g. D:\WIN95) and click **OK**.
8. At the conclusion of the IA-300 driver installation, the Diagnostic Tool icon is active and monitoring connectivity. **Diagnostic Tool** with blinking or solid **Black or Green** lights indicates a good connection. **Diagnostic Tool** with **Red** lights indicates a connection error or driver load error. Verify that the cable is properly connected to the data port of the service and IA-300 card.
9. You must now make a network connection, **go to page 8**.

### POINT TO POINT SERVICE FOR WINDOWS 98, 98A

1. After installing the **IA-300** card and restarting the system, the **Add New Hardware Wizard** window will automatically appear and indicate that a new **PCI Network Controller** has been found. Click **Next**.
2. Then select **Search for the best driver for your device. (Recommended)**, click **Next**.
3. Insert the CD labeled **IA-300 Driver** into your CD drive.
4. Then select **Specify a location** and enter <CD drive letter>\Drivers\Win98SE\PPPoA (e.g. D:\Drivers\Win98SE\PPPoA) and click OK. Click **Next**.
5. The **Add New Hardware Wizard** will find the **ITeX ADSL PCI NIC**. Click **Next**.
6. When the **Service Option** window appears, click **Next** for the default installation (VPI=0, VCI=35, Framing=VC MUX). For Advanced settings, please consult your ADSL service provider for detailed information.

**NOTE:** If you clicked **Advanced**, the **Service Options** window shows the **Connection Address**. Enter the service **Connection Address**, click **OK**. The previous **Service Option** window will appear, click **Next**.

**NOTE** Additional files are copied from the IA-300 CD to the hard drive. In addition, files are now copied from the Windows CD (system CAB files) to the hard drive.

7. If prompted to insert the CD do so at this time then click **OK**. Enter the <CD drive Letter>:\Win98 (e.g. D:\Win98) and click **OK**.
8. At the conclusion of the IA-300 driver installation, the **Add New Hardware** window appears. Click **Finish**.
9. For the PC system to properly set up the IA-300, a system **Restart** is required. Click **Yes**  
  
**NOTE** After restarting the system, the Diagnostic Tools icon is active and monitoring connectivity. The **Diagnostic Tools** – found on the task bar – with blinking (or solid) **Black or Green** lights indicate a good connection. **Diagnostic Tools** with **Red** lights indicate a connection error or driver load error. To use **Diagnostic Tools**, right click the icon and then select **Diagnostic**. Click **Run Diagnostic**.
10. You must now make a dial-up network connection. At the task bar, click on the **Start** icon, and then select **Programs, Accessories, Communications**, followed by **Dial-Up Networking**.
11. The **Make New Connection** window appears. Double-click the **Make New Connection** icon. Enter a connection name (e.g. **My Connection**). At the **select a device** option, use the scroll down menu to locate **ITeX ADSL PCI NIC**, then click **Next**.
12. Enter the **Host Name** or **IP Address** if provided by your ISP, otherwise enter (0) zero, and then click **Next**.
13. **Make New Connection** is complete. Click **Finish**.
14. The new connection will appear in the Dial-Up Networking window.
15. Double-click the **My Connection** icon to begin a Dial-Up session.

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16. Enter the **User Name** and **Password** supplied by the Internet service provider. Click **Connect**.
17. The message **Logging on to network** confirms a valid **user name**, **password**, and **VPN IP address**. Please wait for the Connection Established window before proceeding.

**Note:** If logon domain is required, enter **username**, **password** and logon **domain** supplied by your ISP.

18. The **PPPoA** service connection is now established. Click **Close** and the **PPPoA** icon appears on the task bar

**NOTE** The default installation ADSL mode is **ANSI T1.413 Issue 2** or **ANSI**. If your ISP is providing a different mode then you need to change the setting

19. On the right-hand side of the task bar, right click on the **Diagnostic Tools** icon. Then select **Configuration**.
20. The **Configuration** window appears. Select the **ADSL Mode** option and then select the ADSL mode type provided by your ISP. The service mode type will be one of the following:

- ITU G.992.1 Annex A (G.dmt) .....referred to as **G.dmt**
- ITU G.992.2 Annex A/B (G.lite).....referred to as **G.lite**
- ANSI T1.413 Issue 2.....referred to as **ANSI**

21. After you select and **check** your ISP' s service mode, click **Set**.

**Congratulations, you are done. Your IA-300 ADSL card the Internet is established!**

### **Point to point Service for windows nt 4.0**

**NOTE** To perform the installation logon as **Administrator**. Also the TCP/IP protocol must be installed prior to the driver installation.

