EM6800 56K EXTERNAL MODEM

User's Manual

Version 1.1

Electrical Safety

When using your Modem, basic safety precautions should always be followed to reduce the risk of fire, electric shock and injury to persons, including the following:

1. Read and understand all instructions.

2. Follow all instructions on the product.

3. The socket outlet shall be installed near the Modem and shall be easily accessible.

4. Except for the power adapter supplied, the Modem shall not be connected to other adapter or power supply.

5. Unplug this product from the socket outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a soft, damp cloth for cleaning.

6. Do not use this product near water, for example, near a bath tub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool.

7. Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.

8. Never push objects of any kind into ventilation slots. Risk of fire or electric shock may result if dangerous voltage points are touched. Never spill liquid of any kind on the product.

9. To reduce the risk of electric shock, do not disassemble this product, but take it to a qualified serviceman when some service or repair work is rquired. Opening or removing covers may expose you to dangerous voltages or other risks. Incorrect assembly can cause electric shock when the Modem is subsequently used.

10. Unplug this product from the socket outlet and refer to servicing to qualified service personnel under the following conditions:

    •   When the line cord is damaged or modular plug is damaged or frayed.

    •   If liquid had been spilled into the product.

    •   If the product has been exposed to rain or water.

    •   If the product does not operate normally by following the operating instructions.

    •   If the product has been dropped or the cabinet has been damaged.

    •   If the product exhibits a distinct change in performance.

If it is subsequently desired to open the host equipment for any reason, the telephone cord(s) must be disconnected prior to effecting access to any internal parts which may carry telecommunications network voltages.

P/N : 040-502375-111

Table of Contents

Chapter

Setting up Your Modem

▪ ▪

Thank you for buying the EM6800-U 56K External Modem.

With the EM6800-U 56K External Modem alone, you can perform a comprehensive range of modem-related functions including data communications, sending and receiving of faxes, as well as telephone/speakerphone operations.

The intensive demands of today's Internet applications will no longer be a bottleneck. Using the 56K External 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 Package Contents
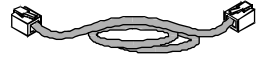
In addition to this user's manual, please make sure you have the following items which will be required for the installation of your modem:
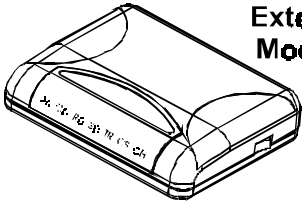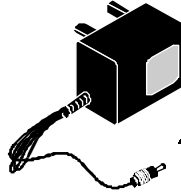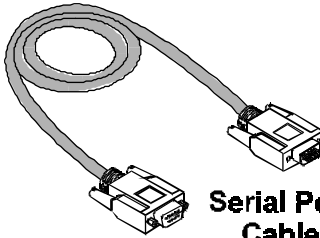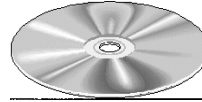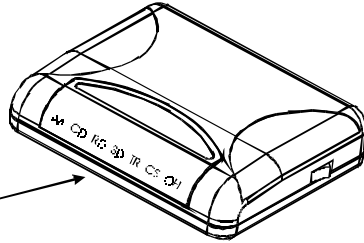

The actual items which come with your package may differ in appearance from country to country.

1.2   Knowing your Modem

Familiarize yourself with the various parts of your modem. This will help you during the installation later on.

AA: Auto Answering
CD: Data Carrier Detect
RD: Receive Data
SD: Send Data
TR: Terminal Ready
CS: Clear To Sent
OH: Off Hook

The LED lights at the front panel of your External Modem indicates the present status of your modem.

AA (Auto Answering)
•   lights up when the modem is configured to answer the ring automatically.

TR (Terminal Ready)
•   lights up when the computer raises the Data Terminal Ready (DTR) line, indicating it is ready to begin communications.

CS (Clear To Sent)
•   lights up when the data transfer path is clear for data transmission.

OH (Off Hook)
•   lights up when the modem is connected to another modem and off hook.

CD (Data Carrier Detect)
•   lights up when the modem detects a carrier signal over the telephone line.

SD (Send Data)
•   lights up when the modem transmits data to the computer.

