MDP7800 PCI MODEM

User's Manual

Part 15 FCC Compliance Statement

This device complies with Part 15 of FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

Operating Environment

For Home or Office Use

Notice

This equipment has been tested and found to comply with the limits of 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 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

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

Modification

Any modification not expressly approved by the manufacturer of this device could void the user's authority to operate the device.

Party Responsible for Product Compliance:

Aztech Labs, Inc.
45645 Northport Loop East
Fremont, CA 94538, U.S.A.

Part 68 FCC Compliance Statement
(FCC ID : 4JSNG-25441-M5-E)

This equipment complies with Part 68 of the FCC Rules. On the 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 provided to your telephone company.

Connection to the telephone network should be made by using standard modular telephone jack type RJ11.

The REN is useful to determine the quantity of devices you may connect to your telephone line and still have all of those devices ring when your telephone number is called. 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 to determine the maximum REN for your calling area.

If your telephone equipment causes harm to the telephone network, the telephone company may discontinue your service temporarily. If possible, they will 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 in 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.

In the event this equipment should fail to operate properly, disconnect the unit from the telephone line. Try using another FCC approved telephone in the same telephone jack. If the trouble persists, call the telephone company repair service bureau. If the trouble does not persist and appears to be with this unit, disconnect the unit from the telephone line and discontinue use of the unit until it is repaired. Please note that the telephone company may ask that you disconnect this equipment from the telephone network until the problem has been corrected or until you're 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 subject to state tariffs.

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 message and the telephone number of the sending machine or such business, or entity, or individual.

This user information can be programmed in the communication software you are using with your equipment.

Repair or Service Information

In the event of the need for service or repair, carefully package the unit along with a note of the problem and send it to the address below or the authorized service center nearest you. Be sure to include your address (not a P.O Box), telephone number and best time to call.

Attn: *Aztech Labs, Inc.*
          45645 Northport Loop East
          Fremont, CA 94538, U.S.A.

Canadian Department of Communications Notice

The Canadian Department of Communications (DOC) 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, make sure you are permitted to connect it to the facilities of the local telecommunications company. You must install the equipment using a acceptable method of connection. In some cases you may also extend the company's inside wiring for single line individual service by means of certified connector assembly (telephone extension cord). You should be aware, however, 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 designed by the supplier. Any repairs or alterations made by a user to this equipment, or equipment malfunctions, may give the telephone communications company cause to request the user to disconnect the equipment.

For your own protection, make sure that the electrical ground connections of 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: Do not attempt to make electrical ground connections yourself; contact the appropriate electric inspection authority or an electrician.

The load number (LN) assigned to each terminal device denotes the percentage of the total load to be connected to the telephone loop used by the device, to prevent overloading. The termination on a loop may consist of any combination of devices, subject to the requirement that the total of the load numbers of all the devices does not exceed 100.

Repair or Service Information

In the event of the need for service or repair, carefully package the unit along with a note of the problem and send it to the address below or the authorized service center nearest you . Be sure to include your address (not a P.O Box), telephone number and best time to call.

Attn: *Morrice Associate*
816 Norwick Road, Newmarket
Ontario, L3X 1K8, Canada

This page has been intentionally left blank.

Table Of Contents

This page has been intentionally left blank.

Chapter

Setting up Your Modem

■ ■

Thank you for buying the MDP7800 PCI Modem.

With the MDP7800 PCI Modem alone, you can perform a comprehensive range of modem-related functions including data communications, sending and receiving of faxes.

The intensive demands of today's Internet applications will no longer be a bottleneck. Using the MDP7800 PCI Modem, you can now download graphic intensive web pages, high bandwidth audio and video files and large file size software programs at speeds of up to 56Kbps.

1.1   Minimum System Requirements

- PC-based computer with Pentium® 100 processor.

- PCI Bus slot.

- 16MB RAM.

- 10MB hard disk space (system files and modem drivers only).

- CD-ROM drive.

- Windows® 95/98 / Windows NT®4.0

1.2   Safety Precaution

- Do not remove your modem from its protective bag until you are ready to install it.

- Always try to hold your modem by its edges. Avoid touching any electronic components on your modem.

- Static electricity can cause permanent damage to your modem. To prevent such a damage, you must ground yourself while installing the modem. You can do this in either of the two ways :

   » Use a grounding strap, which is a coiled wire with a clip at one end and an elastic strap at the other. Wear the strap around your wrist and attach the clip to any non-painted metal surface of the computer's chassis.

