

# 56K V.90 USB MODEM

## User's Manual

Version 1.5

Product warranty does not apply to damage caused by lightning, power surges or wrong voltage usage.

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This manual covers the models, **UM9800-A**, **UM9800-U** and **UM9800-W**. It includes information on the following:

- 1. Connection of the modem to your computer
- 2. Connection to the phone line for Internet access
- 3. Installation of the modem driver
- 4. Testing of the modem

To help to clear your doubts and possible problems you may faced when using your modem, we have included 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 to guide you along in solving the problems that you may encounter.

For further technical details on your card, you may refer to the **ReadMe.txt** file found in your **UM9800 V.90 USB Modem Installation CD**.

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# Chapter...1

# Introduction

#### Congratulations on your purchase of 56K UM9800 V.90 USB Modem!

USB, which stands for Universal Serial Bus, is a new serial protocol for sending data between a PC and its peripherals. This new protocol allows higher I/O transfer rate and allows USB-based devices to plug in and unplug without powering off your computer!

**UM9800**, which is an **USB-based modem** is able to perform a comprehensive range of modem-related functions including data communications, sending and receiving of faxes. It is universally compatible with all data, fax and AT-command standards.

You can now download graphic intensive web pages, large audio files, video files as well as large software programs at speeds of up to 56Kbps, to ISP connections using V.90 modem protocol connections!

# Chapter...2

# **Before You Begin**

This chapter contains information that you need to know before installing your modem. It is important that you go through them.

### 2.1 Package

You should see the following items inside your UM9800 package. For any missing item, please contact your dealer immediately.

(The actual cables that come with your package may differ in appearance from country to country.)



### 2.2 Minimum System Requirements

- Pentium<sup>®</sup> 166 MMX processor or higher
- USB port
- For Windows<sup>®</sup> 98: 32MB
   For Windows<sup>®</sup> Me / 2000: 64MB RAM
- 10MB hard disk space (system files and modem drivers only)
- CD-ROM drive
- Windows<sup>®</sup> 98 / Windows<sup>®</sup> Me / Windows<sup>®</sup> 2000

### 2.3 Installation Notes

- The graphics and screen illustrations shown in this manual may differ from what you see from your system, but the steps still apply.
- The documentation for your computer should come in handy during the installation. Have it ready by your side.
- If you have an existing *non* Plug-and-Play modem installed in your computer, you must first un-install its modem driver before you remove the it. 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

# **Connecting Your Modem**

This chapter guides you on the modem connections to your computer as well as the connection to your phone line for Internet access.



- 1. Remove any existing modem installed in your computer. If your modem is non Plug-and-Play, you need to un-install its modem driver before you remove it. Check your existing modem documentation for details on this.
- 2. Please note that UM9800 does not require any EXTERNAL power supply.
- Besides the 'traditional' way of powering down your computer before connecting any device to it, UM9800 has a 'hot swapping' feature that allows you to connect your modem to your computer *anytime*, without the need to shut down your system!

Plug in the cables even when your computer is on, and Windows will immediately detect your new modem.

### 3.1 For UM9800-U users



- Connect one end of the USB cable (
- Connect one end of the telephone extension cable to your modem and the other end to a telephone wall socket.

**3** Connect a **telephone set** to your modem.

(This optional connection eliminates the need to switch between your telephone set and your modem if they are sharing the same telephone wall socket.)

This completes your modem connections. Please proceed to the next chapter to install the driver.

## 3.2 For UM9800-A / UM9800-W users



- Connect one end of the USB cable ( ) to your modem and the other end ( ) to the USB port of your computer.
- Connect one end of the **telephone extension cable** to your **modem** and the other end to a **telephone wall socket**.

This completes your modem connections. Proceed to the next chapter to install the driver.

# Chapter...4

# **Installing Your Modem Driver**

This chapter guides you step-by-step with screen shots on how to install the modem driver required to run your modem. Operating system described are Windows<sup>®</sup> 98, Windows<sup>®</sup> Me and Windows<sup>®</sup> 2000.



