

56K PCI MODEM

USER GUIDE

ENGLISH

56Kbps Ready for Internet Connection

Upgrade to V.90

Windows 95 Plug-n-Play Ready

Compliant to Microsoft TAPI

Low Power Consumption

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SECTION ONE — INTRODUCTION

Thank you for purchasing the 56K PCI modem. This manual provides the operating instructions and technical specification for your new modem.

Handset

Line



UNPACKING YOUR MODEM

Your modem package contains the following items:

- Modem
- Telephone cable
- Installation Guide
- Software

FEATURES

- K56Flex Data / 33.6K Data, 14.4K Fax.
- Software Upgradable to 56K V.90 ITU Standards.
- Auto selection of COM ports and interrupts.
- Supports Ties AT command set
- High throughput virtual (software) UART allows DTE rate over 115,200 bps
- Low power consumption (150mW operating @ 5V) and auto power management.

TECHNICAL SPECIFICATIONS

Data Modulation Standards

- K56Flex protocol standard and support for V.90 ITU standard.
- ITU-T V.34: 33600, 31200, 28800, 26400, 24000, 21600, 19200, 16800, 14400, 12000, 9600, 7200, 4800, 2400bps.
- ITU-T V.32bis: 14400, 12000, 9600, 7200bps (TCM), 4800bps (DPSK)
- ITU-T V.32: 9600bps (TCM/QAM), 4800bps (DPSK)
- ITU-T V.22bis: 2400bps (QAM)
- ITU-T V.22: 1200bps (DSPK)
- ITU-T V.21: 300bps (FSK)
- ITU-T V.23: 1200/75bps (FSK)
- Bell 212A: 1200bps (DSPK)
- Bell 103: 300bps (FSK)

Data Compression

- ITU-T V.42bis
- MNP Class 5

Error Correction

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- ITU-T V.42 LAPM
 - MNP 2-4

Fax Modulation or Protocol Standards

- ITU-T V. 17: 14,000, 12,000, 9,600, 7,200 bps (TCM)
- ITU-T V.29: 9,600 bps (QAM), 7,200 bps (QAM)
- ITU-T V.27ter: 4,800 bps(DSPK), 2,400 bps (DSPK)
- ITU-T V.21 Channel 2: 300 bps (FSK)
- Group 3
- EIA Class I

SECTION TWO — INSTALLING THE MODEM CARD

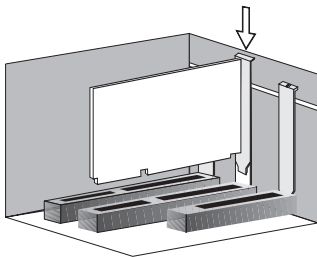
If the card is already installed in the Personal Computer then it should be ready to run (with Windows hardware drivers and application software pre-installed). If you require any help with your system or modem setup, please contact the supplier of your computer system. If you have purchased this card separately to install in your existing Personal Computer, please carefully follow the installation instructions.

INSTALLING THE MODEM CARD

CAUTION: Before removing the cover from your computer, please ensure it is turned off.

Discharge any static electricity from your body by touching any bare metal surface on the computer chassis before removing the card from its antistatic bag.

1. Ensure the computer is off by removing all power cables.
2. Remove the computer's cover, taking care to follow the manufacturer's instructions.
3. Select any available PCI slot.
4. Remove the computer casing's slot cover if any.
5. Carefully insert the card into the selected slot. Apply even pressure until the card is firmly seated.
6. Secure the bracket with a screw.
7. Replace the computer's cover and reconnect all power cables.
8. Connect the telephone cable into the modem's 'LINE' socket (if it is not already connected). Attach the other end to the telephone wall jack.
9. If you have addition telephone set, you may connect it to the 'PHONE' socket found on this modem.



INSTALLING THE DRIVER FOR WINDOWS95

Please install the modem card into your computer before you proceed. Refer to the installation note for more latest information.

