



V.92

PCI Pro Modem

User's Manual

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Thank you for purchasing the *Actiontec* V.92 PCI Pro Modem. This modem is compatible to V.90 and K56Flex standard. The PCI Pro incorporates the latest technology on controller-less V.92 modems for the PCI bus. With V.92 the user can benefit from the following features:

Modem on Hold

Enables users to receive phone calls that will flash a Caller ID window, while online. You can ignore the call while remaining online; or answer the call, put the Internet sessions on hold if your ISP support this feature and you have Call Waiting service from the telco, then resume the online surfing after the conversation.

Quick Connect

You will not have to wait all those frustrating minutes while the modem connects to the web. Quick Connect memories the characteristics of your phone lines, uses this information to reduce the next connection time.

V.44 Data Compression

With the V.44 technology, you will be able to browse the Internet and download information faster.

Faster Upload Speeds

Upload speed may be increased to maximum of 48Kbps from 33.6Kbps (depending on line condition).

Actiontec may have software feature updates from time to time, please check our web site at www.actiontec.com) for any new V.92 updates. Follow the instruction on the web to upgrade your modem to the latest firmware.

Actiontec Electronics prides itself on making high-quality, durable, high-performance products. If you should need assistance, the *Actiontec* Technical Support Department is available from 6am to 11pm (Mountain Time) Monday thru Sunday, to provide professional support.

New drivers and firmware are released as need arises to insure maximum compatibility and operation of your new *Actiontec* V.92 PCI Pro Modem. To find out more about this and other *Actiontec* products, and to sign up for a free e-mail newsletter, visit the *Actiontec* web site at: <http://www.actiontec.com>.



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Product Features

This V.92* PCI Pro Modem allows your computer to connect to an ISP supporting V.92, V.90, or 56K Flex™ protocols. This manual describes the hardware and software installation procedures for your new *Actiontec* V.92 PCI Pro Modem as well as troubleshooting procedures.

- Conforms to the ITU-T V.92 and V.90 specification with auto-negotiation of V.44, V.42bis, V.34, V.32bis, V.32, V.23, V.22bis, V.22, V.21, Bell 212A, and Bell 103 protocols.
- Supports Group 3: class 1 fax protocols.
- Supports V.80 video standard for videophone and video conferencing.
- Controller-based modem with support for Windows 98, ME, NT, 2000 and XP.
- Simple Plug-N-Play installation.

V.92 Features

- The new V.44 compression standard provides better performance with faster download and upload speeds. This means better data throughput which translates to faster web browsing and file downloading.
- The modem-on-hold feature enables users to receive phone calls while connected to the internet. A window flashes with the Caller ID information allowing the user to decide whether or not to take the call.

*The *Actiontec* V.92 PCI Pro Modem is capable of 56K downloads. However, due to FCC rules which restrict the power output of your ISP's modems, current download speeds are limited to 53K bps. Depending on the conditions of your telephone lines, full 53Kbps connections may not be achieved. In these cases, you will achieve speeds up to 53Kbps.

Package Contents

- *Actiontec* V.92 PCI Pro Modem
- User's Manual
- Data/Fax Data Communications Software
- Telephone Cable (RJ-11)
- Installation CD
- Quick Start

Installing the Modem



For Windows 98, 2000, and ME you must install the driver first as shown in Section 5 of this manual before installing the modem. For Windows NT and XP complete the hardware installation before installing the driver.

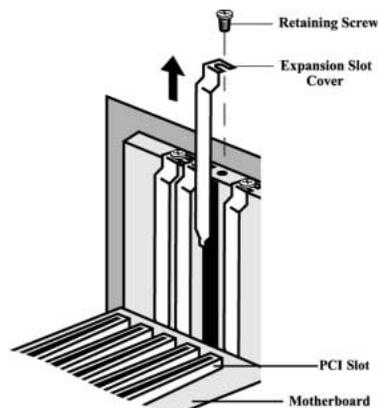
Follow this procedure to install the V.92 PCI Pro Modem into an open PCI slot inside your computer.

- 1) Switch off the computer and all peripheral devices connected to it.
- 2) Unplug the computer power cord from the wall outlet.
- 3) Remove the computer's cover. Refer to your computer owner's manual for instructions.
- 4) **CAUTION:** Always discharge static electricity before handling your modem. You may discharge static electricity by touching a grounded metal structure or by using any commercially available grounding strap.

Make sure the expansion slot type is PCI, which has a smaller slot to fit the PCI modem card. If you are not familiar with computers or computer hardware or you cannot tell the difference between an ISA slot or PCI slot, obtain the help of someone who has a thorough understanding of computers. You will severely damage your computer if you install the modem in the wrong slot.

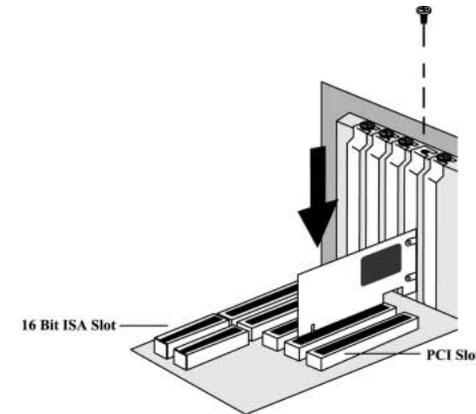
- 5) Remove the screw securing the expansion slot cover behind one of the computer's available PCI expansion slots. Lift the expansion slot cover out as shown below.

Note: Make sure the slot is a PCI slot. The card will fit securely in a keyed PCI slot. PCI slots are smaller than ISA slots. PCI slots are light colored and ISA slots are dark colored.