1. At the desktop, double click **My Computer**, then double click **Control Panel**.
2. In the Control Panel window, double click the **Network** icon then select the **Adapters** tab.
3. Click **Add** (to add new adapters).
4. In the Select Network Adapter window click Have Disk.
5. Insert the **IA-300 Driver** CD into the CD-ROM drive, enter the < CD drive letter>\Drivers\NT40\PPPoA (e.g. D:\Drivers\NT40\PPPoA), then click **OK**.
6. The **Select OEM Option** window will find the **ITeX ADSL PCI NIC** driver, Click **OK**. The system will copy the drivers to the hard drive.
7. When the **Service Option** window appears, click **Next** for the default installation (VPI=0, VCI=35, Framing=VC MUX). For Advanced settings, please consult your ADSL service provider for detailed information.

**NOTE:** If you clicked **Advanced**, the **Service Options** window shows the **Connection Address**. Enter the service **Connection Address**. Click **OK**. The previous **Service Option** window will appear, click **next**.

8. Next the Remote Access Services (RAS) will need to be installed. Click **OK** to continue.
9. Insert the Windows NT4.0 CD into the drive and in the space provided enter the path <CD drive letter>\i386 (e.g. D:\i386) then click **Continue**.
10. The **Add RAS Device** window appears. Click **OK**
11. The **Remote Access Setup** will appear showing **ITeX1 itexwana ....** Click Network to display the network configuration.
12. Select the protocol (e.g. TCP/IP), if a protocol has not been loaded the Windows NT 4.0 CD will be required. Click **OK**. Then click **Continue**.
13. The **Network** window will appear at the conclusion of the installation to confirm installation of the IA-300 card.
14. Click on **Protocols** tab and verify that the **ADSL Management and Monitor Interface** is present.
15. Still in the Network window, click on the **Services** tab to verify that the **Remote Access Service** is present. Click **Close**.

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

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



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16. The PC system needs to be restarted for the changes to take effect. Click **Yes**
17. After the system restarts the Diagnostic Tools icon will appear on the task bar. When the IA-300 card is connected to the ADSL data port, both panels of the icon will appear black signifying an ADSL connection.
18. To begin a dial-up connection, double-click **My Computer**, then double-click **Dial-Up Networking**.
19. If this is the first dial-up connection created enter an area code (e.g. 408) for your region, then click **Close**. If this is not your first dial-up, go to step 23.
20. Click **OK** to create a phonebook entry for a first time dial-up connection.
21. Enter a name for the phonebook entry (e.g. MyDialUpServer) and click **Next**.
22. When the **Server** window appears click **Next**.
23. The **Dial-Up Networking** window prompts for the phone number of the dial-up server. Unless instructed to enter a phone number by the ISP, enter zero "0" Still at the **Dial-Up Networking** window, click **More**.
24. The **Edit Phonebook Entry** window appears. Select the **Security** tab and verify that "**Accept only Microsoft encrypted authentication**" is selected. Click **OK**. The previous **Dial-Up Networking** window appears, click **Dial**.
25. The **Connect to MyDialUpServer** window appears. Enter the **User name**, **Password** and **Domain**, then click **OK**.

**NOTE** Refer to you ADSL Worksheet for this information or contact your ISP provider.

**NOTE** The text "**Verifying username and password..**" will be displayed while logon authentication takes place.

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

26. This window is displayed at the completion of a successful Dial-Up logon. Choose a display behavior and click **OK** to close.

**NOTE** The default installation ADSL mode is **ANSI T1.413 Issue 2** or **ANSI**. If your ISP is providing a different mode then you need to change the setting

27. On the right-hand side of the task bar, **right** click on the **Diagnostic Tools** icon. Then select **Configuration**.
28. The **Configuration** window appears. Select the **ADSL Mode** option and then select the ADSL mode type provided by your ISP. The service mode type will be one of the following:
  - ITU G.992.1 Annex A (G.dmt) .....referred to as **G.dmt**
  - ITU G.992.2 Annex A/B (G.lite).....referred to as **G.lite**
  - ANSI T1.413 Issue 2.....referred to as **ANSI**
29. After you select and **check** your ISP' s service mode, click **Set**.

**Congratulations, you are done. Your IA-300 ADSL card the Internet is established!**

## PPPoA ADSL NETWORK CONNECTION

**NOTE** This section is for Win95A, 95B and 98 users only.

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

**NOTE:** Another dialog window may prompt for the entry of the **Area Code** if this is a first time Network connection. Enter the Area code and click **OK**.

2. Double-click on the **Make New Connection** icon.
3. Enter the connection name (**e.g. My Connection**) and set the connection device to **ITeX ADSL PCI NIC**.