RD (Receive Data)
•   lights up when data is received by the modem.
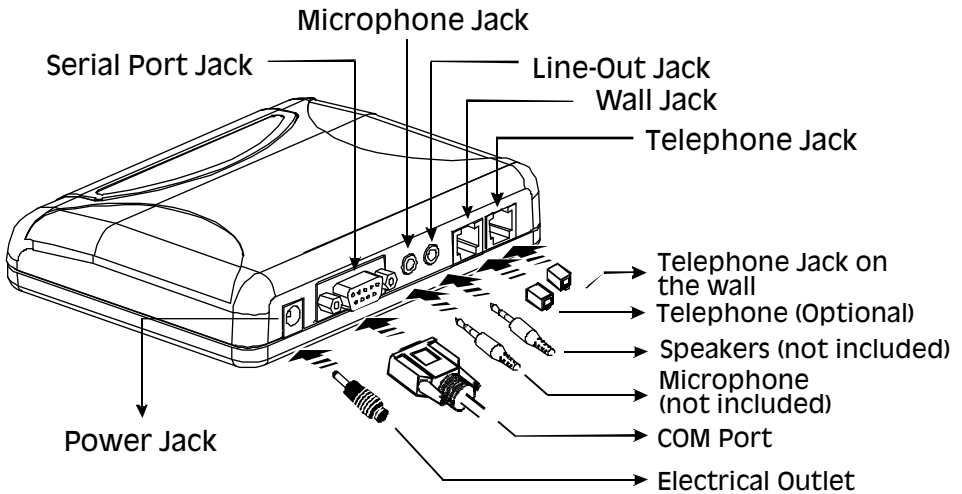
1.3   Standard Requirements

Please make sure that you have the following before installing the modem:

- A direct analog**†** telephone line for data/fax/voice transmission
- A free (9-pin) COM port on your PC for connecting to the modem
- A power socket to connect the power adapter
- Complete PC system running Windows® 3.1x/95/98/NT® 4.0
- Operating System Installation CD (Windows® 3.1x/95/98/NT® 4.0)
- A telephone set (optional)

†   Make sure that the telephone line is an analog one as the modem may be damaged if a digital line is used. If you are unable to find an analog line, use a fax line.

1.4 Installing your Modem

This section will guide you through the installation of your modem. Just follow the simple instructions here and you will have your modem installed in minutes.

Remember to switch off your computer and any connected devices before starting with the installation of your modem.

❶ Connect the Male Plug of the Serial Port Cable to the Serial Port Socket on the modem.
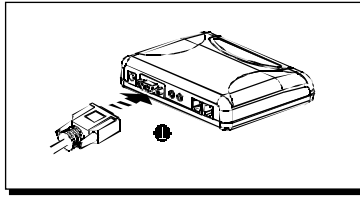
❷ Connect the Female Plug of the Serial Port Cable to the 9-pin Serial Port on your computer. *(The location of your computer's Serial Port may differ from the illustration above. Refer to your computer's user manual for the exact location of the Serial Port.)*

If you do not have a free 9-pin port, you would require a 9-to-25-pin converter to connect to your 25-pin port.
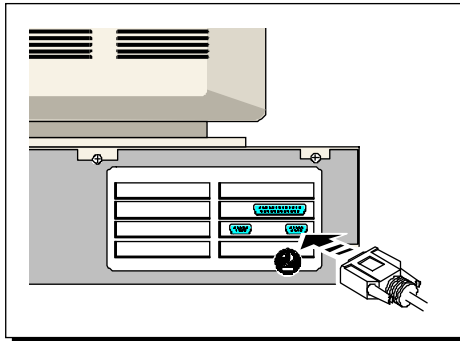
❸   Connect a telephone set to the Telephone Jack on the modem (optional).

