

**MSP3880U Series**

# PCI 56K MODEM

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*User's Manual*

*Version 1.0*

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*This manual covers the models **MSP3880SP-U**, **MSP3880V-U** and **MSP3880-U**.*

This manual gives you a step-by-step guide of the following:

1. Installation of your modem card to your computer
2. Connection to the phone line for internet
3. Installation of modem drivers required to run the modem
4. Testing of the modem and setting the country
5. Deinstalling the Modem Card's drivers

To help you clear your doubts and possible problems you may face when using your modem, we include the sections - ***Frequently Asked Questions (FAQ)*** and ***Troubleshooting Guide***. These sections will provide the answers to some of the commonly asked questions on your modem as well as guide you along to solve problems that you may encounter.

For further technical details on your card, you may refer to the **ReadMe.txt** file found in your **MSP3880U Installation CD**.

# Chapter 1



## Introduction

### ***Congratulations on your purchase of the 56K PCI Modem!***

*With the 56K PCI Modem alone, you can perform a comprehensive range of modem-related functions including data communications, sending and receiving of faxes. Depending on the model that you have bought, you can also do telephone/speakerphone operations.*

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



# Chapter 2



## Before You Begin

*This chapter contains information that you need to know before installing your modem card. They are the basic system requirements needed for your modem card to run, the safety rules to follow, as well as the installation guidelines.*

### 2.1 Minimum System Requirements

- IBM PC-based computer with Pentium® 200 MMX processor
- PCI Bus slot
- 16MB RAM
- 10MB hard disk space (system files and modem drivers only)
- CD-ROM drive
- Windows® 95/98 / NT® 4.0



## 2.2 Safety Precaution

- Do not remove your card from its protective bag until you are ready to install it.
- Always try to hold your card by its edges. Avoid touching any electronic components on your card.
- Static electricity can cause permanent damage to your card. To prevent such a damage, you must ground yourself during the installation:
  - » Use a grounding strap - 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 your computer chassis.
  - » If you do not have a grounding strap, touch any non-painted surface of your computer chassis before you begin installation, and again every minute or so until the installation is completed.

## 2.3 Installation Notes

- Computers vary in configuration, appearance and layout. Therefore, the installation procedures in this manual apply generally and you should compare the illustrations here with your computer.
- A Philips screwdriver is required.
- The documentation for your computer should come in handy during the installation. Have it ready with you.
- If you have an existing *non* Plug-and-Play modem installed in your computer, you must first un-install its modem drivers before you remove the card. Refer to the documentation of your existing modem for details.

If your existing modem is Plug-and-Play, you may proceed to install your new modem.

# Chapter 3



## Setting Up Your Modem Card

*This chapter contains information on how to install the modem card and the telephone line to your computer.*

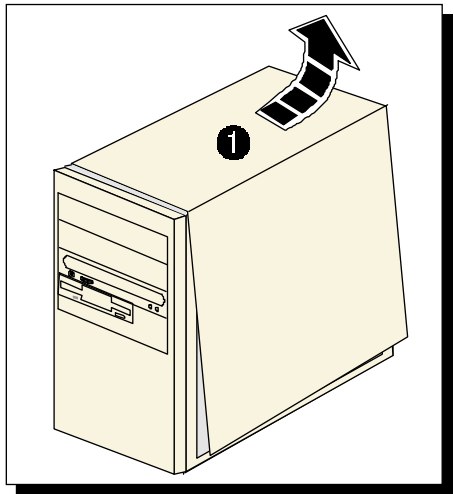
### 3.1 Installing the Modem Card



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

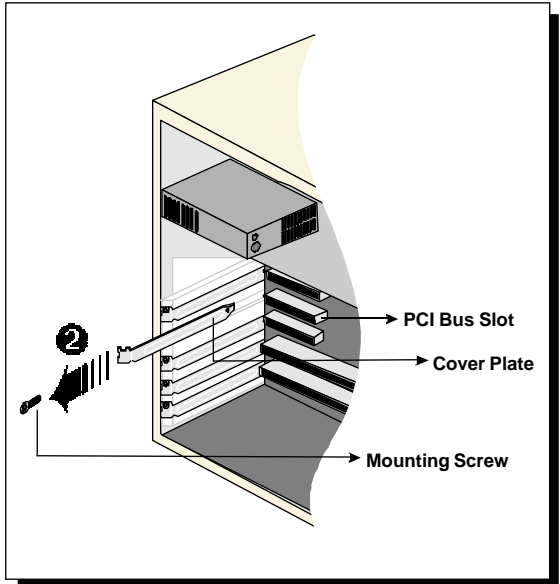
***Power off your computer and any connected devices before installing your modem!***

- 1 Remove the cover of your computer.

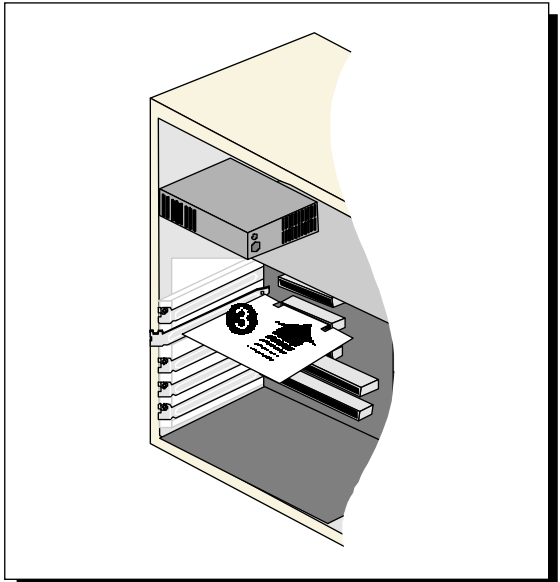




- 2 Select an available PCI Bus slot and remove its cover plate. Keep the mounting screw to secure your card later.