**NOTE:** use the scroll down menu to locate the **ITeX ADSL PCI NIC**; then click **Next**.

4. Enter the **Host Name** or **IP Address**, if provided by your ISP, otherwise enter (0) zero, and then click **Finish**.
5. The new connection will appear in the **Dial-Up Networking** window. Double-click the **My Connection** icon to begin a Dial-Up session.
6. Enter the **User Name** and **Password** supplied by the Internet service provider. Then click **Connect**.

**NOTE** The Virtual Private Network server name (or IP address) has been previously entered.

7. The Connection window reports the status of a connection. The message Logging on to network confirms a valid connection.

**NOTE** If logon domain is required, enter **username**, **password** and logon **domain** supplied by your ISP.

8. The PPPoA service connection is now established. Click **Close** and the **PPPoA** icon is transferred to the task bar.

**NOTE** The default installation ADSL mode is **ANSI T1.413 Issue 2** or **ANSI**. If your ISP is providing a different mode then you need to change the setting

9. On the right-hand side of the task bar, right click on the **Diagnostic Tools** icon. Then select **Configuration**.
10. The **Configuration** window appears. Select the **ADSL Mode** option and then select the ADSL mode type provided by your ISP. The service mode type will be one of the following:
  - ITU G.992.1 Annex A (G.dmt) .....referred to as **G.dmt**
  - ITU G.992.2 Annex A/B (G.lite).....referred to as **G.lite**
  - ANSI T1.413 Issue 2.....referred to as **ANSI**
11. After you select and **check** your ISP' s service mode, click **Set**.

**Congratulations, you are done. Your IA-300 ADSL card the Internet is established!**

## IP OVER ATM SERVICE FOR WINDOWS 98 2ND EDITION

**NOTE** This section is for Windows 98 2<sup>nd</sup> Edition only.

1. After installing the **IA-300** card and restarting the system, the **Add New Hardware Wizard** window will automatically appear and indicate that a new **PCI Network Controller** has been found. Click **Next**.
2. Then select **Search for the best driver for your device.(Recommended)**., click **Next**.
3. Insert the CD labeled **IA-300 Driver** into your CD-ROM drive.
4. Then select **Specify a location** and enter <CD drive letter>:\Drivers\Win98SE\IPoA (e.g. D:\Drivers\Win98SE\IPoA) and click **Next**.
5. The Add New Hardware Wizard will find the **ITeX ADSL PCI NIC**, click **Next**.
6. When the **Service Option** window appears, click **Next** for the default installation (VPI=0, VCI=35, Framing=LLC/SNAP). For Advanced settings, please consult your ADSL service provider for detailed information.

**NOTE:** If you clicked **Advanced**, the **Service Options** window shows the **Connection Address**. Enter the service **Connection Address**, click **OK**. The previous **Service Option** window will appear, click **Next**.

7. Additional files are copied from the **IA-300** disk to the hard drive. In addition, files are now copied from the Windows CD (system CAB files) to the hard drive.
8. If prompted to insert the CD do so at this time then enter the <CD drive Letter>: Win98 (e.g. D:\Win98) and click **OK**.
9. At the conclusion of the **IA-300 driver** installation, click **Finish**.
10. For the PC system to properly set up the **IA-300**, a system **Restart** is required. Click **Yes**
11. After restarting the system, the Diagnostic Tools icon is active and monitoring connectivity. The **Diagnostic Tools** – found on the task bar – with blinking (or solid) **Black or Green** lights indicate a good connection. **Diagnostic Tools** with **Red** lights indicate a connection error or driver load error. Verify that the cable is properly connected to the data port of the service and Speed Touch PC card.

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12. You must now make a network connection. From the **Start** menu on the tool bar, select **Settings, Control Panel**, and then double click on the **Network** icon.
  13. When the **Network** window appears select the **Configuration** tab, scroll the installed network component window and select **TCP/IP →ATM Emulated LAN**. Still in the Network window, click on the **Properties** button. Select the **Advanced** tab, and change the "Allow Binding to ATM" value to **Yes** Click **OK**.
  14. The **Network** window appears. Select the **Configuration** tab, scroll the installed network component window and select **ITeX ADSL PCI NIC**, click **Add**.

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15. The **Select Network Component Type** window appears. Select **Protocol**, and click **Add**. The **Select Network Protocol** window appears. In the **Manufactures** section, select **Microsoft**. In the **Network Protocols** section, select **TCP/IP** then click **OK**.
16. Back at the **Network** window, scroll through the installed network component window and select **TCP/IP → ITeX ADSL PCI NIC**.

**NOTE:** If the **TCP/IP → ITeX ADSL PCI NIC** is not found, click **Add**, select **Adapter**, click **Add**, select **Microsoft** from the manufacturer window, select **Dial up Adapter** from the network adapter window, click **OK**.