(This connection is optional. It eliminates the need to switch between your telephone set and your modem if they are sharing the same telephone wall socket)
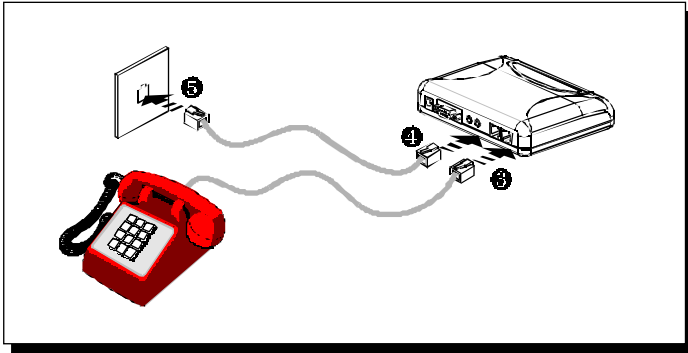
❹   Connect one end of the Telephone Extension Cable to the wall Jack on the modem.

❺   Connect the other end of the Telephone Extension Cable to a telephone jack on the wall.

❻   Connect the AC Power Adapter Jack to the Power Jack on the modem.
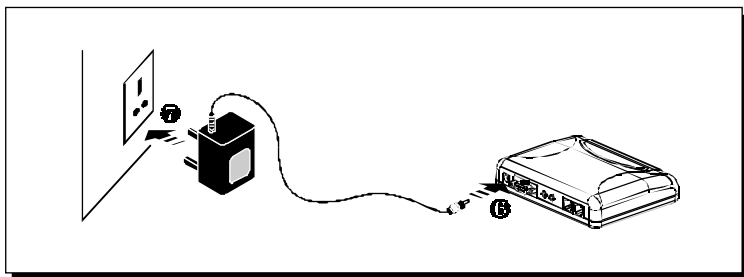
❼   Connect the AC Power Adapter Plug to an electrical outlet. *(The AC Power Adapter Plug in your modem package may differ from the illustration above. However, the connection procedure is still applicable.)*

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/NT 4.0.

Chapter

2

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

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

Please have your Operating System Installation CD (Windows® 95,
Windows® 98 or Windows NT® 4.0) ready during the installation as
some files may be required from them.

2.1   Windows® 95

1.   Once the modem has been set up, switch it on. The red LED indicator
     lights up on the front panel of the modem.

2.   Turn on your computer to start Windows® 95.

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

3.   Insert the Installation CD into the CD-ROM drive and then click the **Next** button.

Windows® 95 will now prompt you that the modem driver has been found. Click **Finish** to continue.

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

2.2   Windows® 98

1.   Power on the modem. The red LED indicator lights up on the front panel of the modem.

2.   Power on your computer to start Windows® 98.

3.   Windows® 98 will detect the new hardware and an **Add New Hardware Wizard** screen will appear.

4.   Insert the Installation CD into your CD-ROM drive and click the **Next** button.

5. Windows® 98 will prompt for your preferred search method for drivers.

Choose the option **Search for the best driver for your device
(Recommended)** and click the **Next** button.

6. Next, choose **CD-ROM drive** and then click the **Next** button to direct
    Windows to start the search.

7. Windows will prompt that the driver on the installation CD is found. Click **Next** to start the drivers installation.

8. When the installation is completed, click **Finish**. This completes the installation of the modem drivers in Windows® 98. Proceed to the next chapter for information on testing your modem.

2.3   Windows NT® 4.0

1. Power on the modem. The red LED indicator lights up on the front panel of the modem.

2. Power on your computer to start Windows NT® 4.0.

3. Go to the **Control Panel** and double-click on the **Modems** icon.

4. An **Install New Modem** window will appear. Click **Next** to continue.

5. Windows NT® will attempt to detect the new modem and will prompt that a "EM6800-U 56K External Modem" is found on the COM Port the modem is connected to.

6. Click the **Change** button.

7. In the next screen, click the **Have Disk** button.

8. Type "*D:*" (assuming your CD-ROM drive letter is D) into the path box and click the **OK** button.

9. Another screen with "EM6800-U External Modem" listed will appear. Highlight the selection and click the **OK** button.

10. Click **Next** in the next screen and then **Finish** in the final screen. The modem has been installed successfully. Proceed to the next chapter for information on testing your modem.

For detailed explanations for the installation of drivers under Windows® 3.1, please refer to the EM6800-U.txt in the root directory of the installation CD.