   » If you do not have a grounding strap, touch any non-painted surface of the computer's chassis before you begin installation, and again every minute or so until the installation is completed.

1.3   Installation Notes

- Computers come in different shapes and sizes. Therefore, the installation procedures in this chapter apply generally and you should compare the illustrations here with your computer before you start the modem installation.

- A Philips-type Screwdriver is required for the modem installation.

- Your computer's documentation should come in handy during the modem installation. Have it ready by your side when you start the installation.

- If you have an existing modem (that is non-Plug-and-Play-based) installed in your computer, you must first un-install its modem drivers before you remove the modem. Refer to your existing modem documentation for more details on this.

    If your existing modem is plug-and-play-based, then you can safely proceed to install your new modem.

1.4   Installing the Modem

You need to remove any existing modem installed in your computer. Note that if the modem is non-Plug-and-Play-based, you need to un-install its modem drivers before you remove it. Check your existing modem documentation for details on this.

Power off your computer and any connected devices before installing your modem!

❶ Remove your computer's chassis cover and set it aside, somewhere out of your way.
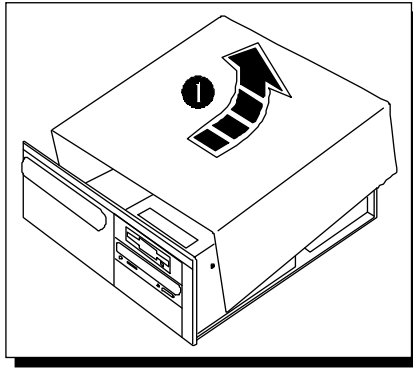
You need to remove any existing modem installed in your computer.