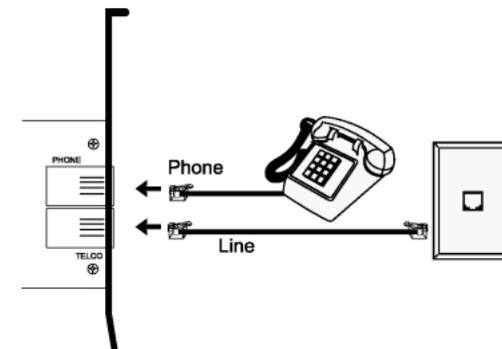


The position of the expansion slots in your computer may differ from the illustrations shown in this user's manual, depicting the slots in a vertical position. Regardless of the position of the expansion slots, the installation steps remain the same. Please refer to your computer owner's manual for more information about the expansion slot configuration of your computer.

- 6) Insert your *Actiontec* V.92 PCI Pro Modem into the available PCI expansion slot. Then press on the top edge of the card, straight down until the card's connectors seat firmly in the PCI slot. Secure it with the screw removed in Step 5, as shown below.



- 7) Put the cover back on the computer and fasten.
- 8) Make sure that all power switches are in the OFF position, then reconnect the power cables to the computer and its peripherals.
- 9) Unplug the telephone line cable from the telephone and connect it to the Line jack as shown below. Then you can connect your telephone to the jack labeled "Phone".



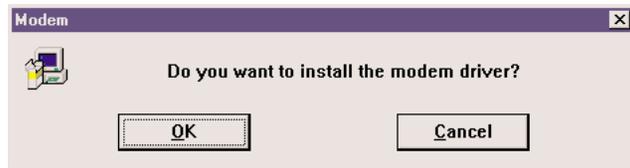
Installing the Modem Drivers

Configuring Windows 98, Windows 2000, and Windows ME

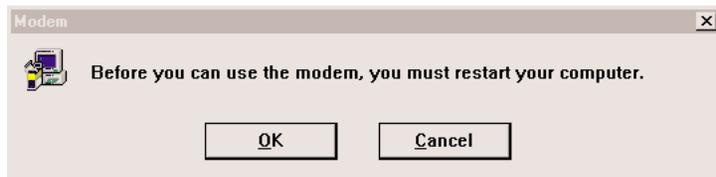
- 1) Before installing the modem hardware, insert the CD-ROM provided with the modem. The driver installation dialog box will appear. Click **Install** to begin the driver installation.



- 2) Click **OK** in the dialog box to continue the driver installation.



- 3) Click **OK** to restart the computer and then follow the modem hardware installation instructions in Section 4.



Configuring Windows NT

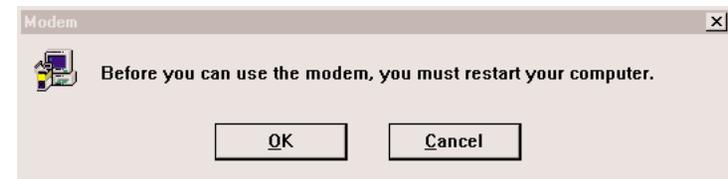
- 1) After installing the modem hardware as shown in Section 4, insert the CD-ROM provided with the modem. The driver installation dialog box will appear. Click **Install** to begin the driver installation.



- 2) Click **OK** in the dialog box to continue the driver installation.

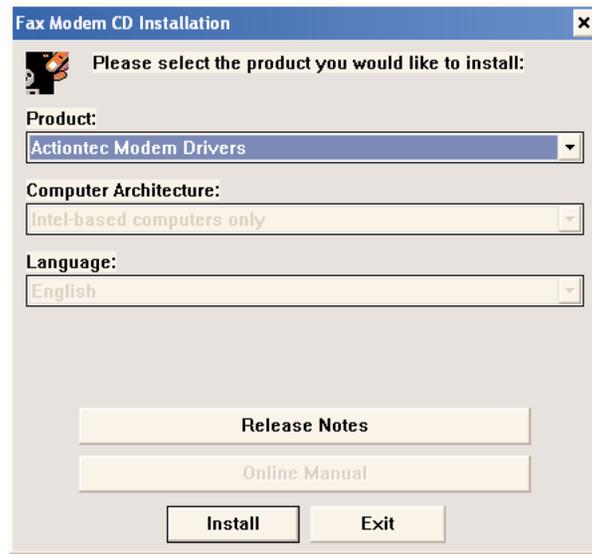


- 3) Click **OK** to restart the computer.

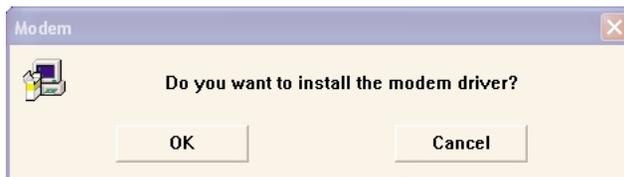


Configuring Windows XP

- 1) After installing the modem hardware as shown in Section 4, insert the CD-ROM provided with the modem. The driver installation dialog box will appear. Click **Install** to begin the driver installation.



- 2) Click **OK** in the dialog box to continue the driver installation.



- 3) Click **Continue Anyway** in the Hardware Installation dialog box.



- 3) Click **EXIT** to complete the installation and close the application.



