EUT:FAX/MODEM CARD

FCC ID:H52PT-3023

EXHIBIT H

Puretek Industrial Co., LTD.

User's manual

FCC Compliance

To comply with the applicable sections of FCC Rules and Regulations, Parts 68 and 15, please follow these instructions:

- Do not connect your modem to a party line or to a coin-operated telephone.
- If your modem should cause a problem on the telephone line, it should be disconnected from the line until it can be determined whether the modem or another device on the phone line caused the problem.
- Only the manufacturer can make repairs to the modem. Other repair methods will void your warranty.
- If you have an external modem, use a properly constructed shielded cable to connect it to your computer.
- If your telephone company asks for the following information, please make it available:
  - Modem manufacturer
  - Model of modem
  - FCC Registration Number
  - Ringer Equivalence Number (REN)

FCC Part 15

Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received including interference that may cause undesired operation.

Note: 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 when the equipment is operated in a residential installation. This equipment generates, uses, and can radiate frequency energy and if not installed and used in accordance with the instruction manual may cause harmful interference to radio communications. However, there is no guarantee that the 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 different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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

FCC Part 68 Notice

This equipment complies with Part 68 of the FCC rules. On the base of this unit is a label that contains, among other information, the FCC registration number and Ringer Equivalence Number (REN) for this equipment. If requested, this information must be given to your telephone company.

The REN is used to determine the quantity of devices you may connect to your telephone line and still have all of those devices ring when your number is called. In most, but not all areas, the sum of the RENs of all devices should not exceed

should contact the appropriate electric inspection authority, or electrician, as appropriate.
The Load Number(LN) assigned to each terminal device denotes the percentage of the total load to be connected to a telephone loop which is used by the device, to prevent overloading. The termination on a loop may consist of any combination of devices subject only to the requirement that the total of the load numbers of all the devices does not exceed 100.

Warning Notice to Australian Users

All telecommunications devices are required to hold AUSTEL permits, ensuring their safety and interoperability with the Australian Telecommunications network, To provide compliance with AUSTEL¡¥technical standards, please ensure the following AT commands are maintained:

ATB0	(ITU/CCITT operation)
AT&G	(No Guard tone)
AT&P1	(33/36 pulse dial make/break ratio)
ATS0=0	(No answer or answer greater than 1 ring) or ATS0>1
ATS6=N	(Blind dial delay - acceptable range is 2-5 seconds)
ATS11=95	(DTMF period between 70-255ms)

A total of 3 calls attempts are allowed to a telephone number, with a minimum period between calls of 2 seconds: if the call doesn¡¥connect after 3 attempts, 30 minutes must expire before automatic redialling may be initiated.

Failure to set the modem (and any associated communications software) to the above setting may result in the modem being non-compliant with AUSTEL standards. Under these circumstance a permit would no longer be valid, with the user subject to significant penalties under the Telecommunications Act.

The modem card must only be used in a data terminal equipment(DTE) eg. computer, that has a screw down cover /lid. As unsafe voltages(TNV) exist on the modem card, disconnect the modem card from the telephone line while the cover(lid) of the DTE(computer) is removed.

Warning

1. While installing the internal modem card, please ensure there is at least 2mm of air gap between the PCB card and other components in the DTE.
2. For Safety reasons, only connect Austel Approved Telephone to the phone port.
3. For Safety reasons, only connect Austel Approved/Austel permit exempted Microphone to the MIC port.
4. To ensure continuing compliance with the Austel permit, a Kitagawa SFC-4 ferrite or equivalent must be fitted to the cable of any external microphone and/or speaker connected to the external modem.

Notice for New Zealand Users

- The grant of a Telepermit for a device in no way indicates Telecom acceptance of responsibility for the correct operation of that device under all operating conditions. In particular the higher speeds at which this modem is capable of operating cannot always be expected on n network designed to delivery voice telephony be customers. Failure to operate should not be reported as a fault to Telecom.
- In addition to satisfactory line conditions a modem can only work

A Telepermit artwork for each device is included from which you may prepare any number of Telepermit labels subject to the general instructions on formal size and colour quoted on the attached sheet.