➋ Select an available PCI Bus slot and if necessary, remove its cover plate. Keep the mounting screw to secure your modem later.
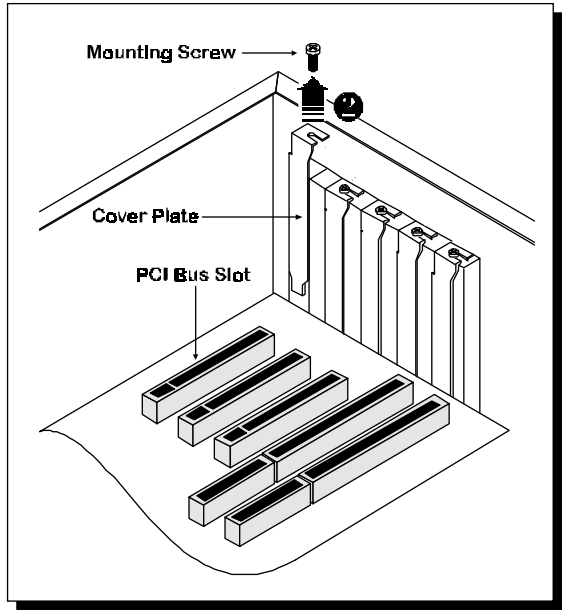
➌ Align your modem with the selected PCI Bus slot and firmly push it into the slot. If the modem will not slide in, do not force it. Make sure the modem is lined up properly and try again.
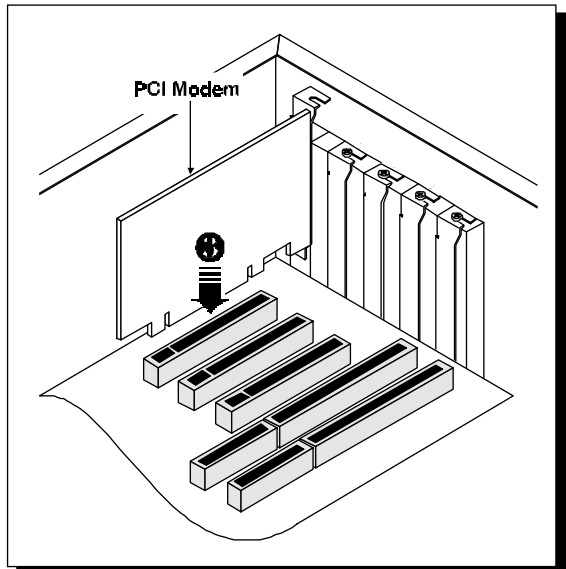
❹   Secure your modem to the computer chassis with a mounting screw.
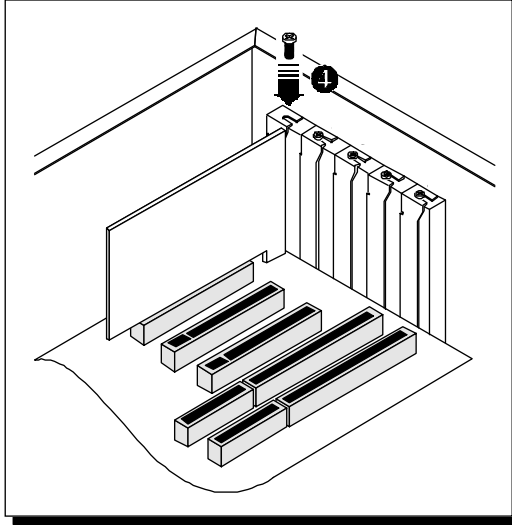
❺   Replace your computer's chassis cover.
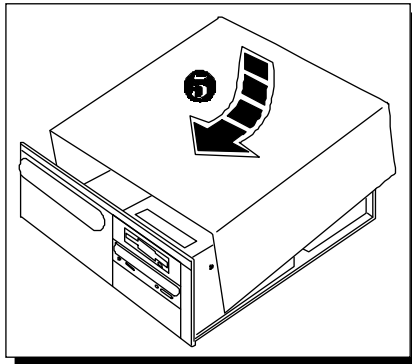
1.5   Connecting the Modem
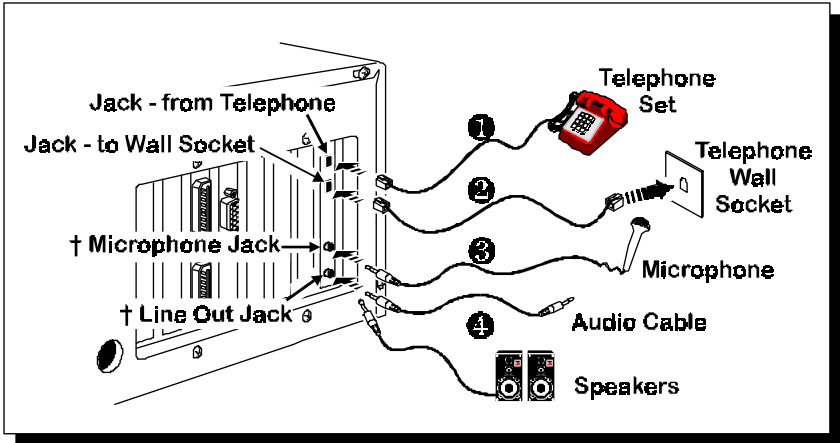
†*MDP7800SP-U comes with Mic & Line Out Jacks*

❶   Connect a telephone set to the fax/modem card.

❷   Connect one end of the telephone extension cord to the fax/modem card and the other end to the telephone wall socket.

❸   Connect a microphone to the modem card (MDP7800SP-U only).

❹   Connect a pair of active/amplified speakers to the modem card. Alternatively, if you have a sound card in your computer, you can "line-in" to your sound card using an audio cable (MDP7800SP-U only).

This completes the setting up of your modem. Please proceed to the next chapter for information on installing the modem drivers in Windows® 95/98 & Windows NT®4.0.

This page has been intentionally left blank.

Chapter

Installing the Modem Drivers in Windows® 95/98 & Windows NT® 4.0

■ ■

This chapter contains information on how to install your modem drivers in Windows® 95/98 & Windows NT® 4.0.

Windows® 95

1.   Power on your computer to start Windows® 95.

Windows® 95 will detect the newly-installed modem and an **Update Device Driver Wizard** window will appear.

2. Place your CD/floppy disk into the CD-ROM drive/floppy disk drive and click **Next**.

    Windows® 95 will now prompt you that the modem drivers have been found.