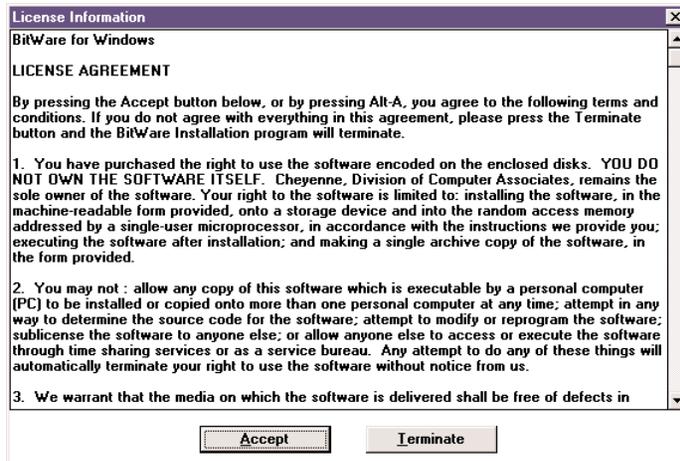
Installing Communications Software

Installing on Windows NT, 98, 2000, and ME

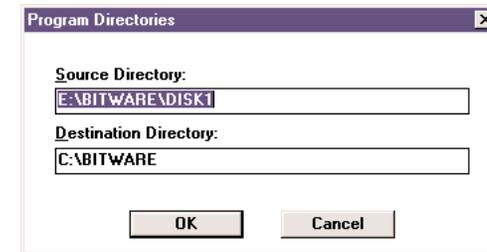
- 1) Insert the CD-ROM if you have not done so already and the BitWare Communications Software will begin the installation process. Select “BitWare for Windows Voice/Fax/Data 3.30.11” and click **Install** to continue.



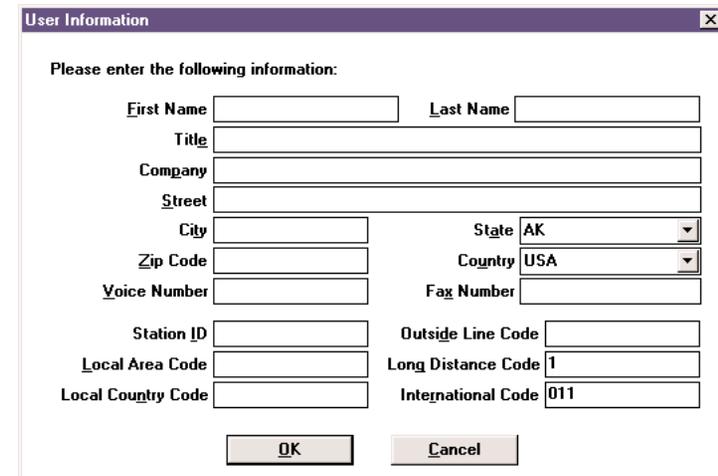
- 2) Click **Accept** to accept the software license terms.



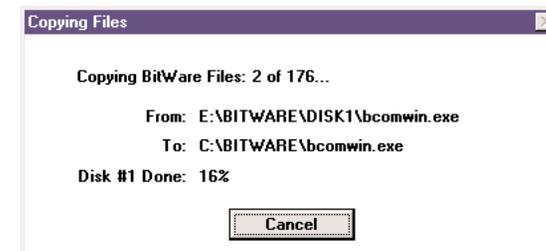
- 3) The “Source Directory” should be pointing to the BitWare folder on your CD-ROM drive. Input the “Destination Directory” where you would like the communications software installed.. Click **OK**.



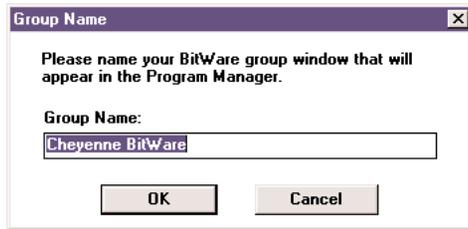
- 4) Input your user information and click **OK**.



- 5) The installer will begin copying files to your hard drive.



6) Enter a name for the BitWare group window and click **OK**.



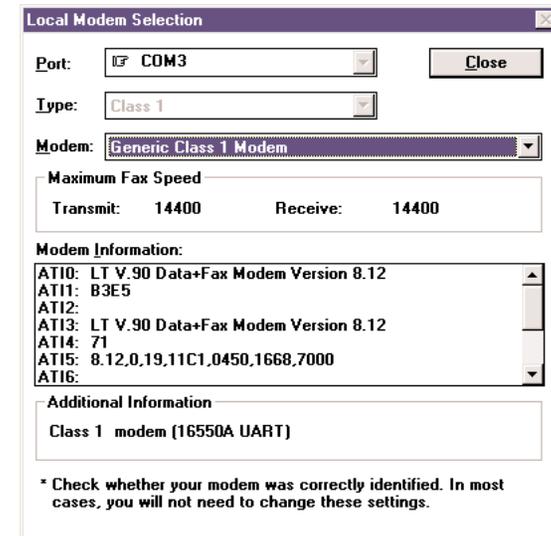
7) If you would like the installer to create independent Programs Icons click **OK**. Otherwise click **Cancel** to skip this step.



8) The installer will detect the Actiontec V.92 PCI Pro Modem.



9) The installer will display the results of the modem detection. In most cases you will not need to make any changes. Click **Close** to continue.

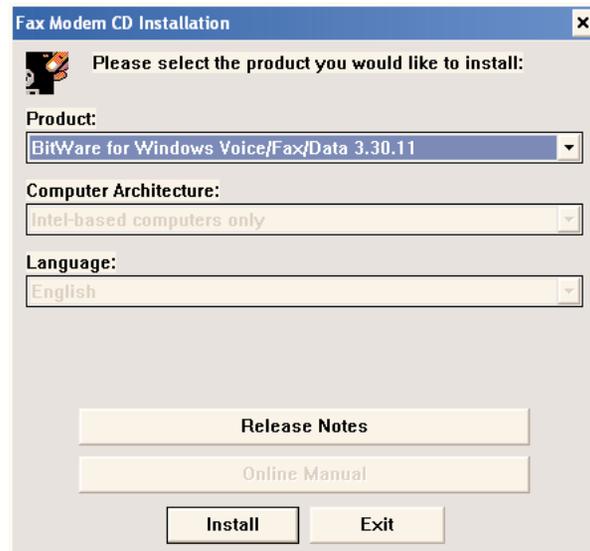


10) Click **OK** to restart Windows and begin using the software.