The Telepermit label must be displayed on the product at all times as proof to purchasers and service personal that the product is able to be legitimately connected to the Telecom network. The Telepermit label may also be shown on the packaging of the product and in the sales literature, as explained in PTC 100.

Notes for UK Users

REGARDING THE INSTALLION OF YOUR FAX MODEM

(1) The power required by the host and the total of all adapter cards installed within the host environment, together with any auxilliary apparatus, shall not exceed the power specification of the host apparatus. The power requirements for this modem are:
   (a) ac/dc
   (b) Max. power rail noise spec.
   (c) Max. current/Power at the above voltage

(2) It is essential that, when other option cards are introduced which use or generate a hazardous voltage, the minimum creepages and clearances specified in the table below are maintained. A hazardous voltage is one which exceeds 42.4V peak A.C. or 60V D.C. If you have any doubt, seek advice from a competent computer engineer before installing other adapters into the host equipment

(3) The modem must be installed such that with the exception of the connections to the host , clearance and creepage distances shown in the table below are maintained between the card and any other assemblies which use or generate a voltage shown in the tables below. The larger distance shown in brackets applies where the local environment within the host is subject to conductive pollution or dry non-conductive pollution which could become conductive due to condensation. Failure to maintain these minimum distances would invalidate the approval for this modem.

CLEARANCE (mm)	CREEPAGE (mm)	VOLTAGE USED OR GENERATED BY HOST OR OTHER CARDS
2.0	2.4 (3.8)	UP to 50Vrms or V dc
2.6	3.0 (4.8)	UP to 50Vrms or V dc
4.0	5.0 (8.0)	UP to 50Vrms or V dc
4.0	6.0 (10.0)	UP to 50Vrms or V dc

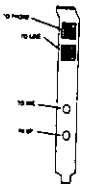
for a Host or other expansion card fitted in the host, using or generating voltages greater than 300V(rms. or dc) advice from a competent telecommunications safety engineer must be obtained before installation of the relevant equipment	Above 300Vrms or V dc

(4) The analogue telecommunications interface is intended to be connected to telecommunications network voltage (TNV) circuits which may carry dangerous voltages. The telephone cord(s) must remain disconnected from the telecommunications system until the card has been installed within a host which provides the necessary protection of the operator.

Chapter 1
Introduction

The Voice/Fax/Data PCI Modem connects your computer to Internet, and all kinds of BBS, and other popular Fax/Modems. This manual describes the features, procedures of installations, and AT command set...etc. of this modem.

Your modem¡ K



PHONE: Phone jack.
LINE: Telephone line jack.
MIC: Microphone jack.
SPK: Speaker (for **Stereo** only) jack.

Features

This modem supports the following communication standards. ITU-T is known as CCITT.

Data
- **ITU-T V.90** (For 56Kbps Modem only)
- **X2** (For 56Kbps Modem only)
- ITU-T V.34, V.32bis, V.32, V.22bis, V.23,V.21
- Bell 103 & 212A
- V.42bis & MNP 5 (Data compression)
- V.42 & MNP2-4 (Error correction)
- V.80 (H.324 video conferencing interface)

Fax
- .17(14400bps FAX)
- .29(9600bps FAX)
- .27ter(4800bps FAX)