The screen shots and screens information illustrated in this manual serve only as a guide. The exact information you see on your system may vary, depending on your system configurations. For any dissimilarities, follow closely to the instructions as prompted on your PC screen.

## 4.1 Installing the Modem Driver • For Windows<sup>®</sup> 98

If you have connected your modem as described in **Chapter 3 - Connecting Your Modem**, you will be prompted for the modem driver.







This completes the installation of the modem driver. Please proceed to the next chapter to test your modem.

## 4.2 Installing the Modem Driver -For Windows<sup>®</sup> Me

If you have connected your modem as described in **Chapter 3 - Connecting Your Modem**, you will be prompted for the modem driver.





## 4.3 Installing Your Modem Driver - For Windows<sup>®</sup> 2000

If you have connected your modem as described in **Chapter 3 - Connecting Your Modem**, you will be prompted for the modem driver.







Windows will prompt that it has located the driver.





You may be prompted with Digital Signature Not Found dialog box. (This happens when Windows is not able to detect a newer version of the modem driver.) Click Yes to proceed.

Found New Hardware Wizard			
	Completing the Found New Hardware Wizard WM9800 V.90 USB Modem Windows has finished installing the software for this device.		5
		To complete the installation, click	
	To close this wizard, click Finish.		
	TO CIOSE CHIS YM2CHU, CHEK T HISH.		
	< Back	Finish Cancel	

6	SLModem properties		You will be asked to select your country.
			t, select the Country rrently in and click y <b>OK</b> .

This completes your modem driver installation in Windows  $^{\ensuremath{\$}}$  2000. Please proceed to the next chapter to test your modem.

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# Chapter...5

# **Verifying Your Modem**

This chapter guides you on how to verify if your modem has been installed successfully. Operating system described are Windows® 98, Me and Windows® 2000.

## 5.1 Testing Your Modem -For Windows<sup>®</sup> 98 / Windows<sup>®</sup> Me



The testing procedures for UM9800 in Windows® 98 and Windows® Me are similar. The following screens captures are based on Windows® Me environment. For any dissimilarities, follow closely to the instructions as prompted on your PC screen.





(The information shown here may differ from what you see on your computer.)

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."

## 5.2 Testing Your Modem - For Windows<sup>®</sup> 2000



Phone And Modern Options         Dialing Rules       Moderns         Advanced         Image: Second S	You will see the UM9800 modem listed.
select Pr	the modem and roperties.
UM9800 V.90 USB Modem Properties  UM9800 V.90 USB Modem Properties  Ceneral Diagnostics  Advanced	Advanced 5
Modem Information           Field         Value           Hardware ID         USB\Vid_0483&Pid_7554&Rev_0101	
Logging Click OK Cancel	Query Modem.

You will see a list of AT commands. This indicates a successfully installed modem.

UM9800 V.90 USB Modem Properties	<u>?</u> ×
General Diagnostics Advanced	
Field Value Hardware ID USB\Vid_0483&Pid_7554&Rev_1	0101
Command         Response           AT00V1E0         OK           AT+GMM         UM9800 V.90 USB Modem           Ver2.76G         AT+FCLASS=?	
	Query Mode Click OK.
Cogging Append to Log	View log (The informat differ from wl computer.)

The information shown here may liffer from what you see on your omputer.)

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."

# Appendix...A

# **Frequently Asked Questions**

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



#### What is USB ?

USB stands for Universal Serial Bus. It is a new peripheral bus standard developed by PC and Telecom leaders. It allows connection for low to medium speed computer peripherals. USB features high throughput I/O transfer rate of 12Mbit/sec and support up to 127 devices.



#### 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 is the difference between "Plug-n-Play" and "Hot Swap"?

For "Plug-n-Play", you have to perform shutting down and powering off of your system before you connect or disconnect your modem to/from your computer. "Hot Swap" allows plugging in and unplugging of your modem to/from your computer in Windows environment. There is no need for powering down of system to connect or disconnect your modem.