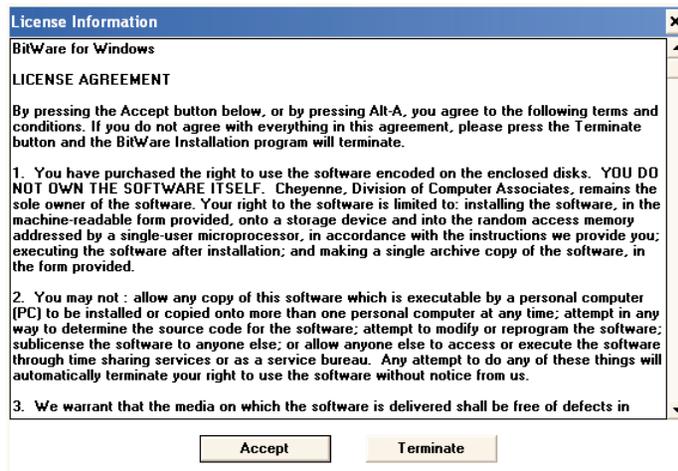


Installing on Windows XP

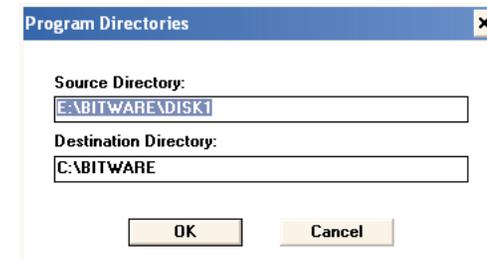
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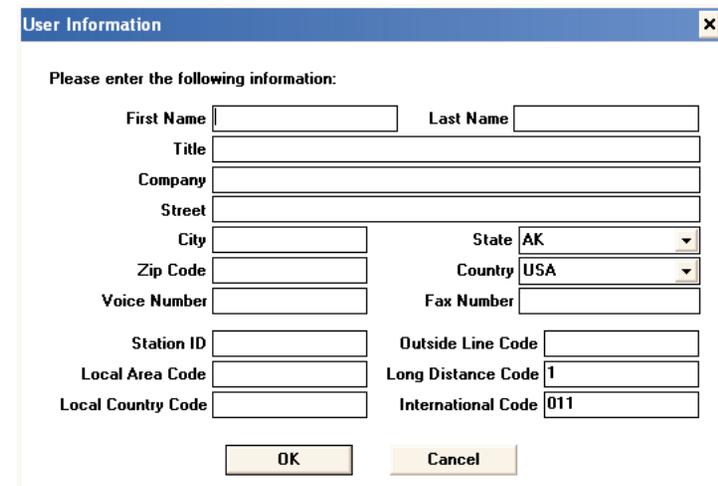
- 2) Click **Accept** to accept the software license terms.



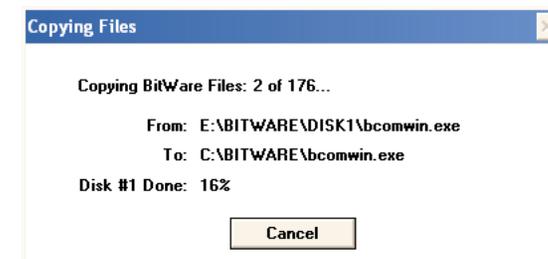
- 3) The "Source Directory" should be pointing to the BitWare folder on your CD-ROM drive. Input the "Destination Directory" where you would like the communications software installed. Click **OK**.



- 4) Input your user information and click **OK**.



- 5) The installer will begin copying files to your hard drive.



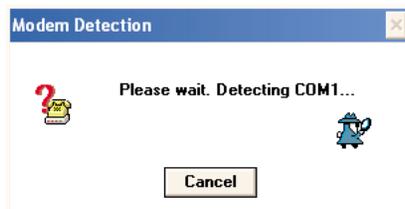
6) Enter a name for the BitWare group window and click **OK**.



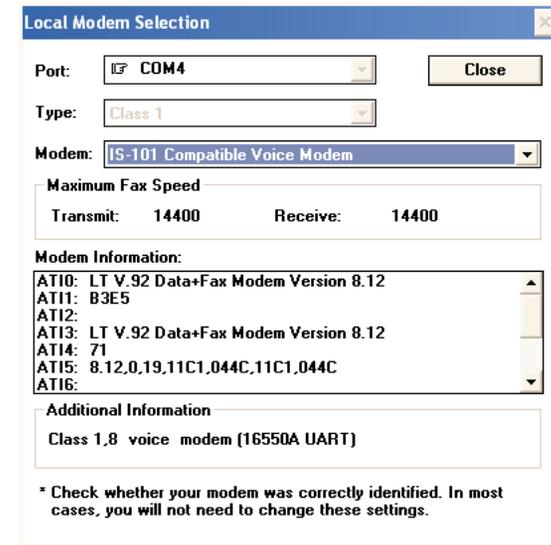
7) If you would like the installer to create independent Programs Icons click **OK**. Otherwise click **Cancel** to skip this step.



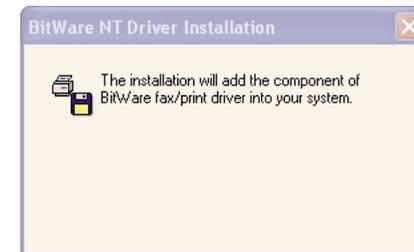
8) The installer will detect the Actiontec V.92 PCI Pro Modem.