Voice
- oice/Audio mode
- peakerphone

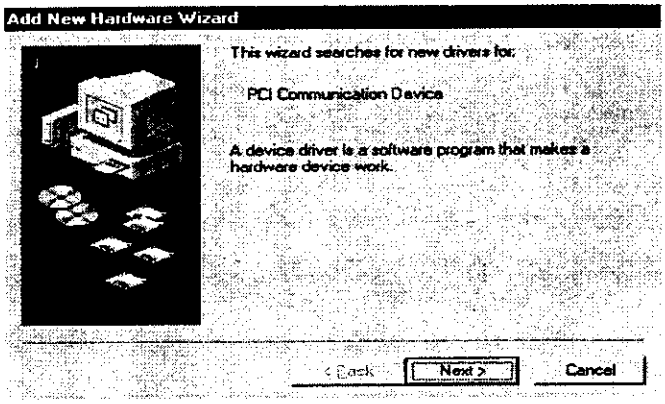
System Requirement

- IN ¡95 or WIN¡98 Operation S ystems

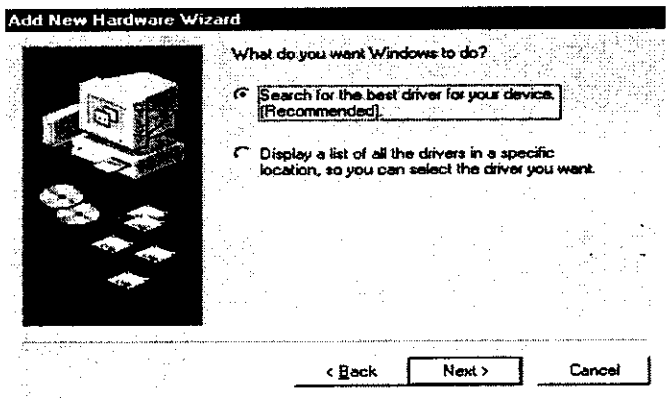
2. Installation Procedure for Windows 98

Note: Modem¡§ Win 9x driver is on the CD.

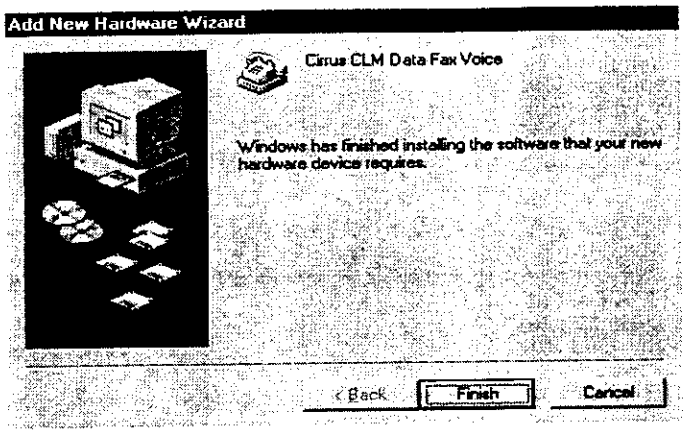
(1) When you finish installation of hardware, please power on your PC. Under Win ¡98, your PC will find a new device and show following message on screen. Please put the bundled Win ¡9x driver into your CD driver, then Click ¡§**Next**¡.



(2) Please select ¡§Search for the best driver for your device. (Recommended). ¡§then click ¡§**Next** ¡§



(5) The install is complete now, please click ¡§**Finish** ¡§



3. Installation of Communication Software

Please refer to your software manual when you are installing software. Your software must be configured to communicate with the modem on the same **COM port** and **IRQ** line used by the modem. Please refer to your software manual for detail procedures.

disables automode, and optionally specifies the lowest and highest connection rates using two subparameters.
The format is:
AT+MS=<carrier>,<automode>,<min_rate>, <max_rate>

Carrrier	Modulation	Data Rates (bps)
V32	V.32	9600, 4800
V32B	V.32bis	14400, 1200, 9600, 7200, 4800
V34	V.34	33600, 31200, 28800, 26400, 24000, 21600, 19200, 16800, 14400, 12000, 9600, 7200, 4800, 2400
V90	V.90	56000, 54667, 53333, 52000, 50667, 49333, 48000, 46667, 45333, 42667, 41333, 40000, 38667, 37333, 36000, 34667, 33333, 32000, 30667, 29333, 28000

Note : **V.90 and x2** for 56,000bps Voice/Fax/Data Modem only.

q **automode** r	Option Selected
0	Automode disabled
1	Automode enable

For example:
AT+MS=v90,1,300,0
Where: V90 : select V.90
1 : automode enable
300 : min_rate data speed 300 bps
0 : max_rate data speed 56000 bps
If you want to select V.34 28800 bps only, please Insure AT+MS=V34,0,28800,28800

-Cn **Generate data mode calling tone**
-C0 Calling tone disable .
-C1 1300Hz calling tone enable.
-C2 V.8 calling tone and 1300 Hz calling tone.