1. Power-up the computer and start Windows 95.
2. A message “New Hardware Found” will appear on the screen for this new modem.
3. Insert the Installation Disk or CD that contains the device driver for your new modem.
4. Click the **NEXT** button to search for the driver from the floppy disk.
5. If the new device is not found, click on **Other Locations** button and specify your floppy disk a:\ or b:\ or CD's directory, and click the **OK** button. Click on the **OK** button again to continue.
6. The new modem device will be identified and the message will appear on the screen. Click **FINISH** button to continue the installation.
7. The copying process will start. If the driver is not found, specify a:\ or b:\ or the CD's directory into the dialog box - “Copy files from”. Click the **OK** button to continue.
8. When the copying is done, your modem is ready to be used.

You may proceed to install the any other communication application.
Please refer to readme.txt for more information

SECTION THREE — TROUBLESHOOTING

If you are experiencing any difficulty, the information in this section will assist you in resolving the problem. If you cannot resolve the problem after reading this section, please contact your supplier for further assistance.

To start troubleshooting run a terminal program, for example Hyperterminal (in Windows '95). For a simple check of modem operation, type AT [Enter]. The modem should return 'OK'.

1. TEXT TYPED ON THE KEYBOARD DOES NOT APPEAR ON SCREEN.

- a) Check that communication software is configured with the correct COM (Communication) port and IRQ (Interrupt Request) settings (the same COM port and IRQ as the modem). Your communications software will not be able to send and receive any data via your modem if these settings are incorrect.
- b) Check that the modem's IRQ and COM settings do not conflict with other peripherals already present in your system – go to 9.
- c) Check that modem is correctly seated in the ISA socket and firmly screwed down.

2. MODEM WON'T DIAL AND PRODUCES A NO DIAL TONE RESPONSE.

- a) Check telephone wiring. It may not be connected properly which causes the NO DIAL TONE response.

3. MODEM DIALS BUT GOES DEAD ON CONNECTION OR MODEM DIALS BUT CONNECT RESPONSE DOES NOT APPEAR.

- a) Check that communication software is configured with the correct IRQ setting (the same IRQ as the modem).
- b) Check telephone wiring.

4. MODEM DIALS, CONNECT RESPONSE APPEARS AND THEN MODEM GOES DEAD

- a) Check that your communications software has been set up for use with the correct modem type and model.

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- b) Check that your modem's word length, parity and stop bit settings are the same as the modem you are trying to communicate with. A typical setup would have 8 data bits, no parity and 1 stop bit (sometimes referred to as 8-N-1).
 - c) Check that you are using the same terminal emulation mode as the remote system.
 - d) After making a connection press the Enter key a few times, the remote system may be waiting to receive data from you before it responds.
 - e) Check that the modem's IRQ and COM settings do not conflict with other peripherals already present in your system – go to 9.

5. MODEM DIALS, CONNECTION GARBLED

- a) Check that your modem's word length, parity and stop bit settings are the same as the modem you are trying to communicate with. A typical setup would have 8 data bits, no parity and 1 stop bit (sometimes referred to as 8-N-1).

6. CONNECTION INITIALLY OK, GARBLED AFTER A WHILE OR CONNECTION INITIALLY OK, SPORADICALLY GARBLED

- a) Check that error correction, MNP (2, 3, 4) or V.42, is enabled before dialing (ATi11).
- b) Check telephone wiring.

7. MODEM WON'T HANG UP AFTER A CALL

- a) Type +++ATH to manually hang up.

8. MODEM WON'T AUTO-ANSWER

- a) To use a terminal program to auto-answer, type ATS0=1.
- b) Check telephone wiring.
- c) Check that combined REN (Ringer Equivalence Number) of all devices on the line ≤ 4 .

FCC PART 15

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 or television 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 measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit other than that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

To comply with the limits for the Class B digital device, pursuant to Part 15 of the FCC Rules, this device must be installed in computer equipment certified to comply with the Class B limits. All cables used to connect the computer and peripherals must be shielded and grounded. Operation with non-certified computers or non-shielded cables may result in interference to radio or television reception.

Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the device.

FCC PART 68

This product complies and registered with the CFR47-Part 68 of the Federal Communications Commission (FCC).

The FCC requires us to provide you with the following information:

- Connection to the nationwide telephone network should be made by using standard modular telephone jacks, type RJ11. The RJ11 plug and/or jacks used must comply with FCC part 68 rules.
- This equipment may not be used on coin service provided by the telephone company. Connection to party lines is subject to state tariffs.
- The REN is useful to determine the quantity of devices you may connect to your telephone line. Excessive RENs on the telephone line may result in devices not ringing in response to an incoming call. In most, but not all areas, the sum of the RENs of all devices connected to one line should not exceed five (5.0). To be certain of the number of devices you may connect to your line, as determined by the REN, you should contact your local telephone company.
REN : "0.8B"
- If this telephone equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notice isn't practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.
- If it is determined that the equipment fail to operate properly, the FCC requires that the unit should be disconnected from the telephone line until the problem has been corrected. Repair to this equipment can only be made by the manufacturer or its authorized agents.

FAX BRANDING

The telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device to send any message via a telephone fax machine unless such message clearly contains in a margin at the top or bottom of each transmitted page or on the first page of the transmission, the date and time it is sent and an identification of the business or other entity, or individual sending the message and the telephone number of the sending machine or such business, or entity, or individual.

In order to program this information into your fax machine, you should :

1. Refer to the "Page Header" instructions provided with the Reference Manual for the FAX software provided.
2. Enter information to the program including
 - The date and time the message is sent.
 - Your identification information.

If trouble is experienced with this unit, please contact customer service at the address and phone listed below. **DO NOT DISASSEMBLE THIS EQUIPMENT.** It does not contain any user serviceable components. If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect this equipment from the telephone network until the problem is corrected.

Fax Branding Customer Service Dept

151, Bernal Road

Ste 6, San Jose, California, CA 95119.

Telephone : 1-(510)-830-9277

TELECOMMUNICATION NOTICE

1. The modem must be fitted within a computer that is electrically earthed.
2. The mains and telephone connections must be disconnected before removing the computer's cover.
3. Before making the connection to the telephone line, the telephone circuits on the modem card must not be accessible.
4. It is recommended that only qualified technician shall remove computer's cover.
5. The power required by the host and the total of all installed cards shall not exceed the power specification of the host computer.
6. The maximum power requirement for the internal modem is 1.5Watts.
7. It is essential that when the equipment is installed in a PC, the minimum creepage and clearance distances between the equipment and any devices which use or generate hazardous voltages (42.4V Peak AC or 60V DC) are as shown in the following table. With the exception of the connection to the host, the minimum distance must be maintained between the card and all other assemblies that use or generate voltages shown. The larger distance shown in brackets applies where the local environment within the host is subject to conductive pollution or dries non-conductive pollution that could become conductive due to condensation. Failure to maintain these minimum distances would invalidate the approval.

Clearance (mm)	Creepage (mm)	Voltage used or generated by Host or other cards.
2.0	2.4(3.8)	Up to 50Vrms or DC
2.6	3.0(4.8)	Up to 125Vrms or DC
4.0	5.0(8.0)	Up to 250Vrms or DC
4.0	6.4(10.0)	Up to 300Vrms or DC

8. The analogue telecommunications interface is intended to be connected to TNV circuits that may carry dangerous voltages. The telephone cord must remain disconnected from the telecommunications system until the card has been installed and the cover replaced onto the PC. If the cover needs to be re-opened, the telephone cord must be disconnected prior to accessing any internal parts that may carry TNV.

AUSTRALIA TELECOMMUNICATION WARNING

**WARNING! FOR SAFETY REASONS, CONNECT THIS MODEM ONLY TO
AUSTEL PERMITTED OR CERTIFIED EQUIPMENT**