3. Click the **Finish** button to continue with the installation.

4. When the **Insert Disk** window appears, click the **OK** button.
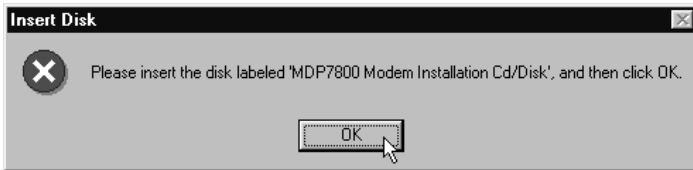
The **Copying Files...** window will appear.
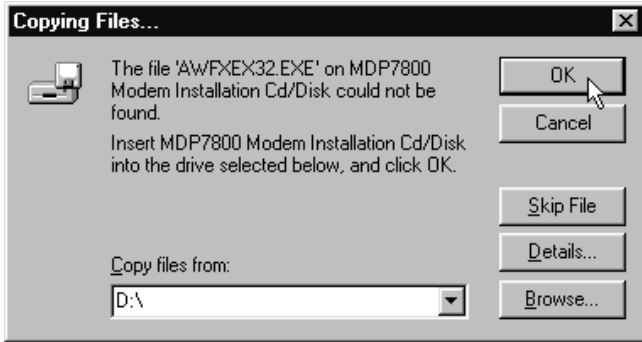
5.   Type "**D:**" in the text box and click **OK** (assuming you have placed the CD in a CD-ROM drive labelled as **D**).

For drivers found on diskette, type "**A:**" in the text box and click **OK** (assuming you have inserted the installation disk in Drive **A**).

This completes the installation of the modem drivers in Windows® 95. Proceed to the next chapter for information on testing your modem.

Windows® 98

1. Power on your computer to start Windows® 98. Windows® 98 will detect the newly-installed modem and an **Add New Hardware Wizard** window will appear.

2. Place your CD/floppy disk into the CD-ROM drive/floppy disk drive and click **Next**.

3. The next window prompt will ask for your modem drivers. Click the option '**Search for the best driver for your device (Recommended).**' and click **Next**.

4. At the next prompt, select the source of your drivers.
    For drivers that are found on **CD**, click the option '**CD-ROM drive**'.
    For drivers that are found on **diskettes**, click the option '**Floppy disk drives**'.

    Click **Next**.

5. To start the drivers installation, click **Next** again.

6. To complete the drivers installation, click **Finish** and restart your system, if prompted.

This completes the installation of the modem drivers in Windows® 98. Proceed to the next chapter for information on testing your modem.

Windows NT® 4.0

1. Start Windows NT®.

2. Place your CD/floppy disk into the CD-ROM drive/floppy disk drive.

3. Click the **Start** button on the taskbar and click **Run.** Type "**D:\winnt**\setup.exe**" (assuming you have placed the CD in a CD-ROM drive labelled as D)

    where ****** is   **7800-u** for MDP7800-U PCI modem

                           7800v-u for MDP7800V-U PCI modem

                           7800sp-u for MDP7800SP-U PCI modem

    For drivers found on diskette, type "**A:\setup.exe**" (assuming you have inserted the **Installation Disk #1** into drive A).

4. Follow any on-screen instructions to complete the software installation.

5. **Restart** your system.

This completes the installation of the modem drivers in Windows NT® 4.0. Proceed to the next chapter for information on testing your modem.

This page has been intentionally left blank.

Chapter 3

Testing the Modem in Windows® 95/98 & Windows NT® 4.0

- -

This chapter contains information on how to test your modem in Windows® 95/98 & Windows NT® 4.0.