Wn **Response code data rate**
W0 Reports DTE speed response codes
W1 Reports DTE speed response codes
W2 Reports DCE speed response codes
W3 Reports DTE speed response codes and information on error correction and data compression.
W4 Reports protocol, data compression, and DTE data rate.

¡ §Hn **V.42bis compression control**
¡ §H0 Disable V.42bis
¡ §H1 Enable V.42bis only when transmitting data.
¡ §H2 Enable V.42bis only when receiving data.
¡ §H3 Enable V.42bis for both transmitting and receiving data.

I1 Reports modem chip firmware version.
I2 Verifies ROM checksum.
I3 Reports chipset name.
I4 Reserved
I5 Reserved for modem chip hardware configuration.
I6 Country code.

M*n* **Speaker Control**
M0 Speaker is always off.
M1 Speaker ON until CONNECT.
M2 Speaker is always on.
M3 Speaker off during dialing and receiving carrier and turn speaker on during answering.

O*n* **Return to On-Line Data Mode**
O0 Go on-line.
O1 Go on-line and retrain.

P **Set Pulse Dial**(for phone line that don¡t support touch-tone dialing)

S*r*=*n* **Set register *r* to *n***

S*n*? **Display contents of S-Register *n***
V*n* **Result Code Form**
V0 Numeric codes.
V1 Verbal codes.

Z*n* **Soft Reset and Restore Profile**
Z0 Restore stored profile 0 after warm reset.
Z1 Restore stored profile 1 after warm reset.

&C*n* **Control Carrier Detect (CD) signal**
&C0 CD override.
&C1 Normal CD operations.

&D*n* **DTR Option**
&D0 Ignore an on-to-off transition of DTR.
&D1 Switch to on-line command mode without disconnection.
&D2 Normal DTR operations.
&D3 Modem re-initialized. &Y determines which profile is loaded.

&F*n* **Load Factory Configuration (Profile)**
&F0 Restore factory configuration 0.
&F1 Restore factory configuration 1.

&W*n* **Store Current Configuration**
&W0 Store the current configuration as profile 0.
&W1 Store the current configuration as profile 1.

+MS **Select Modulation**
This command selects the modulation, optionally enables or

Chapter 3
Commands

Most people use the communication software programs to tell modem what they want the modem to do. Therefore, you may not use the commands in this chapter. However, if you prefer to communicate with your modem directly, you can type the following commands. Please note that when your type appears on the screen, your modem is in a ¡§terminal mode¡¨. This chapter will be helpful if you like to work in a terminal mode.

When you typing commands¡ K

- Use the BACKSPACE key to delete typing errors.
- Every command (except **A/** and +++) must begin with the **AT** or **at** prefix and be entered by pressing the ENTER key. For example, to execute the **V** command, you would type **ATV** and press the **ENTER** key.
- When you see an ***n***, replace the ***n*** with one of the letter or numeric options listed for that command. For example, for the **E*n*** command, you might type **ATE1**.
- All defaults are based on the **&F** Hardware Flow Control template load in **NVRAM** when the modem is shipped.

AT Commands

A/ Re-executes the last issued command. Used mainly to redial.

A Go off-hook and attempt to answer a call.

ATS? **Read Selected S-Register.** This command reads and displays the selected S-Register. An S-Register can be selected by using the **ATS*n*** command.