17. Still at the **Network** window, click the **Configuration** tab, select **TCP/IP → ITeX ADSL PCI NIC**. Then click the **Properties** button.
18. 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.
19. To setup a new gateway, select the **Gateway** tab enter, the setting in the **New Gateway** section and click **Add**.
20. To configure the Domain Name Server. Enter **DNS Configuration** select the **Enable DNS** option. Enter the Host and Domain settings. Enter the DNS Server Search Order and click **Add**.
21. Once all the TCP/IP properties have been set, click **OK** to return to the Network window.
22. Click **OK** to close the Network window.
23. When prompted "Do you want to restart your computer now?" Click **Yes**.

**NOTE** The default installation ADSL mode is **ANSI T1.413 Issue 2** or **ANSI**. If your ISP is providing a different mode then you need to update the drivers.

### **Bridged Ethernet service for Windows 95A**

1. After installing the **IA-300** card, power on the PC system. The Hardware Wizard will detect the **IA-300** as a **PCI Network Controller**. Select the **Driver from disk provided by hardware manufacturer** option.
2. Insert the **IA-300 Driver** CD into the CD-ROM drive.
3. The **Install From Disk** window appears. Enter the <CD drive letter>:\Drivers\Win95\_98\BEoA (e.g. D:\Drivers\Win95\_98\BEoA), then click **OK**.
4. When the **Service Option** window appears, click **Next** for the default installation (VPI=8, VCI=35, Framing=LLC). For Advanced settings, please consult your ADSL service provider for detailed information.

**NOTE:** If you clicked **Advanced**, the **Service Options** window shows the **Connection Address**. Enter the service **Connection Address**, click **OK**. The previous **Service Option** window will appear, click **Next**.

**NOTE:** If prompted, insert your Windows 95 CD into the drive and click **OK**.

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

5. At the conclusion of the IA-300 driver installation, the **Diagnostic Tool icon** will appear disabled on the task bar. You must now **Restart** the PC system to complete the installation; the Diagnostic Tool will then become active.
6. Proceed to Bridged Ethernet ADSL Service Configuration, page 14.

**BRIDGED ETHERNET SERVICE FOR WINDOWS 95B**

1. After installing the **IA-300** card, power-up the PC System.
2. The Hardware wizard will detect the **IA-300** as a **PCI Network Controller**, click **Next**. Insert the **IA-300 Driver** CD into the CD-ROM drive. Click **Other Locations**.
3. When **Select Other Location** window appears, enter <CD drive letter>:\Drivers\Win95\_98\BEoA (e.g. D:\Drivers\Win95\_98\BEoA) and click **OK**.
4. The **Update Device Driver Wizard** window appears. Click **Finish**. The **Insert Disk** window appears. Click **OK**.
5. The **Copying Files** window appears, enter <CD drive letter>:\Drivers\Win95\_98\BEoA (e.g. D:\Drivers\Win95\_98\BEoA) and click **OK**.
6. When the **Service Option** window appears, click **Next** for the default installation (VPI=8, VCI=35, Framing=LLC). For Advanced settings, please consult your ADSL service provider for detailed information.

**NOTE:** If you clicked **Advanced**, the **Service Options** window shows the **Connection Address**. Enter the service **Connection Address**, click **OK**. The previous **Service Option** window will appear, click **Next**.

**NOTE:** If your **Windows 95B** CD is not already in the drive, then the **Insert Disk** window will appear. Insert the **Windows 95B** CD in the drive now. Then click **OK**.

7. The **Copying Files** window will now appear. Enter <CD drive letter>:\Win95 (e.g. D:\Win95) and Click **OK**.
8. Proceed to Bridged Ethernet ADSL Service Configuration, page 14.

### **BRIDGED ETHERNET FOR WINDOWS 98, 98A**

1. After installing the **IA-300** card and restarting the system, the **Add New Hardware Wizard** window will automatically appear and indicate that a new **PCI Network Controller** has been found. Click **Next**.
2. Then select **Search for the best driver for your device**. Click **Next**.
3. Insert the CD labeled **IA-300 Driver** into your CD-ROM drive.
4. Then select Specify a location, enter <CD drive letter>:\Drivers\Win95\_98\BEoA (e.g. D:\Drivers\Win95\_98\BEoA) and Click **Next**.
5. The **Add New Hardware Wizard** will find the **ITeX ADSL PCI NIC**. Click **Next**.
6. When the **Service Option** window appears, click **Next** for the default installation (VPI=8, VCI=35, Framing=LLC/SNAP). For **Advanced** settings, please consult your ADSL service provider for detailed information.  
  
**NOTE:** If you click **Advanced**, the **Connection Address** window appears. Enter the Service connection address, click **OK**. The previous **Service Options** window will appear, click **Next**.  
  