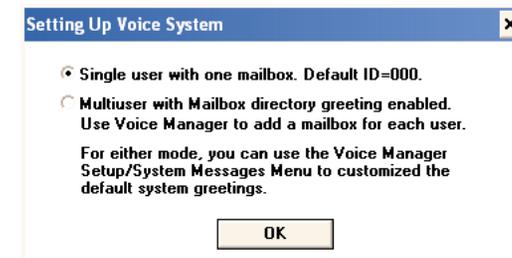
9) The installer will display the results of the modem detection. In most cases you will not need to make any changes. Click **Close** to continue.



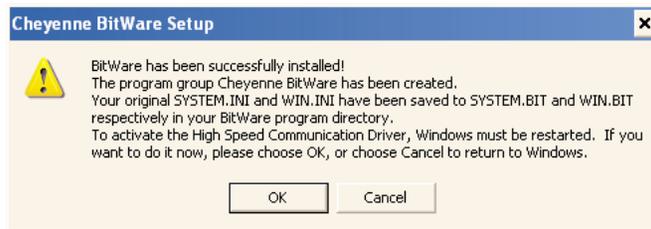
10) The software will install the BitWare fax/print driver onto your system.



11) If the system will be used by a single user, select the first option. If multiple users need to have mailboxes select the second option. Click **OK** to continue.



10) Click **OK** to restart Windows and begin using the software.



The Modem On Hold Feature

The *Actiontec* V.92 PCI Pro Modem includes the Modem On Hold feature which will notify you of an incoming call while you are surfing the Web. The Caller ID info box will appear on your screen. If Caller ID is unavailable then you can pick up the phone to find out who is calling you, and you'll have a period of time (the amount of time depends on your ISP) to hang up the phone and continue surfing.

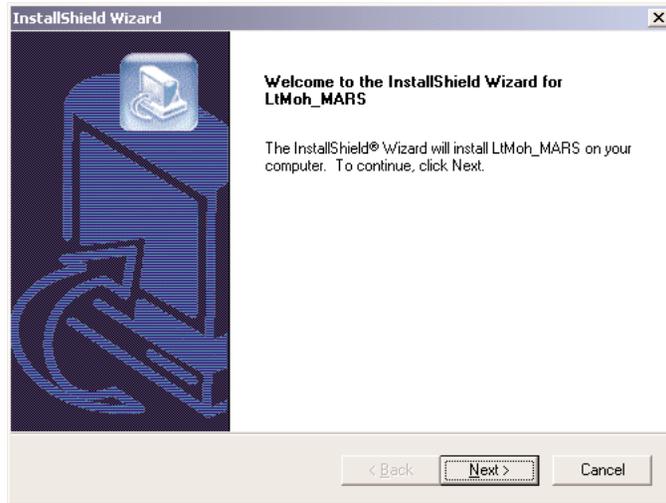
Note For the Modem On Hold feature to function you must have the Call Waiting service from your local telephone company and your ISP must support the V.92 protocol. To see the ID of the incoming caller you will also need the Caller ID service from the telephone company.

Installing the Modem On Hold Feature

- 1) Launch the Setup application for LtMoh_MARS software. The installation will begin installing the Modem On Hold software.



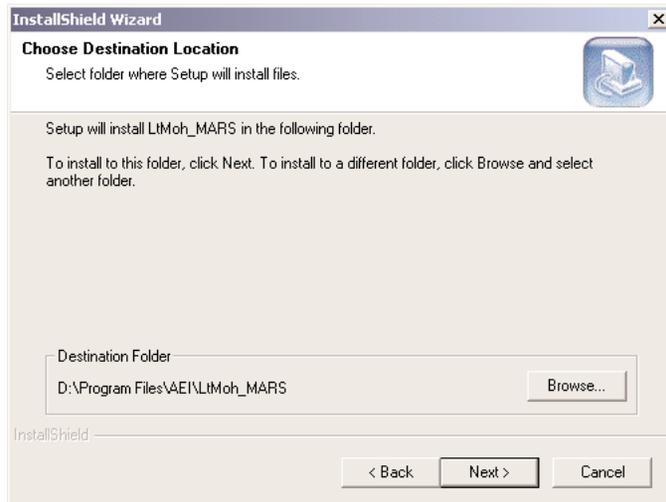
2) Click **Next** to continue the installation.



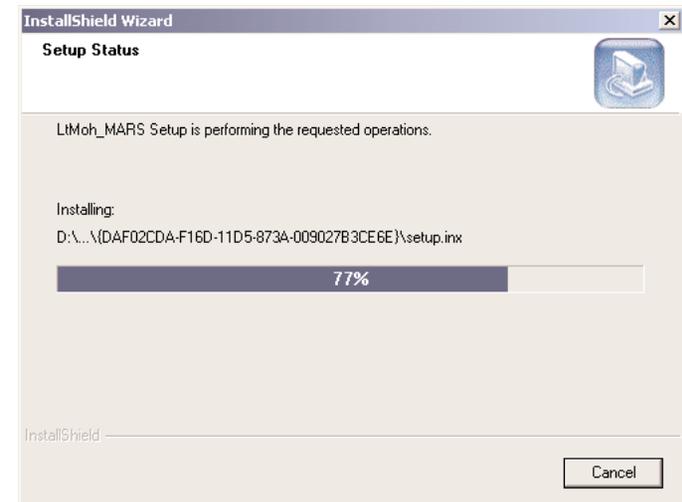
4) Select a Program Folder and click **Next**.