Windows® 95/98

1. From the Windows® 95/98 task bar, click the **Start** button.

2. Select **Settings** and then click on **Control Panel**.

3.   Double-click the **Modems** icon.

4.   Click the **Diagnostics** tab.
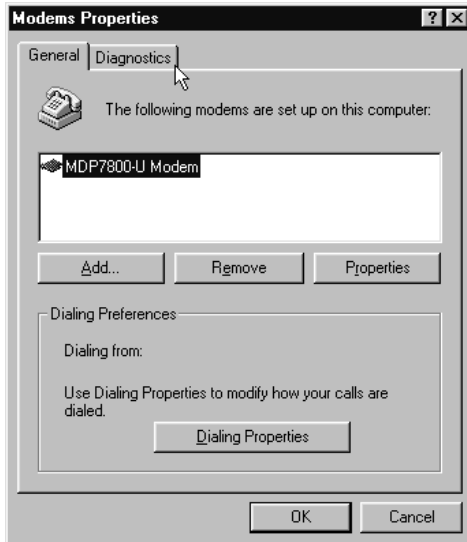
5.   Select the **COM Port** that your modem is connected to. Click on the
      More Info button.
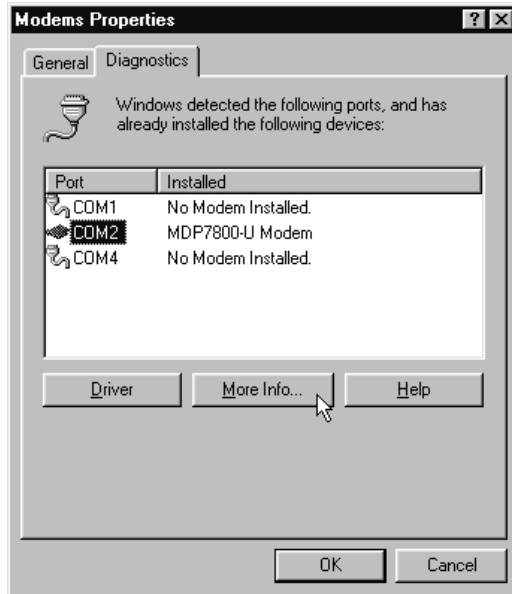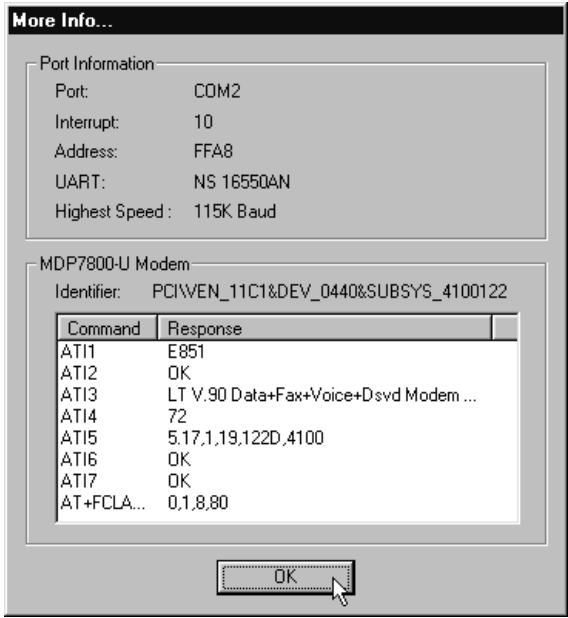
*If your modem is working properly, the **More Info...** window will appear, showing a list of AT commands. (Note that the Port Information shown here may differ from what you see on your computer. This information is determined by the COM Port which you connect your modem to.)*

Windows NT® 4.0

1.   From the Windows NT® task bar, click the **Start** button.

2.   Select **Programs => Accessories => HyperTerminal Folder.**

3.   Click **HyperTerminal**.

4.   Key in the required information prompted by the dialogue boxes.

5.   Click **OK** after entering the telephone number in the dialogue box.

6.   At the next dialogue prompt, click **Cancel**.

7.   Type "**AT**" and press **Enter**. You should see a response, **OK**.

8.   Your modem is now ready to run.

This page has been intentionally left blank.

Appendix

Frequently Asked Questions

■ ■

You may encounter some problems or doubts while installing or using your modem. This chapter highlights some of the more common issues concerning your modem and their possible solutions. Reviewing this chapter can help you solve many problems and often eliminate the need for telephone assistance.

How to identify the MDP7800 modem and drivers?

The model of your card is printed on the serial number label located at the rear of the modem card.

For drivers, open the readme.txt file and you will see the model MDP7800 being mentioned.

You can also issue an ATI5 command using any telephony Data terminal application to get the driver version.

Why does my modem always connecting at 33.6k but not 56k or V90?

Check with your ISP to ensure that they support K56Flex or V.90 connection.

Make sure that your modem is using the 56k driver. For modems with Country Selection feature, please ensure that the modem is set to your local country.

If you are still having problems, please check with your ISP and their Central Site Modem's firmware.

The system cannot detect the modem when I first inserted the card. What's wrong?

Please make sure that the card is fully inserted into the PCI Bus. If the system still cannot detect the modem, you may wish to try using a different PCI slot instead.

Refer to Easy Start Manual or readme.txt for instructions on installation.