Chapter

Testing the Modem Drivers in Windows® 95/98

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

1.   Make sure that your modem is switched on.

2.   From the Windows® 95/98 taskbar, click the **Start** button.

3.   Select **Settings** and then click on **Control Panel**.
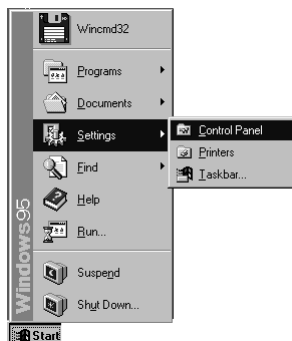
4.   Double-click the **Modems** icon.

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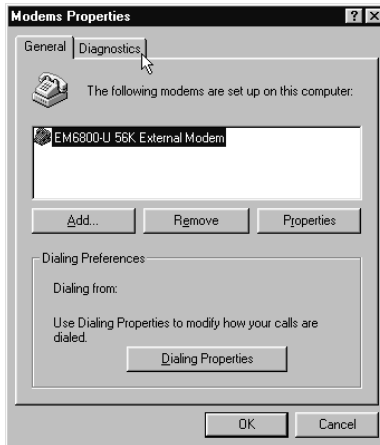
6.   Select the **COM Port** that your modem is connected to.
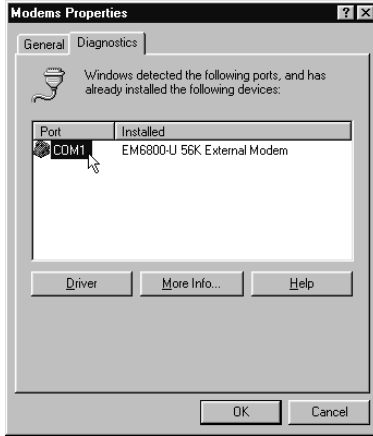
7.   Click on the **More Info** button.
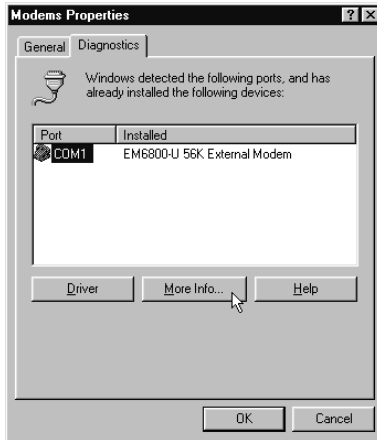
8.   If your modem is working properly, the **More Info...** window will appear, showing a list of AT commands.
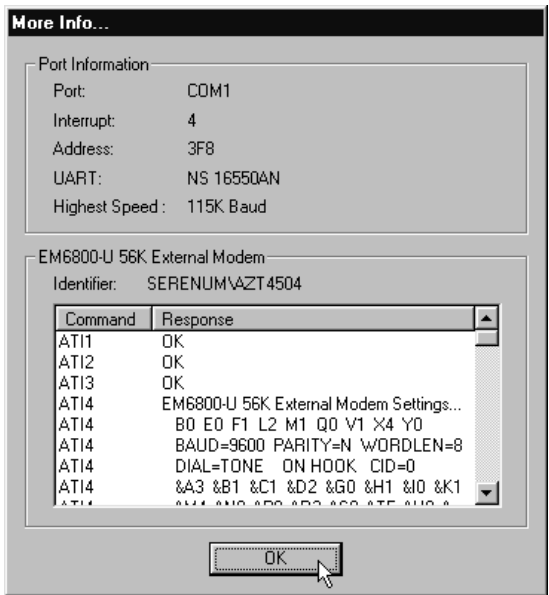
Note that the Port Information shown here may differ from what you see on your computer. This information is determined by the COM Port which you connect your modem to.

8.   You may like to proceed to install other Internet software.

A Program folder "EM6800-U Modem Information" will be created in the Start menu>Programs. For further help on the installation, please refer to FAQ.txt in this folder or FAQ.doc/FAQ.txt in the Installation CD.

Chapter

4

Maintaining the Modem

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1. Switch off the modem and adapter when the modem is not in use.

2. During times of lightning strike/thunderstorm, do not use the modem.

3. Keep the modem away from water and direct sunlight.

4. Do not introduce any foreign material to the modem through the ventilation slits, for example, by dropping foreign items into it or by poking it.