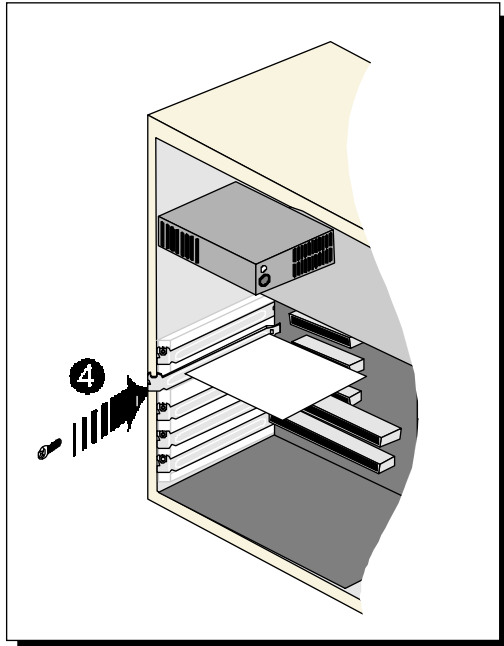
- 3 Align your card with the selected PCI Bus slot and firmly push it into the slot. If the card does not slide in, do not force it. Make sure that the card is lined up properly and try again.



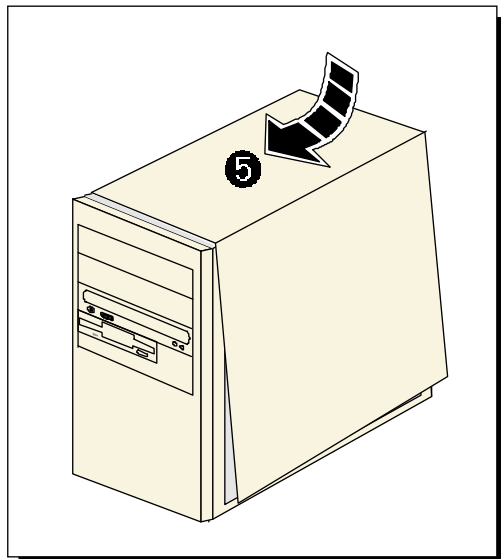
- 4 Secure your card to your computer chassis with the mounting screw.

*For MSP3880V-U/SP-U users:*

You may use a TAD cable to internally connect the modem card and your compatible sound card. With this connection, all devices (e.g. microphone, speakers) are to be connected to your sound card for voice recording and speakerphone. Refer to *Appendix D - TAD Connection* of this User's Manual for details.

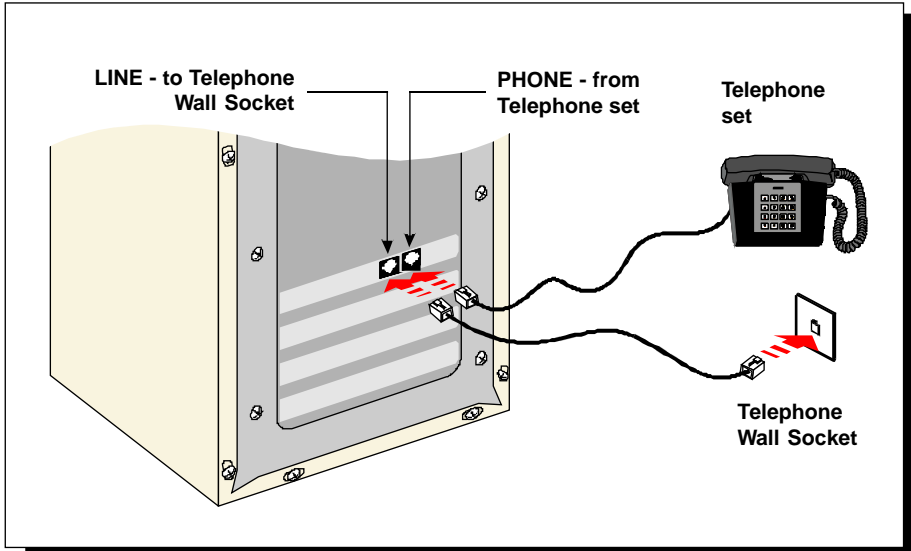


- 5 Replace the cover of your computer.