**NOTE:** If prompted, insert your Windows 98 CD-ROM into the drive and click **OK**.
7. When the **Add New Hardware Wizard** appears, click **Finish**.
8. When the **System Settings Change** window appears and asks, "Do you want to restart your computer now?" Remove the driver CD and click **Yes**.
9. Proceed now to Bridged Ethernet ADSL Service Configuration, page 14.

## BRIDGED ETHERNET ADSL SERVICE CONFIGURATION

This section describes how to configure the ADSL network service when your PC is running Microsoft Windows 95A, 95B, 98, 98A.

1. Double click **My Computer, Control Panel**, and then **Network**.
2. In the **Network** window, select the **Configuration** tab.
3. Scroll through the installed network components list. Highlight the **TCP/IP-> ITeX ADSL PCI NIC** and click **Properties**.

**NOTE:** In Win95/95A/95B, you may not find **TCP/IP->ITeX ADSL PCI NIC**. If this is the case, find and select the **TCP/IP** and click **Properties**.

4. 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** (i.e. 10.10.10.125). and **Subnet Mask** (i.e. 255.255.255.0).

**NOTE:** Please consult your ISP for the **IP address** and **Subnet Mask** settings.

5. Select the **Gateway** tab. Enter your gateway information into the **New gateway** box and click **Add**. If you have more than one gateway numbers, repeat this step

**NOTE:** Please consult your ISP for the **Gateway** settings.

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

**NOTE:** Please consult your ISP for the **Host, Domain** and **DNS** settings.

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

**NOTE** The default installation ADSL mode is **ANSI T1.413 Issue 2** or **ANSI**. If your ISP is providing a different mode then you need to change the setting

13. On the right-hand side of the task bar, **right** click on the **Diagnostic Tools** icon. Then select **Configuration**.

14. The **Configuration** window appears. Select the **ADSL Mode** option and then select the ADSL mode type provided by your ISP. The service mode type will be one of the following:

- ITU G.992.1 Annex A (G.dmt) .....referred to as **G.dmt**
- ITU G.992.2 Annex A/B (G.lite).....referred to as **G.lite**
- ANSI T1.413 Issue 2.....referred to as **ANSI**

15. After you select and **check** your ISP' s service mode, click **Set**.



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**Congratulations, you are done. Your IA-300 ADSL card the Internet is established!**

## BRIDGED ETHERNET FOR WINDOWS NT 4.0

**NOTE** To perform the installation logon as **Administrator**. TCP/IP protocol must be installed prior to the driver installation. At the **Network** window select the **Protocols** tab and verify that the TCP/IP is present.

1. At the desktop, double click **My Computer**, double click **Control Panel**, double click **Network** and then select the **Adapters** tab of the **Network** window.
2. Click **Add** (to add new adapters).
3. In the Select Network Adapter window click Have Disk.
4. Insert the **IA-300 Driver** CD into the drive, enter the < CD drive letter>:\Drivers\NT40\BEoA (e.g.D:\Drivers\NT40\BEoA) and click **OK**.
5. The **Select OEM Option** window will find the **ITeX ADSL PCI NIC**. Click **OK**. The system will copy the drivers to the hard drive.
6. When the **Service Option** window appears, click **Next** for the default installation (VPI=8, VCI=35, Framing=LLC). For **Advanced** settings, please consult your ADSL service provider for detailed information.

**NOTE** If you click **Advanced**, the **Service Options** window appears. Enter the service Connection Address, click **OK**. The previous **Service Option** window will then appear, click **Next**. Then the **Network** window will appear, click **Close**.

7. The **TCP/IP Properties** window will appear and prompt the user for information. When not connecting to a DHCP server, enter the **IP address** (e.g. 192.168.4.39).
8. Enter the **Subnet Mask** (e.g. 255.255.255.0).
9. Enter the **Default Gateway** address.

**NOTE** Consult your ISP for the TCP/IP Properties.

10. Select the DNS Configuration tab and enter the **Host Name** (e.g. speed\_touch)
11. Then enter the **Domain Name** (e.g. pacbell.net)

**NOTE** Use the DNS Service Search and Do main Suffix Search to locate the Host Name and Domain. Click **Add** to save the address. Repeat the process for additional DNS entries.

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

**NOTE** Consult your ISP for the TCP/IP Properties.

13. The system must be restarted for the changes to take effect. Click **Yes** to restart.

**NOTE** The default installation ADSL mode is **ANSI T1.413 Issue 2** or **ANSI**. If your ISP is providing a different mode then you need to change the setting

14. On the right-hand side of the task bar, **right** click on the **Diagnostic Tools** icon. Then select **Configuration**.