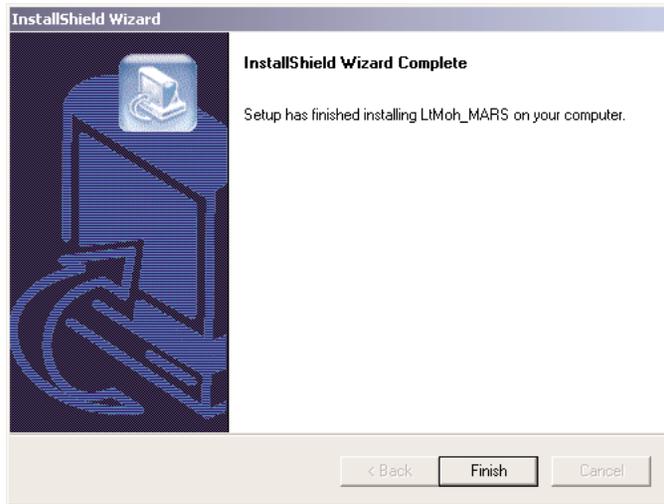
3) The window will display the destination folder. If you would like to change the destination folder click **Browse** and select the folder you wish to install the software. Click **Next** to continue.



5) The installer will begin the installation process and copy the files to your hard drive.



6) Click **Finish** to complete the installation.



If you clicked “Ignore” or when you are finished on the voice call, the software will re-establish the data connection to your ISP.



If you clicked “Answer” the software will put your data connection on hold and allow you to accept the voice call. If you wish to hang up the voice call and continue with the data call, click **Resume Data Call**.

Using the Modem On Hold Feature

With the Modem On Hold feature, you can accept calls while you are surfing the Web. When a call is detected a window will display the caller's number and name if you have Caller ID service. You may choose to ignore the call by clicking **Ignore**.

You can accept the call by clicking **Answer**. You will then have a certain amount of time before the modem's data call will disconnect.



When I Restart My Computer (using a Windows operating system) the Modem is not Detected.

Verify that the modem cable is connected directly to a wall jack and that there is a dial tone (see pg 7).

Make sure the modem is initialized correctly. Issuing AT&FS and pressing **Enter** (see “AT Commands”pg 27) will reset the modem to its factory default settings.

The Modem Does Not Dial

Make sure the modem is turned on, and connected to a working phone line. To ensure the phone line is functioning properly, plug in a telephone and make sure there is a dial tone.

The Modem Dials But it Does Not Connect

First, make sure the communications software is configured to the same COM Port and IRQ setting. Second, verify that the phone line is working properly as laid out in the previous troubleshooting section.

The Modem Reports a Busy Signal

First, verify that your call waiting modem is connected directly to the wall phone jack because if you there is a splitter then the modem will not to function properly. Second, in your Internet provider setting's, please make sure that you do not have a *70 in front of the access number. The *70 disables call waiting, therefore giving whoever calls, a busy signal.

To check that the modem was installed correctly and to determine what COM port and IRQ are assigned follow the steps below.

- 1) On the desktop click **Start** then **Settings** and **Control Panel**. Double click **Modems**.
- 2) Select the tab **Diagnostics** and then select **More Info**.

AT Command Sets

There may be times when you need to access the modem manually with AT commands. Commands may be sent to your modem from a PC running communications software.

Command Format

All commands must begin with the AT prefix, followed by the parameter and ending with the ENTER key. All commands may be typed in either upper or lower case, but not mixed A command without any parameters will be considered as specifying the same command with a parameter of “0”. The maximum command length is eight (8) characters. The modem does not count the AT prefix, carriage returns, or spaces.

Example: ATH

This command causes your modem to hang up.

Basic AT Commands

In the following listings, all default settings are printed in bold text.

Command	Function
A/	Repeat last command. Do not precede A/ with AT or follow with ENTER
A	Answer
D_	Dial command
P	Select pulse dialing; affects current and subsequent dialing
T	Select tone dialing; affects current and subsequent dialing
En	Command echo
E0	Disables echo
E1	Enables echo (default)
Hn	Switch hook Control
H0	Hangs up the telephone line (default)
H1	Picks up the telephone line
Ln	Speaker volume

L0	Off or low speaker volume
L1	Low volume
L2	Medium volume (default)
L3	High volume

AT Commands Affecting ITU-T V.90 Operation

There are 3 S-registers which support K56flex, V.90, and V.34 connections. S38 sets the maximum downstream speed that the modem attempts to connect. To disable V.90, set S38 to 0. The S37 register is used to control the upstream V.34 rate. Use the S109 register to select between K56flex and V.90 protocols.

S37	Dial Line Rate (default 0)
S37 = 0	maximum modem speed (default)
S37 = 1	reserved
S37 = 2	1200 bits/s and 75 bits/s
S37 = 3	300 bits/s
S37 = 4	reserved
S37 = 5	1200 bits/s
S37 = 6	2400 bits/s
S37 = 7	4800 bits/s
S37 = 8	7200 bits/s
S37 = 9	9600 bits/s
S37 = 10	12000 bits/s
S37 = 11	14400 bits/s
S37 = 12	16800 bits/s
S37 = 13	19200 bits/s
S37 = 14	21600 bits/s

S37 = 15	24000 bits/s
S37 = 16	26400 bits/s
S37 = 17	28800 bits/s
S37 = 18	31200 bits/s
S37 = 19	33600 bits/s

S38 56K Dial Line Rate (default 1)

S38 = 0	Disable all 56K connections
S38 = 1	autorate - maximum achievable connection (default)
S38 = 2	29333 bits / s
S38 = 3	30666 bits / s
S38 = 4	32000 bits / s
S38 = 5	33333 bits / s
S38 = 6	34666 bits / s
S38 = 7	36000 bits / s
S38 = 8	37333 bits / s
S38 = 9	38666 bits / s
S38 = 10	40000 bits / s
S38 = 12	42666 bits / s
S38 = 13	44000 bits / s
S38 = 14	45333 bits / s
S38 = 15	46666 bits / s
S38 = 16	48000 bits / s
S38 = 17	49333 bits / s
S38 = 18	50666 bits / s
S38 = 19	52000 bits / s
S38 = 20	53333 bits / s

S109

K56flex and V.90 Selection (default 1)

Use this register to disable 56K connections or to choose between K56flex and V.90 protocols. The default setting (S109=1) will attempt K56flex and then V.34 depending upon the central site modem being called and your phone line conditions.