## 3.2 Connecting the Modem Card

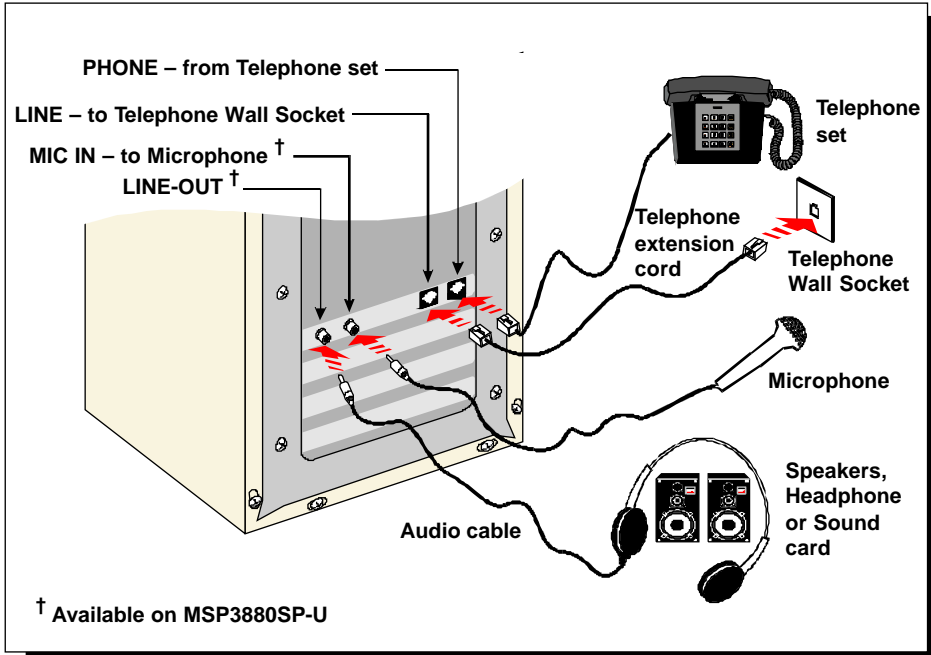
### 3.2.1 For MSP3880-U users



- 1 Connect a **telephone set** to the modem card.  
(This optional connection eliminates the need to switch between your telephone set and your modem card if they are sharing the same telephone wall socket)
- 2 Connect one end of the **telephone extension cord** to the modem card and the other end to the **telephone wall socket**.

This completes the setting up of your modem. Please proceed to the next chapter to install your modem drivers.

3.2.2 For MSP3880SP-U/V-U users



- ❶ Connect a **telephone set** to the modem card.  
(This optional connection eliminates the need to switch between your telephone set and your modem card if they are sharing the same telephone wall socket)
- ❷ Connect one end of the **telephone extension cord** to the modem card and the other end to the **telephone wall socket**.
- ❸ Connect a **microphone** to your modem card.  
(This optional connection allows you to speak over the microphone during speakerphone conversations)
- ❹ Connect your **active speakers/headphone** to your modem card.  
This connection is required to receive sound output from your modem card. Before you make use of this LINE-OUT jack, you need to run the **Set Audio Output Utility** to configure your modem's sound output from **Buzzer** to **Line-Out** option.

- i) From the Windows taskbar, click **Start > Run**.
- ii) In the text box, type "**C:\Windows\setaudio.exe**". Click **OK**.
- iii) From the dialog prompt, select **Line-Out**.

To configure back to buzzer, run the same utility again and click the **Buzzer** option.

- 5** Alternatively, if you have a **sound card** (with speakers attached), you may want to externally connect an **audio cable** from this **LINE-OUT jack of your modem card** to the **LINE-IN jack of your sound card**.

This connection is required if you want to do **voice playback**.

For **voice recording**, the **microphone** must be connected to the **MIC-IN Jack of your compatible sound card**.



*Instead of using the audio cable, you may also use a TAD cable to internally connect your modem card and your compatible sound card as described in Appendix D - TAD Connection. For this connection, all devices (e.g. microphone, speakers) are to be connected to your sound card, regardless of voice recording or speakerphone.*

This completes the setting up of your modem. Please proceed to the next chapter to install your modem drivers.

# Chapter 4

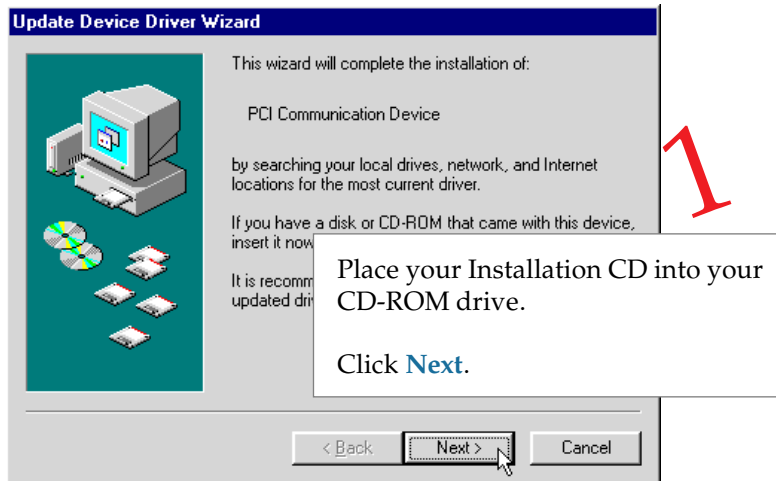
## Installing the Modem Drivers

*This chapter contains information on how to install the modem drivers under Windows® 95/98 and Windows NT® 4.0.*

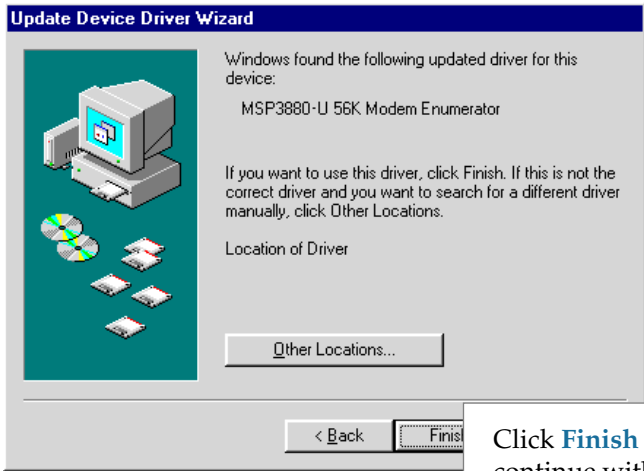
### 4.1 For Windows® 95

*(The following screen shots are based on the MSP3880-U card)*

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.