**Model : IA-300**

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15. The **Configuration** window appears. Select the **ADSL Mode** option and then select the ADSL mode type provided by your ISP. The service mode type will be one of the following:

- ITU G.992.1 Annex A (G.dmt) .....referred to as **G.dmt**
- ITU G.992.2 Annex A/B (G.lite).....referred to as **G.lite**
- ANSI T1.413 Issue 2.....referred to as **ANSI**

16. After you select and **check** your ISP' s service mode, click **Set**.

**Congratulations, your IA-300 ADSL card the Internet is established!**

### **EDITING BRIDGED ETHERNET ADSL SERVICE CONFIGURATION**

1. This section includes the IP configuration specifics for Windows NT4.0. The NT 4.0 windows are slightly different from those of Windows 95/98. Other than these illustrative 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 ISP for the TCP/IP Properties.

7. Select the **DNS** configuration tab and enter (or edit) the following fields:
8. Enter the **Host Name** (e.g. IA-300) 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.

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

## APPENIDX A - DIAGNOSTIC TOOLS

On the **Diagnostic Tools** icon on the right hand side of the status bar. Right-click the icon 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**, **Diagnostic** and **ADSL Statistic**.

**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 IA-300 drivers are T1.413\_i2, G.dmt and G.lite. The protocol must be supported also by the ADSL equipment located at the central office. The IA-300 drives use the protocol that results in the most efficient ADSL connection.

**ADSL Diagnostic Tools** window is used for hardware testing of the IA-300 ADSL Card.

**ADSL Statistic** window keeps tabs on errors that the 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 IA-300 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**. 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.

## HARDWARE DIAGNOSTICS

The Diagnostic Tool is used to verify the IA-300 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. Right-click the **Diagnostic Tool Icon** (located on the taskbar), then select the **Diagnostic** option. Product Information, e.g. driver revisions, are displayed by clicking the **Product Info** tab.

**Product Information** lists the versions of the Diagnostic Tools (e.g. version 2.1) and the protocol Drivers installed (e.g. Version 1.3). The DLL version describes the software being used by both the drivers and Diagnostic Tools software.

**NOTE:** This information is helpful whenever making a technical support call. Click **Close** and exit the product information window.

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.

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The Diagnostic program performs a brief hardware check and displays the hardware status. If the IA-300 fails the Diagnostic tests (shown below), then record the test result and contact customer support.

<b>ADSL Bridge- PCI I/O Test</b>	i90188 chip test	➔	Pass
<b>i90135 Registers Test</b>	i90135 chip test	➔	Pass
<b>i90135 Memory Test</b>	i90135 chip test	➔	Pass
<b>ADSL Bridge– PCI DMA Loopback</b>	i90188 Fast datapath	➔	Trial 20, Pass 20
	.Interleave datapath	➔	Trial 20, Pass 20
<b>i90135 Utopia Loopback</b>	i90135 Fast datapath	➔	Trial 20, Pass 20
	.Interleave datapath	➔	Trial 20, Pass 20

**NOTE:** For all loopback tests, both Trial and Pass counts equal 20 for success.

Click **Close** to exit the Diagnostic program. The ADSL modem is disconnected for these diagnostic tests. To IA-300 card is functioning properly, it will automatically reconnect.

**CONFIGURING THE CONNECTION SERVICE**

To view or edit the ADSL connection service address, Right -click the **Diagnostic Tool** icon (located on the taskbar), and select the **Configuration** option.

The **PVC Setup** (Permanent Virtual Connection) window displays the connection service address. Click **Close** to exit window.

To edit the **connection service address**, select and enter the VPI and VCI address in the field shown and click **PVC Setting**.

To accept a Connection Address that has been changed (and **Restart** the PC system) click **Yes**. Click **No** to quit and return to PVC setup window.

**TROUBLE SHOOTING**

If you have completed the Alcatel Speed Touch 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.

Description of Problems	
1	<p><b>Is there a Diagnostic ICON on the taskbar?</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Try <b>Restarting</b> the PC system.</li> <li><input type="checkbox"/> Are the correct drivers installed for the Operating system used?</li> <li><input type="checkbox"/> PPPoA - If system operating system is Windows 95, is the DUN upgraded v1.3?</li> <li><input type="checkbox"/> Have you deleted the drivers and tried the installation again?</li> </ul>
2	<p><b>Is the NIC achieving ADSL connection?</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Try using the Diagnostic Tools <b>Connect</b> option</li> <li><input type="checkbox"/> Is the cable installed between the Alcatel Speed Touch PC and the ADSL service?</li> <li><input type="checkbox"/> Try <b>Restarting</b> the PC system.</li> <li><input type="checkbox"/> Has any cabling adapter or wiring converter been removed?</li> </ul>