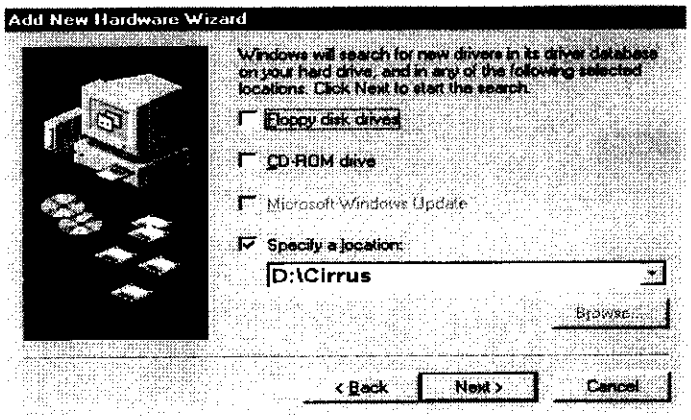
D*n*	**Dial**
0-9	DTMF digits 0 to 9.
P	Pulse (rotary) dial.
T	Tone dial.
W	Wait for second dial tone (X3 or higher); linked to S6 register.
^	Toggles calling tone enable/disable.

E*n*	**Command Echo**
E0	Disable command echo.
E1	Enable command echo.

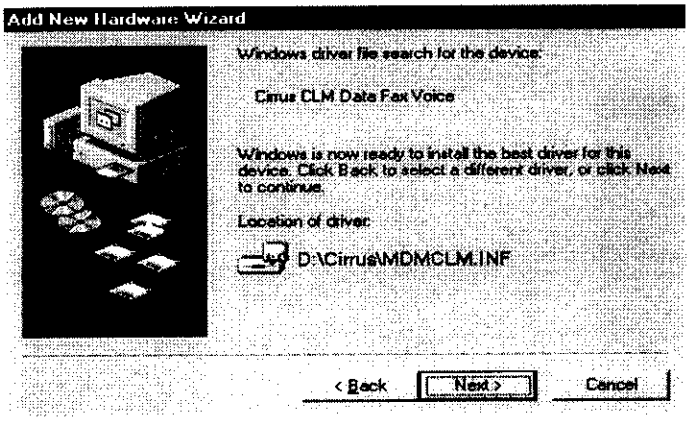
H*n*	**Disconnect (Hang-up)**
H0	Hang up(goes on-hook)
H1	Go off-hook.

I*n*	**Identification**
I0	Report product code .

(3) Then you can see the following message on screen. Please select ¡§**Specify a location:**¡¨ then click ¡§**Browse**¡¨ to find the path of modem driver, for example : D:\Cirrus . Then click ¡§**Next**¡§



(4) Windows will find the driver of modem. Please click ¡§**Next**¡§

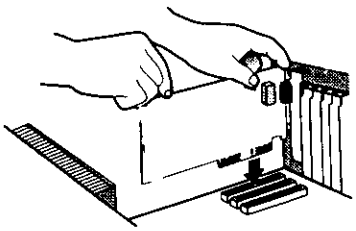


Chapter 2
Installations

This chapter describes the steps how to install and power on your fax modem.

1. Installing your modem card

Step 1 G
Turn off your computer. Carefully remove the cover from the computer and select a slot for your modem.



Step 2 G
Carefully slide the internal modem into the slot applying with pressure until the modem is completely plugged into the slot.

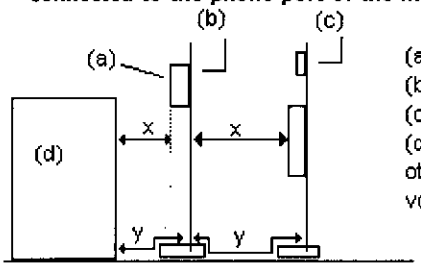
Step 3 G
Replace the slot cover screw to secure the modem and replace the computer¡¦s cover.

Step 4 G
Connect the phone cable from modem¡¦s **LINE** connector to the phone outlet.

Step 5 G
You can also connect your telephone to the modem¡¦s **PHONE** jack optionally.

Step6 G
Turn on your computer and your modem is now installed.

(5) Only terminal equipment approved for connection to the PSTN may be connected to the phone port of the modem.



(a) communication module
(b) Carrier Card
(c) Expansion Card
(d) Power supply unit or other sourece of excessive voltage

Except for the Edge connector which plugs into the hosts expansion slot, clearance distance (Xmm) and creepage distance(Ymm) as given in the table above must be maintained between the communication card and any other assemblies which use or generate a hazardous voltage.

properly if:

a/. It is compatible with the modem at the other end of the call and

b/. The application using the modem is compatible with the application at the other end of the call. E.g. accessing the Internet requires suitable software in addition to a modem.