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

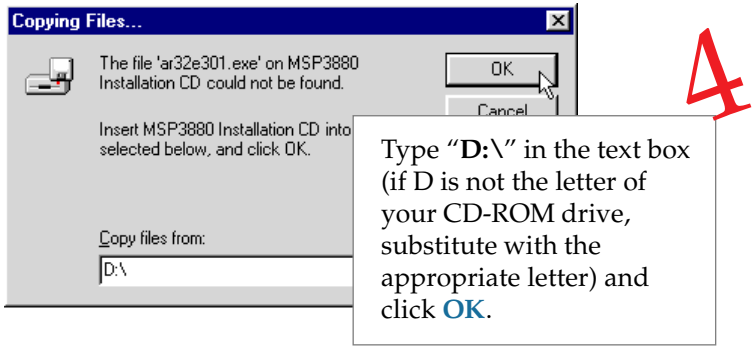


2  
Click **Finish** to continue with the installation.



3  
When system prompts for the Installation CD, click **OK**.

The **Copying Files...** window will appear.



Restart your system, if prompted.

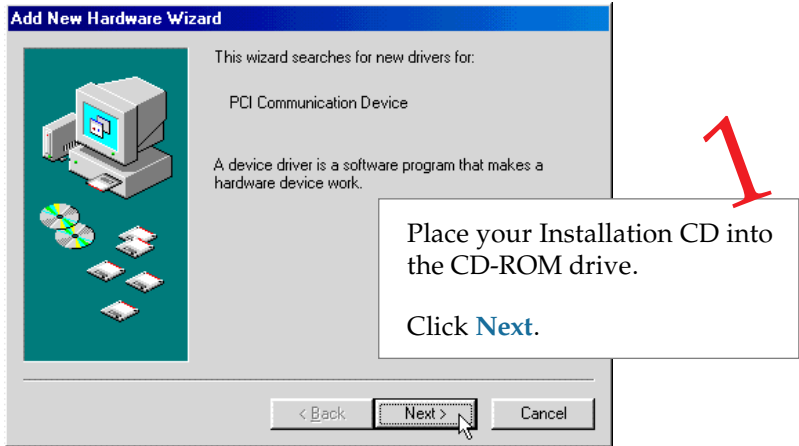
This completes the installation of the modem drivers in Windows® 95. Proceed to the next chapter to test your modem.



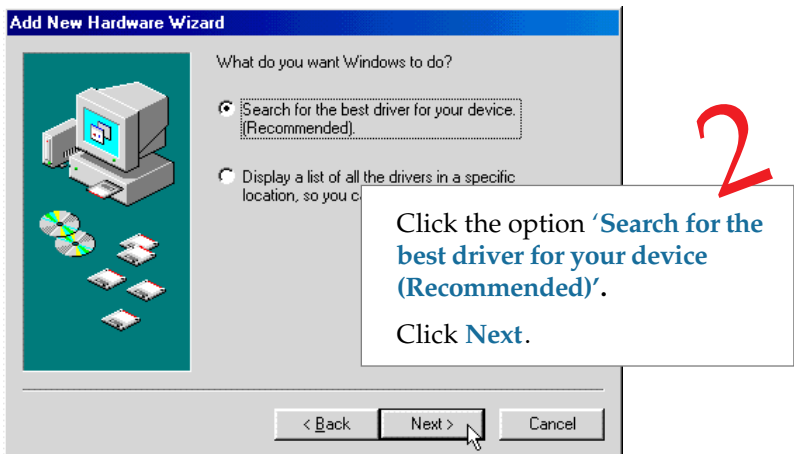
## 4.2 For Windows® 98

(The following screen shots are based on the MSP3880-U card)

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.

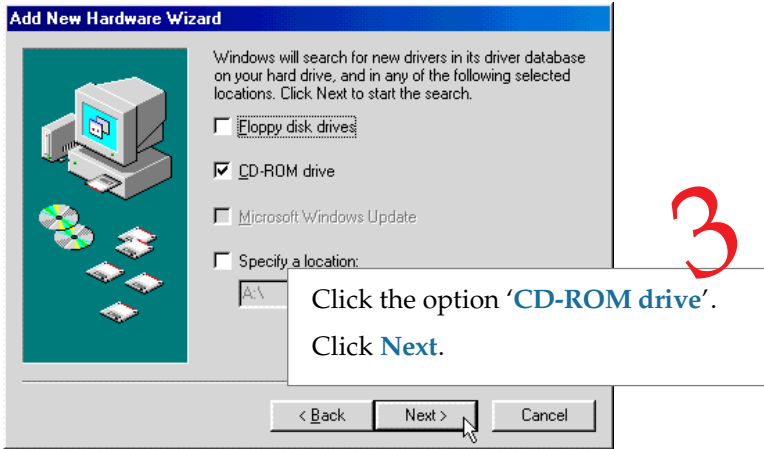


The next window prompt will ask for your modem drivers.