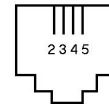
3	<p><b>Is the NIC constantly trying to negotiate a connection – with blinking yellow panels – but failing to reach ADSL connection?</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Select <b>Disconnect</b> from the Diagnostic Tools then try to reconnect.</li> <li><input type="checkbox"/> Restart the PC system and try to reconnect.</li> <li><input type="checkbox"/> Examine the RJ-11 connectors and cable for any deterioration.</li> <li><input type="checkbox"/> Has the wiring for your ADSL service been altered recently?</li> <li><input type="checkbox"/> Does condition change with time of day? (a possible problem with line noise)</li> <li><input type="checkbox"/> Are appliances near the PC system introducing noise into your ADSL service?</li> <li><input type="checkbox"/> Power down the PC system and re-seat the Speed Touch card.</li> </ul>
4	<p><b>Is the NIC achieving ADSL connection - but you can't reach the Internet?</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Is the service connection address correct?</li> <li><input type="checkbox"/> Can you PING the Internet? To run the PING command, Open DOS and type: &lt;C:\Windows\PING Gateway_Addr (e.g. C:\Windows\Ping www.microsoft.com)</li> <li><input type="checkbox"/> Ping Connects? If Yes then upgrade the Internet Browser or check the Option settings for the Internet Browser.</li> <li><input type="checkbox"/> Bridged Ethernet – Are the TCP/IP, Gateway and DNS addresses correct (refer to your ADSL or ISP provider documentation)</li> <li><input type="checkbox"/> PPPoA – For Windows 95 is the Dial-Up Network Upgrade to v1.3 installed?</li> <li><input type="checkbox"/> Win NT4.0 – Is service Pack 3.0 installed?</li> <li><input type="checkbox"/> Browser configured correctly – check your browser documentation.</li> </ul>
5	<p><b>How can I determine the TCP/IP address for PPPoA?</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> For Windows 95/98, run the program Ipconfig from the DOS prompt (e.g. C:\Windows\IPCONFIG) All network devices will list their TCP/IP and Gateway Address. By knowing what network hardware is installed and configured in your PC system, any unusual TCP/IP address belongs to PPPoA.</li> </ul>
6	<p><b>How do I tell if Service Pack 3.0 is installed on my Windows NT4.0?</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Click on the <b>Start</b> menu at the tool bar, select <b>Programs, Administrative Tools</b> and then <b>Windows NT Diagnostics</b>. Verify that Service Pack 3.0 is installed.</li> <li><input type="checkbox"/> When the system is restarting, <b>service pack 3</b> is displayed at the beginning of the driver loading sequence.</li> </ul>
7	<p><b>How do I resolve confusion about which protocol to install?</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Refer to your ADSL or ISP provider documentation</li> </ul>
8	<p><b>Can I determine which protocol is installed?</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Windows 95/98 – Yes. In the <b>Network</b> window (in the <b>Control Panel</b>) select the <b>Configuration</b> tab and look for component TCP/IP → Alcatel SPEED TOUCH (scroll through the list). If found, then the Bridged Ethernet drivers are installed.</li> <li><input type="checkbox"/> PPPoA for Windows 95/98 or NT4.0 – No.</li> </ul>
9	<p><b>1. Can I determine which upgrade of Dial-Up Network (DUN) is installed?</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> There is no easy way to determine the version of the DUN. The safest approach is to install the DUN v1.3 downloaded from the Microsoft Corporation website → <a href="http://www.microsoft.com">www.microsoft.com</a></li> </ul>
10	<p><b>Must TCP/IP be loaded for both PPPoA and Bridged Ethernet protocols?</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Yes. Please carry out the TCP/IP installation procedure before loading the Speed Touch driver.</li> </ul>

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11	<p><b>Driver installation resulted in unexpected errors or warnings, and you can't connect.</b></p> <ul style="list-style-type: none"><li><input type="checkbox"/> Perform the driver removal procedure.</li><li><input type="checkbox"/> Verify which version of Microsoft Windows is loaded in the PC system.</li><li><input type="checkbox"/> Perform the Alcatel Speed Touch PC driver removal procedure</li><li><input type="checkbox"/> For PPPoA – Reload Dial-Up Network upgrade 1.3</li><li><input type="checkbox"/> Install the Alcatel Speed Touch PC driver again.</li></ul>
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**CONNECTOR PINOUT**

The IA-300 card is equipped with a RJ-11 jack for connection to the ADSL data port – identified by the ADSL installation. The center two pins, pins 3 and 4, are used for ADSL data. For the IA-300 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.