After installation, your System Properties (Start/Settings/Control Panel/Systems) should have the following modem properties as featured in the diagram shown on the following page (Using MDP7800-U as example).
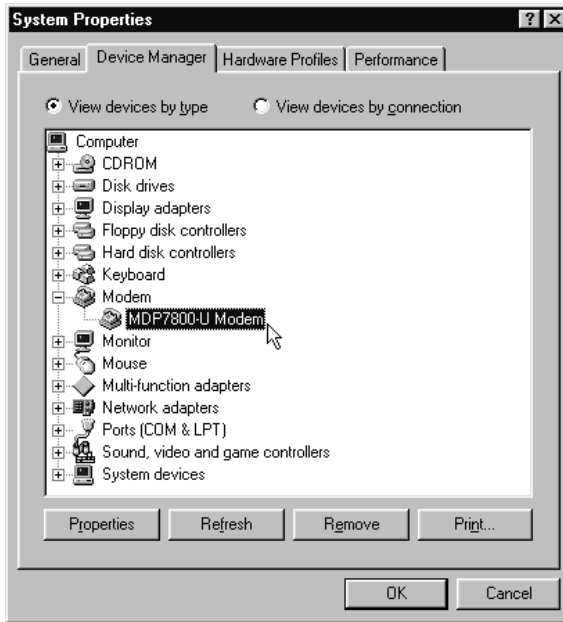
How do I test that the modem is working properly?

Go to Start/Settings/Control Panel/Modem/Diagnostic

Select the Com Port that the modem is connected to and select More Info.

If the modem is working properly, a window will appear listing all the AT Commands (Using MDP7800-U as example).
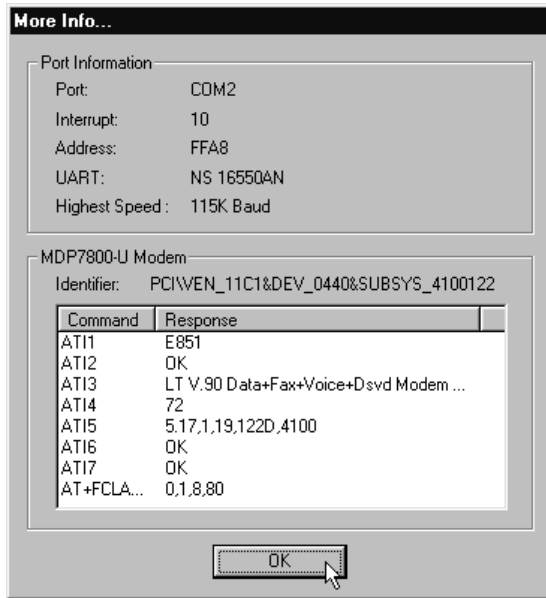
I have done the Diagnostic test. However, the system gave an error message that the system is unable to open the Com Port.

Make sure you have closed all communication software (Hyperterminal, Dial-up Networking etc.) when you are doing the Diagnostic test. However, if you are sure that you have closed all communication software but the error persisted, do the following,

Go to Start/Settings/Control Panel/Systems

Check whether there is any yellow exclamation mark on the modem section. If yes, remove them by selecting the conflicting device, and click Remove. Remove all conflicting devices and re-start the system.

The system will detect the modem and may prompt you for the driver. Please follow the online instructions.

I have done a diagnostic of the modem and that's nothing wrong with it. However, when I use a communication application, there seems to be an error, why?

Try to use a different telephony application like Microsoft Fax to fax a document. If the fax is successful, then the fax function for the card is working fine.

For Data connection, try to use Hyperterminal to dial up to a BBS. If the connection is successful, then the data function for the cards is working fine as well.

You may try to install new versions of communication software that supports higher interrupts.

How do I remove the old modem drivers installed in the system?

Run "deinstal.exe" in the MDP7800 modem installation CD to uninstall MDP7800 modem drivers.

What is the maximum speed that this modem supports and whose solution is this card using?

The MDP7800 modem supports up to 56kbps. It is also backward compatible with most of the old standards. The MDP7800 uses Lucent 56k chipset solution.

Is this modem upgradable to ITU V.90 56k standard?

Yes. No hardware upgrading is required. This is a V.90 ready modem. You may also visit our website to get the latest updates on the release timing for the updated drivers.

How do I know that this modem is V.90 ready?

Proceed to Control Panel/Modem icon. Click on "Diagnostic" followed by selection of the installed modem. Click on "More info". You will see "ATI 3" displaying V.90 is supported and ready.

Where can I get updated drivers for my modem?

You can visit our website for any updated drivers.

How do I initialize the modem?

The following modem command were used to initialize the modem in the terminal emulation mode such as in Windows95 Hyperterminal application: **ATZ**

The modem hangs up when an incoming call is received.

Please make sure that any Call Waiting function is disabled. For modems with Country Selection feature, please make sure you have selected the correct country for the modem.