#### How do I see the resources listings ?

#### For Windows® 98 / Me:

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

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

#### For Windows® 2000:

- i. From the Windows desktop, right-click My Computer. Select Properties.
- ii. From System Properties dialog box, select Hardware tab and click Device Manager... button.
- iii. Double-click Modems. Select UM9800 modem. From Device Manager toolbar, click View > Resources by type. The resources used by the modem will be listed.





#### How do I un-install my UM9800 modem ?

#### For Windows® 98 / Me:

- i. From the Windows taskbar, click Start > Settings > Control Panel.
- ii Double-click on Add/Remove Program icon.
- iii. Select Uninstall UM9800 V.90 USB Modem and click Add/Remove... .



#### For Windows® 2000:

The uninstallation of modem in Windows<sup>®</sup> 2000 involves 2 stages. You need to carry out both stage 1 and 2 to fully uninstall the modem.

#### Stage 1:

- i. From the Windows taskbar, click Start > Settings > Control Panel.
- ii. Double-click on the Add/Remove Hardware icon.
- iii. From the Add/Remove Hardware Wizard, click Next.
- iv. Select the option "Uninstall/Unplug a device" and click Next.
- v. Select the option "Uninstall a device" and click Next.
- vi. From the list of devices, click Uninstall UM9800 V.90 USB Modem and click Next.

Follow any online instructions to remove the modem driver.

#### Stage 2:

- i. From the Windows desktop, right-click My Computer. Select Properties.
- ii. From System Properties dialog box, select Hardware tab and click Device Manager... button.
- Double-click on Modems. Right-click on UM9800 V.90 USB Modem and select Uninstall.

Follow any online instructions to remove the modem driver.



#### How do I set my Country profile for UM9800 modem?

#### For Windows $^{\ensuremath{\circledast}}$ 98 / Me / 2000

- i. Make sure that you have powered on your modem and the green LED is lighted up.
- ii. From your Windows taskbar, click **Start** > **Settings** > **Control Panel**. Double-click **Modem Country Selection**.
- iii. You will be prompted for your Country select. Select the Country that you are currently in or the one most appropriate, click Apply followed by OK. The Country Profile will be updated.

Alternatively, you can run the file "**SMCFG.EXE**" from the Modem Installation CD to update your modem's Country Profile.

- i. From your Windows taskbar, click Start > Run.
- ii. In the Run text box, type "D:\SMCFG.EXE" and click OK. (Assuming your CD-ROM drive is D. Else, substitute with the correct drive letter accordingly.)



## Why is the default maximum speed in the Device Manager Properties for UM9800 showing 460800 ?

**\$** 

UM9800 is connected to the USB Bus. Thereotically, it is able to hit the maximum DTE speed (speed of data transfer between Computer and Modem) of 921600bps. This however will not have any effect on the maximum speed for DCE (speed of data transfer between Modem to ISP or remote party).

1800 V.90 USB Modem Properties Fol	r Windows® 98 / Me
Forwarding Configuration Dr General Modem Connec	river
UM9800 V.90 USB Modem	UM9800 V.90 USB Modem Properties
Port: COM2 Speaker volume	General Diagnostics Advanced For Windows® 2000 Port: COM3 Speaker volume
Off High	Off High
Maximum speed 460800 <u>O</u> nly connect at this speed	Maximum Port Speed
OK	Dial Control



#### How do I initialize the modem?

#### For Windows $^{\ensuremath{\circledast}}$ 98 / Me / 2000

The following modem command is used to initialize or reset the modem in the terminal emulation mode such as in Windows<sup>®</sup> 98 Hyperterminal application:

ATZ



## What do TAPI and Non-TAPI communication applications mean? (For $Windows^{\scriptscriptstyle (\! 8\!)}$ 98)



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<sup>®</sup> 95/98 supports both TAPI and Non-TAPI communication applications.



## How do I check which Country Profile I am presently using for UM9800 modem? (For Windows $^{\circledast}$ 98 / Me)

- 0
- i. Make sure that you have powered on your modem and the green LED is lighted up.
- ii. From your Windows taskbar, click **Start** > **Settings** > **Control Panel**. Double-click **Modem Country Selection**.