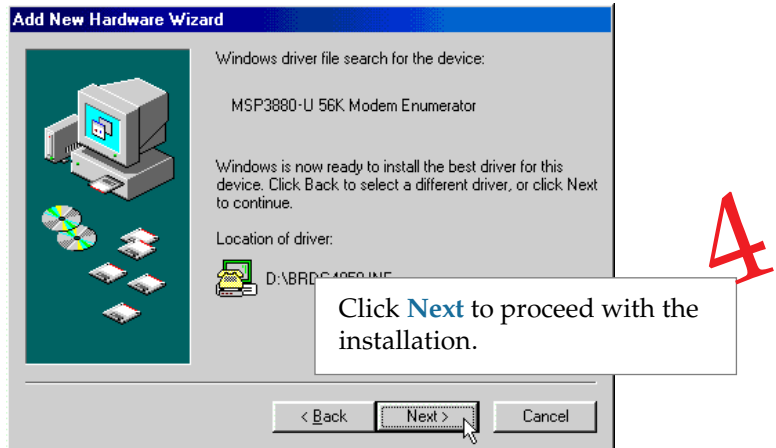


## Chapter 4 — Installing the Modem Drivers

The following window will prompt for the source of your drivers.



Windows will prompt that it has located the driver.



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 to test your modem.

### 4.3 For Windows NT® 4.0

1. Start Windows NT®.
2. Place your Installation CD into the CD-ROM drive.
3. From the Windows taskbar, click **Start** > **Run...** .
4. In the **Run** text box, type "**D:\Winnt40\\*\setup.exe**"  
(Assuming your CD-ROM drive is **D**. If not, substitute drive letter accordingly)

\* For users of MSP3880SP-U, type **SP-U**

For users of MSP3880V-U, type **V-U**

For users of MSP3880-U, type **U**

Click **OK**.

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

This completes the installation of the modem drivers in Windows NT® 4.0. Please proceed to the next chapter to test your modem.

# Chapter 5



## Testing the Modem Card & Setting the Country

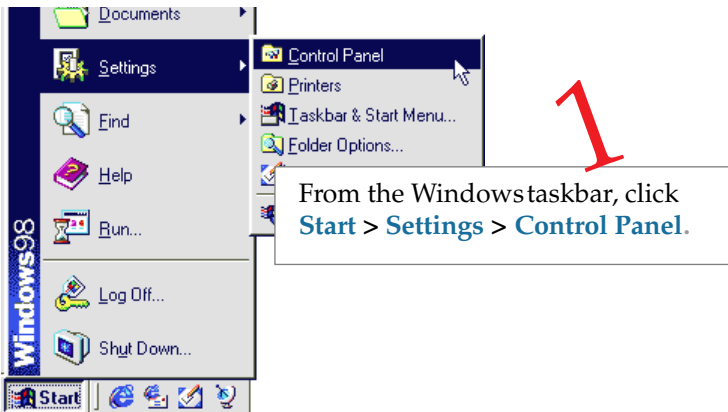
*This chapter contains information on how to test your modem card in Windows® 95/98 & Windows NT® 4.0.*

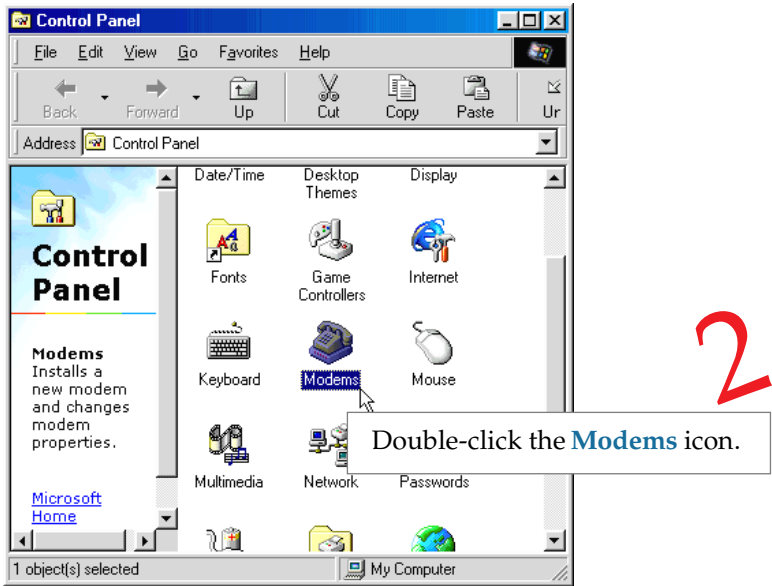


*The testing procedures and setting the country for MSP3880 U series in Windows 95® and 98 are exactly the same. The following illustrations are based on the model MSP3880-U, in the Windows® 98 environment.*