**NOTE:** Consult with your ADSL provider before attempting any wiring changes.



## APPENDIX B - UPGRADE MICROSOFT DUN VERSION 1.3

This section explains how to upgrade Microsoft's Dial-Up Networking (DUN) application. You can download the DUN application from Microsoft's Web page and install it into your system. Please follow the instruction below.

1. Access the Microsoft Web site at <http://www.microsoft.com>.
2. In the **Contents** frame, select **Free Downloads**.
3. Scroll to **Support Drivers, Patches and Service Packs** and select **Window 95 Updates**. The Microsoft **Windows95 Downloads** page appears.
4. Select **Windows 95** in the select a product or feature box.
5. Select **Networking & Communications** in the **Select a category** box.
6. Click **Go**. The **Windows Dial-Up Networking 1.3 Performance and Security Upgrade for Windows 95** is listed.
7. Click this hyper-link to access the **Windows Dial-Up Network 1.3 performance and Security Upgrade for Windows 95** page.
8. Click the **Download Now** hyper-link in the upper right corner of the page. The MSDUN1.3 download page appears.
9. Click the link to the download site nearest you. The program prompts you for a directory to download the MSDUN13.EXE file.
10. Specify a directory. The MSDUN13.EXE file is then downloaded to this directory. The Dial-UP Networking 1.3 Performance & Security Upgrade (MSDUN13.EXE) must be installed to setup a dial-up connection to your corporate headquarters or your ISP.
11. **NOTE** During the installation, you will be asked to restart your workstation. Make sure you save your work and exit from all applications (except Internet browser) before beginning the installation.
12. At your desktop, click **Start**, and select **Run** from the menu. The Run window appears.
13. Specify the path for the MSDUN13.EXE file in the Open box and click **OK**. This will install Microsoft Dial-Up Networking 1.3 for Windows 95/95A. Click **Yes** to continue.
14. Click **Yes** on the End-User License Agreement window.
15. Restart your system. After you restart your system, the Microsoft Dial-Up Networking should be ready to support ADSL PPPoA service. Please verify this before proceeding. Go to next section - Verifying Dial-Up Networking (DUN) Status.

### APPENDIX C – VERIFYING DIAL-UP NETWORKING (DUN) STATUS

1. It is possible to have Dial-Up Networking (DUN) version 1.2B or above, but not have the Dial-Up Networking components loaded in the Windows environment. This procedure is for determining the status of DUN on the PC system.
2. At the task bar click **Start, Settings, Control Panel** and double-click on **Add/Remove Programs**
3. In **Add/Remove Programs Properties**, choose the **Windows Setup** Tab and wait for Setup to complete the search for all installed components. Select (i.e. highlight) the **Communications** component and click **Details**.
4. If **Dial-Up Networking** is installed, then a **check mark** will appear next to the entry.
5. To select Dial-Up Networking, place a **check mark** next to the DUN component and click **OK**.

**NOTE** The **Windows CD-ROM** (or CAB file access) are required to complete the installation. Have the **Windows CD-ROM** ready for use.

## APPENDIX D – REMOVING IA-300 DRIVERS

### WINDOWS 95, 98

1. To Delete **IA-300** 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 **ITeX 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

**NOTE:** For driver removal, you need to logon as **Administrator**.

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 **ITeX 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 **ITeX 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**.

## APPENDIX E – VERIFYING / CHANGING THE ADSL MODE

**NOTE** The default installation ADSL mode is **ANSI T1.413 Issue 2** or **ANSI**. If your ISP is providing a different mode then you need to change the setting.

1. On the right-hand side of the task bar, **right** click on the **Diagnostic Tools** icon. Then select **Configuration**.
2. The **Configuration** window appears. Select the **ADSL Mode** option and then select the ADSL mode type provided by your ISP. The service mode type will be one of the following:
  - ITU G.992.1 Annex A (G.dmt) .....referred to as **G.dmt**
  - ITU G.992.2 Annex A/B (G.lite).....referred to as **G.lite**
  - ANSI T1.413 Issue 2.....referred to as **ANSI**
3. After you select and **check** your ISP' s service mode, click **Set**.

**The ATM mode has been set and you are ready to enjoy your IA-300 the Internet.**

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## **APPENDIX F - SYSTEM REQUIREMENTS & COMPLIANCE INFORMATION**

### **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
- FCC Part 68

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## **APPENDIX G – COPYRIGHT & REGULATORY INFORMATION**

**Copyright Ó 1999, Integrated Telecom Express, Inc. All rights reserved.**

This manual and software described in it are copyrighted with all rights reserved. This manual may not be copied, in whole or in part, without the written consent of Integrated Telecom Express, Inc. All other product names are trademarks and or registered trademarks of their respective companies. Part Number 44-0600xx-000

### **FCC Statement**

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

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