You will see the current Country setting. Alternatively, you can go to Hyperterminal or any other terminal software and type "**ATI7**".

# 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 ?



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.



#### 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 connection on the telephone extension cable. If necessary, plug out and plug in the cable. To check if it is due to a spoilt telephone extension cable that you are using, connect the cable to a Telephone set and check for the Off-Hook Dial tone. If there is no Dial Tone, most probably there is some problem with your telephone extension cable.



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 like **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.



#### I cannot install the Modem under Windows® 95.

This driver is only for Windows<sup>®</sup> 98, Me and 2000. Windows NT<sup>®</sup> 4.0 and Windows<sup>®</sup> 95 drivers are currently under developments.



## I cannot manually install UM9800 modem using the Modem Applet (Add function) from the Control Panel.

You cannot manually install from the Modem Applet because UM9800 requires a Virtual COM Port to function. Installing the modem manually will not allow you to select the Virtual COM Port as Windows<sup>®</sup> 98, Me and Windows<sup>®</sup> 2000 display only Physical COM Ports. Please install the modem as described in Chapter 3 and 4.



## Why does my modem always connect at 33.6Kbps and not 56Kbps or V.90 $\ref{eq:stable}$



Check with your Internet Service Provider (ISP) to ensure that they support 56Kbps or V.90 connections. For modem with Country Selection feature, please ensure that the modem is set to your local country. See **Appendix A** - **Frequently Asked Questions**, 'How do I set my Country profile for UM9800 modem?'.



#### There are incomprehensible characters appearing on the screen.

#### For Windows® 98 / Me:

The data, parity and stop bit settings are incorrect. Try using the default values or check with your ISP. Check also that the Hardware or Software Flow control is enabled in the Modem Advanced Properties.

- i. Click Start > Settings > Control Panel. Double-click the System icon.
- ii. Click the **Device Manager** tab. Double-click **Modem** > **UM9800 V.90 USB Modem** > **Properties** > **Connection** tab. Click **Advance**.
- iii. The option Use flow control must be enabled. Click OK.

Advanced Connection Settings	? ×
Image: Second control         Image: Bequired to connect         Image: Second control         Image: Second control         Image: Second control         Image: Second control	Use flow control <u>Hardware (RTS/CTS) Software (XON/XOFF)</u>
Modulation type	×
Land country	OK Cancel

#### For Windows<sup>®</sup> 2000:

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



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

Make sure that your modem is connected to one of the USB port available in your system via the USB Cable. Ensure also that the USB Port and Plug-and-Play are enabled in your BIOS settings. If you are sure that your modem is properly installed, do the following:

#### For Windows® 98 / Me:

- i. From the Windows taskbar, click **Start** > **Settings** > **Control Panel**.
- ii. Double-click the System icon. Click the Device Manager tab.

iii. Check if there is any yellow exclamation mark (error) on the modem devices. If yes, remove the devices (right click on UM9800 V.90 USB Modem and click Uninstall) and restart your system to reinstall the modem driver.

#### For Windows<sup>®</sup> 2000:

- i. From the Windows desktop, right-click on **My Computer** icon. Select **Properties**.
- ii. From System Properties dialog box, select Hardware tab and click Device Manager... button.
- iii. Check if there is any yellow exclamation mark (error) on the modem devices. If yes, remove the devices (right-click on UM9800 V.90 USB Modem and click Uninstall) and restart your system to reinstall the modem drivers.



## While testing the modem, the system gave an error message stating that it was unable to open the COM Port.



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:

#### For Windows® 98 / Me:

- i. From the Windows taskbar, click Start >Settings > Control Panel.
- ii. Double-click the System icon.
- iii. Click the Device Manager tab.
- iv. Check if there is any yellow exclamation mark on the modem device. If yes, remove the devices (select each device and click **Remove**, one at a time) and restart your system to reinstall the modem drivers.