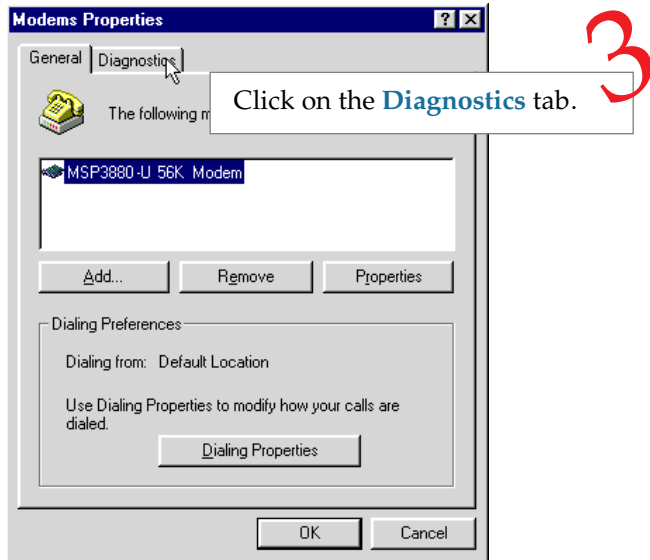
### 5.1 Windows® 95/98

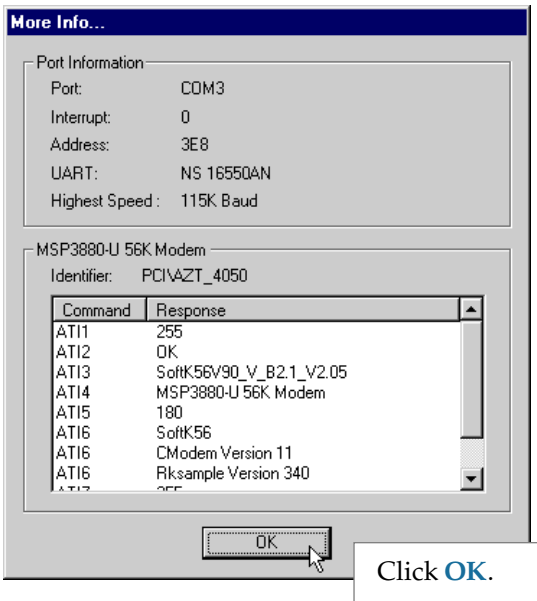
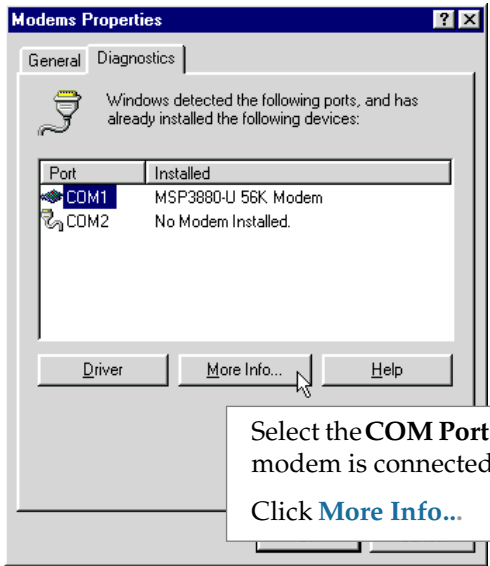
#### 5.1.1 Testing the modem





You will see the MSP3880 modem listed.





*(The Port Information shown here may differ from what you see on your computer. It is determined by the COM Port which you connect your modem to)*

The **More Info...** window will appear, showing a list of AT commands. This indicates a successfully-installed modem.

If your modem is not installed properly, the set of AT commands will not be listed. You may also be prompted by an error message, stating that it was unable to open the COM Port. If this happens, refer to the ***Appendix B - Troubleshooting Guide*** “**While testing the modem, the system gave an error message stating that it was unable to open the COM Port.**”

### 5.1.2 Setting the Country

*If you are using the modem card outside the United States, ensure that the country setting is correct for your location. In some cases, the country is set to match the Operating System selected and re-selection is required to match your exact location. To check the current setting, follow the steps:*

1. From the desktop, right-click on the **My Computer** icon and select **Properties**.
2. Click the **Device Manager** tab and double-click on **Modem**.
3. Select your product model and click **Properties**.
4. Click the **Country Select** tab. The current country setting used is marked with an asterisk. Change it to the country that you are currently in if it is set incorrectly.

## 5.2 Windows NT® 4.0

### 5.2.1 Testing the modem

1. From the Windows taskbar, click **Start** > **Programs** > **Accessories** > **HyperTerminal** > **HyperTerminal**.
2. Key in the required information prompted by the dialog boxes.
3. Click **OK** after entering any telephone number in the dialog box.
4. At the next dialog prompt, click **Cancel**.
5. Type "AT" and press **Enter**. You should see a response, **OK**.
6. Your modem is now ready to run.

### 5.2.2 Setting the Country

1. From the Windows taskbar, click **Start**> **Settings**>**Control Panel**.
2. Double-click on the **HSF Modem Country Select** icon.
3. If the current country setting is incorrect, change it to the country that you are currently in.



# Chapter 6



## Deinstalling the Modem Card

From the **Control Panel**, double-click **Add/Remove Programs**. Select **MSP3880-U<sup>†</sup> 56K Modem** and then click the **Add/Remove...** button. Select **MSP3880-U<sup>†</sup> 56K Modem Files** if it is in the list and then click the **Add/Remove...** button.

<sup>†</sup> **MSP3880-U**, **MSP3880V-U** or **MSP3880SP-U** will be displayed depending on the modem card installed.

## Frequently Asked Questions

*This section provides the answers to some of the commonly asked questions on your modem.*



### How do I identify MSP3880 modem and its driver version ?



The model of your card is printed on the serial number label located at the rear of the modem card. To get the driver version, you can also issue an ATI3 command using any telephony Data terminal application.



### What is V.90 ?



V.90 is a new standard approved by the International Telecommunication Union for "56K" analog modems. It is a compromise officially reached between the two competing standards - X2 (from 3COM/USR) and K56Flex (from Rockwell/Lucent).



### What resources does MSP3880 use ?



Depending on system, the resources used is either **IRQ9**, **IRQ10** or **IRQ11** for systems that have two COM ports. If the system has only one COM port, **IRQ3** may be used.