S109 = 0	Disable all 56K connections
S109 = 1	K56flex only, V.90 disabled (default)
S109 = 2	V.90 only. K56flex disabled

Examples

`at&fs38=0s109=0` This will disable ALL 56K connections

`at&fs38=1s109=1s37=14` This will disable V.90 connections. The modem will try to connect at K56flex rates with the V.34 upstream rate limited to 21.6K bps.

`at&fs38=1s109=2` This will cause the modem to attempt a V.90 connection only. If V.90 is not achieved, it will fall back to V.34 rates.

`at&fs38=10s109=2` This will cause the modem to attempt a V.90 connection at 40K bps. It will fall back to slower speeds if it cannot achieve or maintain this rate.

As a suggested “init string” in your communications program, use:

`at&fw2s109=2s38=1s37=14`

Notices

Declaration of Conformity

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 and television reception, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient 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: CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

Telecommunications Regulations

The following three statements are provided in accordance with the Federal Communications Commission (FCC) and CDOC (Canada) regulations. Please read these statements carefully before installing your modem.

FCC PART 68 REQUIREMENTS

This equipment complies with Part 68 of the FCC Rules. On the bottom of this equipment 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 the telephone company.

The REN is used to determine the maximum number of devices connected to your telephone line that will ring in response to an incoming call. In most, but not all, areas, the total REN of devices connected to a line should not exceed five (5.0). To find out the total permitted in your area, contact your local telephone company.

If your telephone equipment causes harm to the telephone network, the telephone company can discontinue your service temporarily. If possible, the company will notify you in advance. But if advance notice isn't 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 can make changes in its facilities, equipment, operations, or procedures that could affect the operation of your equipment. If so, you will be notified in advance so you can make the changes needed to maintain uninterrupted service.

If you experience trouble with this equipment, please contact the manufacturer at the address given in this manual. 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.

connected together. This precaution may be particularly important in rural areas.

Caution: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

IX Canadian Department Of Communications (CDOC) Certification Label

NOTICE: The Canadian Department of Communications 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 operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the company's 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.

Repairs 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 of the power utility, telephone lines, and internal metallic water pipe system, if present, are

Safety Information

This modem is for use only with Personal Computers that have installation instructions detailing user installation of this type of peripheral device.

CAUTION:

To avoid shock hazard:

The power cord and any other equipment to which this product will be attached must be connected to properly wired receptacles. Do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm.

When using your telephone equipment basic safety precautions should always be followed to reduce the risk of fire, electrical shock, and injury. Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.

Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface. Use caution when installing or modifying telephone lines. Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electrical shock from lightning. Do not use the telephone to report a gas leak in the vicinity of the leak.

Do not connect your modem to a digital PBX (switchboard) system, because you may damage the modem. Modems are designed to function with analog telephone lines,

such as residential lines. Do not connect your modem to an ISDN line. In some areas, ISDN (digital) lines are being provided for residences and businesses. These lines may damage the modem. Please note that this modem is fully compatible with analog telephone lines that are connected to a Digital Exchange. Digital Exchanges are used in some areas to supply analog lines to homes and businesses.

Warranty

Actiontec Electronics, Inc. Limited Warranty

HARDWARE: *Actiontec* Electronics Inc. warrants to the end user ("Customer") that this hardware product will be free from defects in workmanship and materials, under normal use and service, for twelve (12) months from the date of purchase from *Actiontec* Electronics or its authorized reseller.

Actiontec Electronics' sole obligation under this express warranty shall be, at *Actiontec*'s option and expense, to repair the defective product or part, deliver to Customer an equivalent product or part to replace the defective item, or if neither of the two foregoing options is reasonably available, *Actiontec* Electronics may, in its sole discretion, refund to Customer the purchase price paid for the defective product. All products that are replaced will become the property of *Actiontec* Electronics Inc. Replacement products may be new or reconditioned. *Actiontec* Electronics warrants any replaced or repaired product or part for ninety (90) days from shipment, or the remainder of the initial warranty period, whichever is longer.

SOFTWARE: *Actiontec* Electronics warrants to Customer that each software program licensed from it will perform in substantial conformance to its program specifications, for a period of ninety (90) days from the date of purchase from *Actiontec* Electronics or its authorized reseller. *Actiontec* Electronics warrants the media containing software against failure during the warranty period. The only updates that will be provided are at the sole discretion of *Actiontec* Electronics and will only be available for download at the *Actiontec* website, www.actiontec.com. *Actiontec* Electronics' sole obligation under this express warranty shall be, at *Actiontec* Electronics' option and expense, to refund the purchase price paid by Customer for any defective software product, or to replace any defective media with software which substantially conforms to applicable *Actiontec* Electronics published specifications. Customer assumes responsibility for the selection of the appropriate applications program and associated reference materials. *Actiontec* Electronics makes no warranty or representation that its software products will meet Customer's requirements or work in combination with any hardware or applications software products provided by third parties, that the operation of the software products will be uninterrupted or error free, or that all defects in the software products will be corrected. For any third-party products listed in the *Actiontec* Electronics software product documentation or specifications as being compatible, *Actiontec* Electronics will make reasonable efforts to provide compatibility, except where the non-compatibility is caused by a "bug" or defect in the third party's product or from use of the software product not in accordance with *Actiontec* Electronics published specifications or User Guide.