#### For Windows® 2000:

- i. From the Windows desktop, right-click on **My Computer** icon. Select **Properties**.
- ii. From System Properties dialog box, select Hardware tab and click Device Manager.
- iii. Check if there is any yellow exclamation mark (error) on the modem devices. If yes, remove the devices (right-click on UM9800 V.90 USB Modem and click Uninstall) and restart your system to reinstall the modem drivers.



#### My driver files did not install properly. How do I update the drivers?

#### For Windows<sup>®</sup> 98 / Me:

- i. From your Windows taskbar, click **Start** > **Settings** > **Control Panel**. Double-click the **System** icon.
- ii. Click Device Manager tab. Double-click Modem > UM9800 V.90 USB Modem > Properties. Click the Driver Tab.
- iii Insert the modem Installation CD into your CD-ROM drive and click Update Driver.
- iv. At the Update Device Driver Wizard prompt, select Yes for Windows to search for the driver.
- v. Click **Finish** to complete the driver update.

#### For Windows® 2000:

- i. From the Windows desktop, right-click My Computer. Select Properties.
- ii. From System Properties dialog box, select Hardware tab and click Device Manager.
- iii. Double-click on Modems. Right-click on UM9800 V.90 USB Modem and select Properties.
- iv. Click the **Driver** tab. Insert the modem Installation CD into your CD-ROM drive and click **Update Driver**.



## I have installed the modem successfully, but whenever I tried to call my ISP, the browser reports an error.

Make sure that you have installed TCP/IP.

#### For Windows® 98 / Me:

- i. From the Windows taskbar, click Start > Settings > Control Panel.
- ii. Double-click the **Network** icon. If TCP/IP is not listed, it means that you have not installed TCP/IP.
- iii. Proceed to click Add > Protocol > Add > Microsoft > TCP/IP. Click OK.
- iv. Restart your system when prompted and reconfigure your Dial-Up Networking to connect to your ISP again.

Also check that you have stated the correct proxy (if any) of your ISP in the Browser options.

#### For Windows<sup>®</sup> 2000:

- i. From the Windows taskbar, click Start > Settings > Control Panel.
- ii. Double-click the Network and Dial-Up Connections icon. Right-click on your connection icon and select Properties. If TCP/IP is not listed, it means that you have not installed TCP/IP.
- iii. Proceed to click Install > Protocol > Add > Internet Protocol. Click OK, followed by Close.
- iv. Restart your system when prompted and reconfigure your Dial-Up Networking to connect to your ISP again.

Also check that you have stated the correct proxy (if any) of your ISP in the Browser options.

# Appendix...C

# **Technical Specifications**

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

### C.1 Main Features

### **C.1.1 Drivers support**

- a) Windows® 98, Me, 2000
- b) TAPI 2.0 compliant

### C.1.2 Integrated 56000 BPS Data/Fax Modem

- ST7554 & ST7550 chips
- · V.90 (up to 56Kbps),
- K56Flex (up to 56Kbps)
- V.34 data modem (up to 33.6Kbps)
- V.32 bis, V.32, V.23, V.22 bis, V.22, V.21, Bell 212A and 103
- · V.42, MNP2-4, LAPM error correction
- V.42 bis and MNP5 data compression
- V.17/V.29/V.27ter and V21 Group 3 Fax mode
- · ADPCM
- · Low power consumption
- Virtual UART (460.8Kbps)

- · V.8 and Automode
- V.80 Synchronous access modes host controlled communication protocols; eg H.324 video conferencing
- · Auto dialing and auto answer
- · Tone or pulse dialing
- · DAA line interface
- · Caller ID support (optional)
- · OnNow Power Management
- · Class 1 fax commands
- · Distinctive ring for data/fax/voice
- · Answering Machine
- Buzzer on-board
- · Hot Swap

## C.2 Interfaces

### C.2.1 External connectors

- · 1 x RJ11 Telephone socket for telephone line
  - 1 x RJ11 Telephone socket for telephone handset (Optional)
- · 1 x Series "B" USB receptacle

### C.3 Led Indicators

- **POWER** lights up when the modem is powered.
- **IN USE** lights up when the modem is connected to another modem and off hook.
- · DATA lights up when modem transmits and receives data



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