### What is TAD ? (for MSP3880V-U/SP-U)



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

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

2. *It allows the user to leave the microphone connection on the sound card, while the same microphone can be used during speakerphone conversation.*
3. *It allows the user to leave the speakers connection on the sound card, while the same speakers can be used for any modem audio output. (see ReadMe.txt file for the Pin configurations)*



### **What is speakerphone feature ? (for MSP3880SP-U)**



*During phone conversations, modem speakerphone feature allows you to speak over the microphone and receives from the speakers.*



### **How do I use the modem speakerphone ? (for MSP3880SP-U)**



*To use the speakerphone feature, make sure that you have installed, connected and tested your card as described in **Chapter 3, 4 and 5** respectively. Then run the Communications Application bundled in your MSP3880 Installation CD to use the speakerphone.*



### **Do MSP3880V-U and MDP3880SP-U have full-duplex feature ?**



*Full duplex is the ability to record and playback audio at the same time. MSP3880V-U and MSP3880SP-U are able to do this while maintaining full 16-bit 48KHz quality.*



### **Will MSP3880 work on all motherboards?**



*Yes, if the motherboard has at least one free PCI slot and meets the minimum system requirements.*



### **What is the maximum speed that MSP3880 supports and whose solution is this card using?**



*The MSP3880 modem supports up to 56kbps. It is also backward compatible with most of the old standards. The MSP3880 uses Rockwell SoftK56 chipset solution.*



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



*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.*



### Where can I get the updated driver for my modem?



*You can visit our website for any updated drivers.*



### How to initialize the modem?



*The following modem command is used to initialize the modem in the terminal emulation mode such as in Windows® 95 Hyperterminal application.*

***AT&FE0V1S0=0&C1&D2+MR=2;+DR=1;+ER=1;W0***



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



*If you are in the US, go to directory*

***D:\Tools\oldwin95\message\us** (in your Windows® 98 installation CD)*

*For other countries, go to*

***D:\Tools\oldwin95\message\intl** (in your Windows® 98 installation CD)*

*(Assuming your CD-ROM drive is D. Else substitute the drive letter accordingly)*

*i) Run **wms.exe** under the directory to install Microsoft Messaging.*

*ii) 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** (from the same directory) in your Windows® 98 CD.*



### What games does MSP3880 support?



*It can support almost all PC titles.*



### What do TAPI and Non-TAPI communication applications mean?



Generally, TAPI refers to true 32-bit communication applications. They do not access the COM ports directly but through an Interface known as TAPI system of Windows (Not Windows 3.1x).

Non-TAPI applications are also referred to as 16-bit communication applications. They access the COM ports directly. Windows® 95/98 supports both TAPI and Non-TAPI communication applications.



### I am using my system with the card in another country. Is there any settings that need to be changed ?



Yes. You need to ensure that the country setting for your modem card is correct for your location. Carry out the following steps:

#### Windows 95/98

- i) From the desktop, right-click on the **My Computer** icon and select **Properties**.
- ii) Click the **Device Manager** tab and double-click on **Modem**.
- iii) Select your product model and click **Properties**.
- iv) Click the **Country Select** tab. The current country setting is marked with an asterisk. Change it to the country that you are currently in if it is set incorrectly.

#### Windows NT4.0

- i) From the Windows taskbar, click **Start > Settings > Control Panel**.
- ii) Double-click on the **HCF Modem Country Select** icon.
- iii) Select your current local country.



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



#### Windows 95/98

- i) From the Windows taskbar, click **Start > Settings > Control Panel**.
- ii) Double-click on the **Modem** icon.

- iii) Click the **Diagnostic** tab and select your product model.
- iv) Click **More Info...** option and you will see **ATI 3** displaying a string similar as follow: **SoftK56 V90\_V\_B2.1\_V2.07.01** (showing that the V.90 is supported and ready).

### Windows NT4.0

- i) From Windows taskbar, click **Start > Programs > Accessories > HyperTerminal > HyperTerminal**.
- ii) Key in the required information prompted by the dialogue boxes.
- iii) Click **OK** after entering any telephone number in the dialogue box.
- iv) At the next dialogue box prompt, click **Cancel**.
- v) Type "**ATI 3**" and press **Enter**.
- vi) You will see "**ATI 3**" displaying a string similar as follow: **SoftK56 V90\_V\_B2.1\_V2.07.01** (showing that the V.90 is supported and ready).



### How do I see the resources listings ?



### Windows 95/98

- i) From the Windows taskbar, click **Start > Settings > Control Panel**.
- ii) Double-click the **Modems** icon.
- iii) Click the **Diagnostics** tab. Select your product model and click **More Info...** option.

The IRQ (Interrupt) and memory range (Address) used by the modem will be listed.

### Windows NT4.0

Not applicable.



**Why is the default maximum speed in the Device Manager Properties for MSP3880 showing 115200 ?**



*It is referring to the DTE speed which is the speed of data transfer between Computer and Modem. This however will not have any effect on the maximum speed for DCE, which is the speed of data transfer between Modem to ISP or remote party.*

# Appendix

## B

## Troubleshooting Guide

*This section provides a step-by-step solutions to problems that you may encounter when using your modem.*



**This modem is set to V.90. But 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 service provider.*



**The modem hangs up when an incoming call is received.**



*Disable the Call Waiting function for the Online Service, Internet Connection and/or communications software you are using.*



**When I tried to dial out, the system gave me an error message "No Dial Tone".**



*Check the Telephone Cable connection. If necessary, plug out and reconnect the Telephone Cable. You may have other telephony application running. Please use one telephony application at any 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.*





**Why does my modem always connect at 33.6Kbps and not 56Kbps or V.90 ?**



*Check with your Internet Service Provider (ISP) to ensure that they support 56Kbps or V.90 connections. You must also make sure that your card is using the 56Kbps driver. For modems with Country Selection feature, please ensure that the modem is set to your local country. To set the country select feature, see **Appendix A - "I am using my system with the card in another country. Is there any setting that need to be changed ?"***