When I tried to dial out, the system gave me an error message

"No Dial Tone" or cannot dial out successfully.

Check the Telephone Cable connection. If necessary, plug out the telephone cable and reconnect the cable.

You may have other telephony application running. Please use only one telephony application at one time.

There are incomprehensible characters appearing on the screen.

The data, parity and stop bit settings are incorrect. Try using the default values or check with your ISP.

This modem is set to V.90. Why am I getting slow connections to my ISP?

The majority of the telephone lines and ISP are already supporting V.90 connections. However, like all data connection, the connection is sensitive to the amount of noise present in the phone line. Hence, only very "clean" phone line can get high connection rate or throughput. You may want to check with your telephone provider.

How do I use the speakerphone feature (for MDP7800v-u and MDP7800sp-u)?

You may connect your speakers and microphone on the line-out and mic-in of the modem respectively. With a suitable communication software, you will be able to perform speakerphone feature.

Alternatively, with a TAD connecting cable, connect the modem to the sound card internally. Connect your speakers and microphone on the line-out and mic-in of the sound card respectively.

How do I record my own greeting message?

The Trio Communications application comes with default greeting messages. To customize or record own personal greeting message, follow the steps below :

a. *Go to Trio Communications' "MediaPlayer" and create a new voice file.*

b. *Select "TrioVoice (DFV), Low Compression".*

c. *Proceed to record your new voice file.*

d. *Save this file under \DataFax\Data\Voice\Wave of your harddisk.*

e. *Exit and go to Trio Communications' Main menu.*

f. *Go to "Answering Machine Example" icon and select "Answering Machine".*

g. *Use the pull-down menu and select the file you recorded/saved.*

After performing the above steps, your Trio Communications application is personalized to your own greeting message.

What is TAD?

TAD stands for Telephone Answering Device. Most modems and sound cards nowadays come with a built-in TAD connector. Reasons are as follows:

a. *It establishes a link between the sound card and the modem internally.*

b. *It allows the user to leave the Microphone connection on the sound card, while the same Microphone can be used during speakerphone conversation.*

c. *It allows user to leave the Speaker connection on the sound card, while the same Speakers can be used for any modem audio output.*

MODEM TAD PIN CONFIGURATION

PIN 1   —-   Line-Out to Sound card
PIN 2   —-   Ground
PIN 3   —-   Not Used
PIN 4   —-   MIC-In from Sound Card

I do not have any application and needs to do some faxing. How do I install fax in Win 98?

If you are in the US, go to directory D:\Tools\oldwin95\message\us in Windows 98 installation CD.

For other countries, go to D:\Tools\oldwin95\message\intl

a. First run wms.exe under the directory to install Microsoft Messaging.

b. Next run awfax.exe under the same directory to install Microsoft Fax.

For further information on Microsoft Messaging and Microsoft Fax, read wms-fax.txt under the same directory in Windows 98 CD.

How to install AOL version 3.0 with our modem ?

You might encounter prompting such as "modem not found" as modems supported in AOL application may not contain all the modems. You have to proceed to "SETUP" to choose "SETUP-MODEM". Proceed to modem list to make a selection of modem and COM port used. You can start using AOL now.

How to initialize the modem in DOS-based games under Windows 95 virtual DOS box?

The following modem command was used to initialize the modem in DOS-based games such as Heretic and Hexen under Windows 95 virtual DOS box:

> *AT&FE0&C1&D2V1S0=0\V1*

At the same time, check that you are configuring the Modem with the correct IRQ, Port Address and Baud Rate.

Some older DOS game does not have the ability to detect your modem correctly. Please read the attached text files with the games to find out how to configure the game manually.

You will need to modify the initialization strings that the game set for the modem (which may be incorrect) accordingly.