- This equipment shall not be used in any manner which could constitute a nuisance to other Telecom customers.
- Some parameters required for compliance with Telecom¡¦ PTC Specifications are dependent on the equipment (PC) associated with this modem. The associated equipment shall be set to operate within the following limits for compliance with Telecom Specifications:

  a/. Not more than a total of 10 call attempts shall be made to the same number for any single manual call initiation within a 30 minutes period.

  b/. There shall be at least 60 seconds between call attempts to the same number.

  c/. Automatic calls to different numbers shall be not less than 5 seconds apart.
- Immediately disconnect this equipment should it become physically damaged, and arrange for its disposal repair.
- The correct settings for use with this modem in New Zealand are as followings:

  ATB0 (CCITT operation)
  AT&G2 (1800 Hz guard tone)
  AT&P1 (Decadic dialling make-break ratio=33% /67%)
  ATS0=0 (not auto answer)
  ATS11=65 (DTMF dialling on/off duration = 65 ms)
  ATX2 (dial tone detect, but not (U.S.A) can progress detect)
- When used in the Auto Answer mode, the S0 register must be set with a value between 2 and 10, This ensures:

  a/. A person calling your modem will hear a short burst of ringing before the modem answers. This confirms that the call has been successfully switched through the network.

  b/. Caller identification information (which occurs between the first and second ring cadances) is not destroyed.
- This equipment does not fully meet Telecom¡¦ impedance requirements. Performance limitations may occur when used in conjunction with some parts of the network. Telecom will accept no responsibility should difficulties arise in such circumstances.
- It is recommended that this equipment be disconnected from the Telecom line during electrical storms.
- When relocating the equipment, always disconnect the Telecom line connection before the power connection, and reconnect the power first.

NOTE THAT FAULT CALLOUTS CAUSED BY ANY OF THE ABOVE CASUES MAY INCUR A CHARGE FROM TELECOM

General Conditions

As required by PTC 100, please ensure that this office is advised of any changes to the specifications of these products which might affect compliance with the relevant PTC specifications.

The grant of this Telepermit is specific to the above products with the marketing description as stated on the Telepermit label artwork. The Telepermit may not be assigned to other parties or other products without Telecom approval.

five(5.0). To be certain of the number of devices you may connect to your line, as determined by the total RENs, you should call your local telephone company to determine the maximum RENs for your calling area.

If the telephone company suspects a problem with your telephone line is related to an add-on electronic device, such as your modem, they have the right to temporarily suspend your service. It is your responsibility to remove from the telephone line any malfunctioning electronic communications equipment to avoid damage to the telephone system.

If your equipment causes harm to the telephone network, the telephone company may discontinue your service temporarily. If possible, they notify you in advance. But if advance notice is not practical, you will be notified as soon as possible. You will be informed of your right to file a complaint with the FCC. Your telephone company may make changes to its facilities, equipment, operations, or procedures that could affect the proper functioning of your equipment. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service.

The telephone company may ask that you disconnect this equipment from the network until the problem has been corrected or until you are sure that the equipment is not malfunctioning.

This equipment may not be used on coin service provided by the telephone company. Connection to party lines is subjected to state tariffs.
If you experience trouble with this telephone equipment, please contact your place of purchase for information on obtaining service or repairs.

Canadian DOC Notice

Notice: The Canadian Department of Communication label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational, and safety requirements. The Department does not guarantee the equipment will work to the user satisfaction.

Before installing the equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunication company. The equipment must also be installed using an acceptable method of connection. In some cases, the company inside wiring associated with a single line individual service may be extended by means of a certified connector assembly (telephone extension cord). The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repair to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections to the power utility, telephone lines, and internal metallic water pipe systems, if present, are connected together. This precaution may be particularly important in rural areas.

Caution: Users should not attempt to make such connections themselves, but