**My system does not detect the modem card when I boot up for the first time.**



**Windows 95/98**

*Make sure that your card is fully inserted into the PCI Bus slot. However, if you are sure that the card has been properly installed, do the following:*

- i) From the Windows taskbar, click **Start > Settings > Control Panel**.*
- ii) Double-click the **System** icon.*
- iii) Click the **Device Manager** tab.*
- iv) Check whether there is any yellow exclamation mark (error) on the Modem/ Sound, video and game controllers devices. If yes, select the device, click **Remove** and **OK**. Re-install the drivers.*
- v) If the system still cannot detect the modem, you may wish to try using a different PCI slot instead.*

**Windows NT4.0**

*Not applicable.*



**I have done a diagnostics test of my modem and there is nothing wrong with it. However, when I use a communications software, there seems to be an error. Why?**



*Try to use a different telephony application such as Microsoft Fax to fax a document. If the sending of a fax is successful, then the fax function of your modem is working fine.*

Try to use Hyperterminal to dial up to a BBS. If the connection is successful, then the data function of your modem is working fine. Try exiting the communications software and running it again.

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



**I have done the Diagnostic test. However, the system gave an error message that the system is unable to open the COM Port.**



### Windows 95/98

Make sure that you have closed all communication software (e.g. Hyperterminal, Dial-up Networking, etc.) when you are doing the diagnostics test.

However, if there is no communications software running, do the following:

- i) From the Windows taskbar, click **Start** > **Settings** > **Control Panel**.
- ii) Double-click the **System** icon.
- iii) Click the **Device Manager** tab.
- iv) Check whether there is any yellow exclamation mark on the modem device. If yes, remove the modem device and re-install the modem drivers.

### Windows NT4.0

Not applicable.



**Why isn't there any sound from the speakers ?**



Go through the following steps:

- i) Make sure that the connections from your speakers to your computer are as described in the User Manual.
- ii) If your speakers are active (amplified) speakers (with built in power supply and amplifier), make sure that it is put to "ON". Passive speakers (without built in power supply and amplifier) can only be used with an external amplifier.
- iii) Power from the Mains to your speakers are properly connected and powered ON.

You should be able to hear audio output from your speakers now.

# Appendix C

## Technical Specifications

*This chapter contains the technical specifications of your card. The information may be more useful for technically inclined users.*

### Modem Standards

- V.90, K56Flex
- V.34+, V.34, V.32bis, V.32, 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

### H.324 Video Ready

- V.80, V.8bis
- Rockwell VRPI

### PCI Interface

- PCI 2.1 Interface
- PCI Plug and Play
- PCI Power Management (Wake-Up on Ring through PCI PME# support\*)

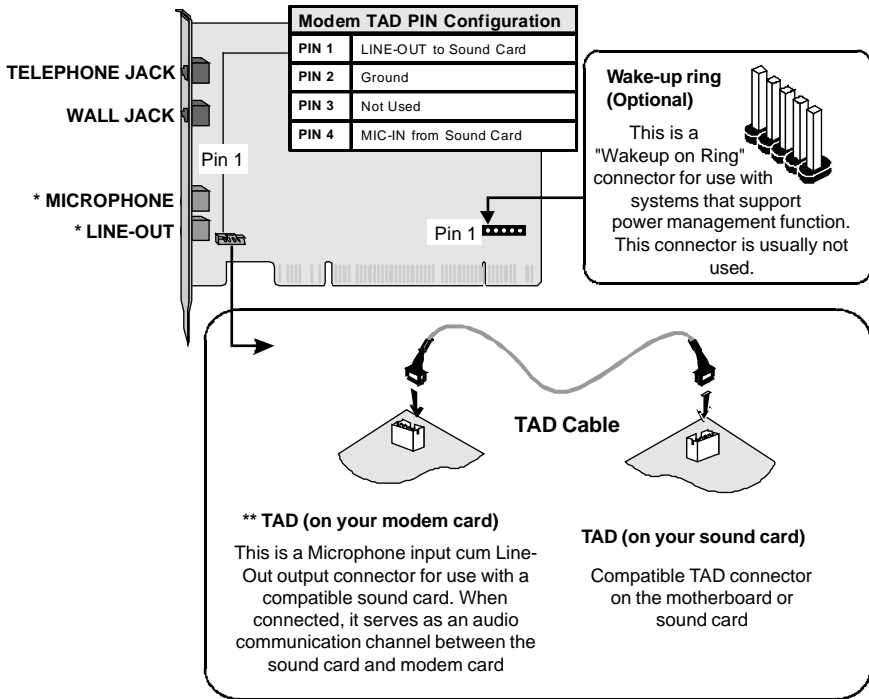
*\* only if your system supports ACPI Power Management*



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

# Appendix D

## TAD Connection (for MSP3880SP-U/V-U models)



**Microphone or Speakers/headphones connections must be connected at the SOUND CARD if you are using TAD connection or an audio cable.**

\* Microphone and Line-out jacks are available on MSP3880SP-U only. When the Line-Out of the modem is connected to the Line-In of the sound card with an audio cable, it serves the same purpose as the TAD connection.

## Appendix D — TAD Connection

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\*\* **TAD connector** is available on MSP3880V-U and MSP3880SP-U only. It serves as an internal interfacing connection between the sound card and modem card. It allows the microphone's and speakers' (Line-Out) connection to remain on the sound card even if speakerphone conversation is used.