Appendix

B

Technical Specifications

For MDP7800-U

Modem Standards

- K56Flex (Upgradable to V.90 ITU standard)
- V.34+
- V.34
- V.32terbo
- V.32bis
- V.32
- V.23
- V.22bis
- V.21
- Bell 212A
- Bell 103

Modem Data Rates

- 56Kbps (download speed from Internet Service Provider)
- 33.6Kbps — 300bps

Data Throughput

- Up to 115.2Kbps (with compression) and 57.6Kbps (without compression)

Error Correction
- V.42 LAP-M, MNP2-4, MNP10 and MNP10EC

Data Compression
- V.42bis and MNP5

Fax Modulations
- V.17, V.29, V.27ter, V21 Channel 2 Class 1 and Group 3 Protocol

H.324 Video Ready
- V.80

Additional Features
- Auto Dialing and Auto Answer
- Line quality Monitoring and Retrain
- Tone or Pulse Dialing
- DAA Line Interface
- Caller ID Support (optional)
- Chipset built-in Power Management (PME)
- Built-in Buzzer and Amplifier

For MDP7800V-U and MDP7800SP-U

Modem Standards
- K56Flex (Upgradable to V.90 ITU standard)
- V.34+
- V.34
- V.32bis
- V.32
- V.23
- V.22bis
- V.22

- V.21
- Bell 212A
- Bell 103

Modem Data Rates
- 56Kbps (download speed from Internet Service Provider)
- 33.6Kbps — 300bps

Data Throughput
- Up to 115.2Kbps (with compression) and 57.6Kbps (without compression)

Error Correction
- V.42 LAP-M and MNP2-4

Data Compression
- V.42bis and MNP5

Fax Modulations
- V.17, V.29, V.27ter, V21 Channel 2 Class 1 and Group 3 Protocol

Voice Features
- Digital Answering Machine for Voice and Fax Messages
- Auto Answer and Auto Dialing
- Remote Administration
- Enhanced ADPCM
- Concurrent Wave Playback and DTMF Detection
- Call Discrimination

Speakerphone Features
- Full Duplex Capability with Accoustic and Line Echo Cancellation

Additional Features
- Caller ID (country dependent)
- Handset Exclusion
- Line Quality Monitoring and Retrain
- Tone or Pulse Dialing
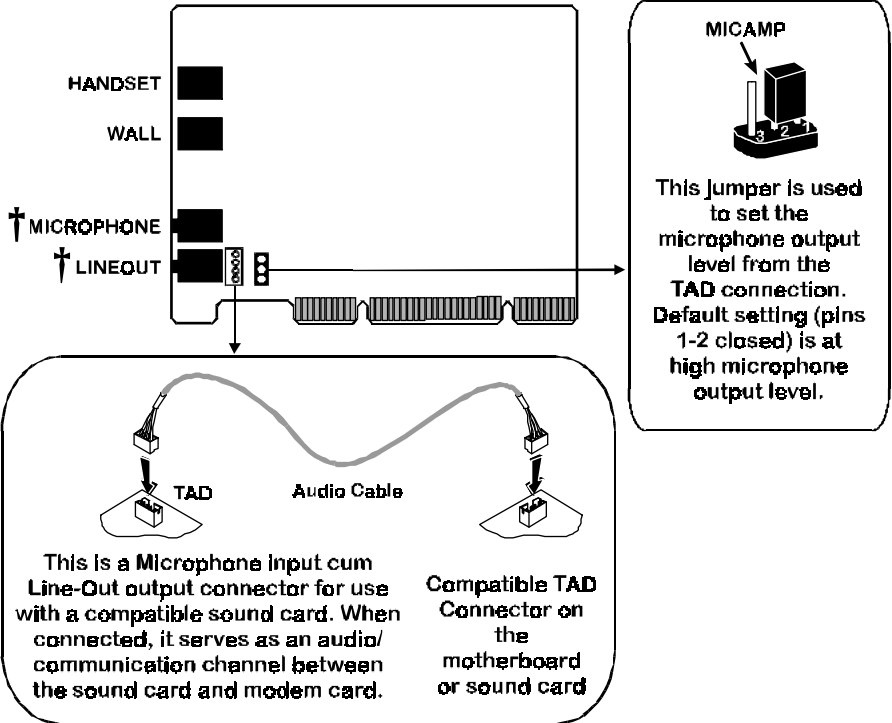
H.324 Video Ready
- V.80
- V.8bis

The product specifications herein are subject to change without prior notifications.

Appendix

Modem Card Layout

HANDSET

WALL

† MICROPHONE

† LINEOUT

MICAMP

This jumper is used to set the microphone output level from the TAD connection. Default setting (pins 1-2 closed) is at high microphone output level.

TAD   Audio Cable

This is a Microphone input cum Line-Out output connector for use with a compatible sound card. When connected, it serves as an audio/communication channel between the sound card and modem card.

Compatible TAD Connector on the motherboard or sound card

† Available on MDP7800SP-U

This page has been intentionally left blank.