THIS ACTIONTEC ELECTRONICS PRODUCT MAY INCLUDE OR BE BUNDLED WITH THIRD-PARTY SOFTWARE, THE USE OF WHICH IS GOVERNED BY A SEPARATE END-USER LICENSE AGREEMENT. THIS ACTIONTEC ELECTRONICS WARRANTY DOES NOT APPLY TO SUCH THIRD-PARTY SOFTWARE. FOR THE APPLICABLE WARRANTY, PLEASE REFER TO THE END-USER LICENSE AGREEMENT GOV-

ERNING THE USE OF SUCH SOFTWARE

OBTAINING WARRANTY SERVICE: Customer may contact *Actiontec* Electronics Technical Support Center within the applicable warranty period to obtain warranty service authorization. Dated proof of purchase from *Actiontec* Electronics or its authorized reseller may be required. Products returned to *Actiontec* Electronics must be pre-authorized by *Actiontec* Electronics with a Return Merchandise Authorization (RMA) number marked on the outside of the package, and sent prepaid and packaged appropriately for safe shipment, and it is recommended that they be insured or sent by a method that provides for tracking of the package. The repaired or replaced item will be shipped to Customer, at *Actiontec* Electronics' expense, not later than thirty (30) days after *Actiontec* Electronics receives the defective product. Return the product to:

In the United States

Actiontec Electronics, Inc

760 North Mary Avenue

Sunnyvale, CA 94085

Actiontec Electronics shall not be responsible for any software, firmware, information or memory data or Customer contained in, stored on, or integrated with any products returned to *Actiontec* Electronics for repair, whether under warranty or not.

WARRANTIES EXCLUSIVE: IF AN *ACTIONTEC* ELECTRONICS' PRODUCT DOES NOT OPERATE AS WARRANTED ABOVE, CUSTOMER'S SOLE REMEDY FOR BREACH OF THAT WARRANTY SHALL BE REPAIR, REPLACEMENT, OR REFUND OF THE PURCHASE PRICE PAID, AT *ACTIONTEC* ELECTRONICS' OPTION. TO THE FULL EXTENT ALLOWED BY LAW, THE FOREGOING WARRANTIES AND REMEDIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, TERMS OR CONDITIONS, EXPRESS OR IMPLIED, EITHER IN FACT OR BY OPERATION OF LAW, STATUTORY OR OTHERWISE, INCLUDING WARRANTIES, TERMS OR CONDITIONS OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, SATISFACTORY QUALITY, CORRESPONDENCE WITH DESCRIPTION, AND NON-INFRINGEMENT, ALL OF WHICH ARE EXPRESSLY DISCLAIMED. *ACTIONTEC* ELECTRONICS NEITHER ASSUMES NOR AUTHORIZES ANY OTHER PERSON TO ASSUME FOR IT ANY OTHER LIABILITY IN CONNECTION WITH THE SALE, INSTALLATION, MAINTENANCE OR USE OF ITS PRODUCTS.

ACTIONTEC ELECTRONICS SHALL NOT BE LIABLE UNDER THIS WARRANTY IF ITS TESTING AND EXAMINATION DISCLOSE THAT THE ALLEGED DEFECT OR MALFUNCTION IN THE PRODUCT DOES NOT EXIST OR WAS CAUSED BY CUSTOMER'S OR ANY THIRD PERSON'S MISUSE, NEGLIGENCE, IMPROPER INSTALLATION OR TESTING, UNAUTHORIZED ATTEMPT TO OPEN, REPAIR OR MODIFY THE PRODUCT, OR ANY OTHER CAUSE BEYOND THE RANGE OF THE INTENDED USE, OR BY ACCIDENT, FIRE, LIGHTNING, OTHER HAZARDS OR ACTS OF

GOD.

LIMITATION OF LIABILITY: TO THE FULL EXTENT ALLOWED BY LAW, *ACTIONTEC* ELECTRONICS ALSO EXCLUDES FOR ITSELF AND ITS SUPPLIERS ANY LIABILITY, WHETHER BASED IN CONTRACT OR TORT (INCLUDING NEGLIGENCE), FOR INCIDENTAL, CONSEQUENTIAL, INDIRECT, SPECIAL, OR PUNITIVE DAMAGES OF ANY KIND, OR FOR LOSS OF REVENUE OR PROFITS, LOSS OF BUSINESS, LOSS OF INFORMATION OR DATA, OR OTHER FINANCIAL LOSS ARISING OUT OF OR IN CONNECTION WITH THE SALE, INSTALLATION, MAINTENANCE, USE, PERFORMANCE, FAILURE, OR INTERRUPTION OF ITS PRODUCT, EVEN IF *ACTIONTEC* ELECTRONICS OR ITS AUTHORIZED RESELLER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, AND LIMITS ITS LIABILITY TO REPAIR, REPLACEMENT, OR REFUND OF THE PURCHASE PRICE PAID, AT *ACTIONTEC* ELECTRONICS' OPTION. THIS DISCLAIMER OF LIABILITY FOR DAMAGES WILL NOT BE AFFECTED IF ANY REMEDY PROVIDED HEREIN SHALL FAIL OF ITS ESSENTIAL PURPOSE.

DISCLAIMER: Some countries, states or provinces do not allow the exclusion or limitation of implied warranties or the limitation of incidental or consequential damages for certain products supplied to consumers, or the limitation of liability for personal injury, so the above limitations and exclusions may be limited in their application to you. When the implied warranties are not allowed to be excluded in their entirety, they will be limited to the duration of the applicable written warranty. This warranty gives you specific legal rights which may vary depending on local law.

DISPUTE RESOLUTION: The customer may contact the Director of Technical Support in the event the Customer is not satisfied with *Actiontec* Electronics response to the complaint. In the event that the Customer is still not satisfied with the response of the Director of Technical Support, the Customer is instructed to contact the Director of Marketing. In the event that the Customer is still not satisfied with the response of the Director of Marketing, the Customer is instructed to contact the Chief Financial Officer and/or President.

GOVERNING LAW: This Limited Warranty shall be governed by the laws of the State of California, U.S.A. excluding its conflicts of laws principles and excluding the United Nations Convention on Contracts for the International Sale of Goods.