Uninstalling the Modem

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This chapter contains information on uninstalling the modem and the files that it generated.

There are a few ways to uninstall the modem. Please do **either one** of the following to uninstall the modem:

1. Insert the Installation CD into the CD-ROM drive and double-click on the file "DEINSTAU.EXE" from the root directory of the CD.

2. If the modem has been installed successfully, the file "DEINSTAU.EXE" can be found in the folder "EM6800-U Modem Information", by clicking the **Start** button on the taskbar and selecting **Programs**.

3. The file "DEINSTAU.EXE" can also be found in the Windows directory.

4. The modem can also be uninstalled from the Control Panel's **Add/ Remove Programs**.

    Click the **Start** button on the taskbar and then select **Settings** and click on **Control Panel**. Double-click on **Add/Remove Programs** and select **EM6800-U External Modem Files** and click the **Add/Remove...** button.

Appendix

Frequently Asked Questions

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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 initialize the modem?

The following modem command was used to initialize the modem in the terminal emulation mode such as in Windows® 95/98 Hyperterminal application:

ATZ

How to initialize the modem in DOS-based games under Windows® 95/98 virtual DOS box?

The following modem command was used to initialize the modem in DOS-based games such as Heretic and Hexen under Windows® 95/98 virtual DOS box:

AT&F1

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

Some older DOS games do 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.

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

Make sure your modem is connected to one of the available COM port of your system by the Modem Cable. Please ensure that the PORT is enabled in your BIOS settings. Ensure that Plug and Play is enabled too.

Also ensure that the Power Adapter that comes with this modem is switched on and securely inserted into the Modem's Power Supply Jack.

However, if you are sure that the modem has been properly installed, do the following:

i. *From the Windows® 95/98 task bar, click the 'Start' button.*
ii. *Select 'Settings' and then click on 'Control Panel'.*
iii. *Double-click the 'System' icon.*
iv. *Click the 'Device Manager' tab.*
v. *Check whether there is any yellow exclamation mark (error) on the modem devices. If yes, remove the modem devices. Restart the Windows and the system will detect the modem again.*

Reinstall the modem drivers.

While testing the modem, the system gave an error message saying that it was unable to open the COM port.

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

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

i.   From the Windows® 95/98 task bar, click the 'Start' button.
ii. Select Settings and then click on 'Control Panel'
iii. Double-click the 'System' icon.
iv. Click the 'Device Manager' tab.
v.   Check whether there is any yellow exclamation mark or Duplicated hardware entries on the modem device. If yes, remove the modem devices.
Restart Windows and the system will detect the modem again.

Reinstall the modem drivers.

Why does my modem always connect at 33.6Kbps but not 56Kbps ?

Check with your internet Service Provider (ISP) to ensure that it supports 56Kbps connection.

Check the Device Manager to see if you have installed the correct installation script files for this Modem. You should be seeing "EM6800 56K External Modem" under the Modem Class.

If you see "Standard Modem", then you must have installed the Default Windows Installation scripts files. The maximum connection speed is 33.6kbps for Standard Modem.

If you see some other names, then you have installed the wrong files for your Modem.

Please refer to the FAQ: 'How can I update my present (Incorrect) Modem Driver Files to "EM6800 56K External Modem" ?' on how to remove or update your Modem Driver files.

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

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

The modem hangs up when an incoming call is received.

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

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

Check the Telephone Cable connection. If necessary, connect to a Telephone and check for the Off Hook Dial tone. If there is no Dial Tone, most probably there is some problem with your telephone cable line.

There are incomprehensible characters appearing on the screen.

The data, parity and stop bit settings are incorrect. Try using the default values or checked with your ISP. Check to see if Hardware or Software Flow control is enabled in your Modem Properties.

I cannot install the Modem under Windows 3.1x.

Under Windows 3.1x, there is no drivers needed as the Operating system does not support Modem Drivers. However, you can use the COM Port drivers to make your modem work properly. Note that under Windows 3.1x, the maximum possible speed is 19200bps. This is an limitation of the Windows 3.1x itself and is not the fault of this modem product.

I cannot find the Modem Drivers on the root directory of the Installation CD while installing under Windows® 95SR1.

Windows® 95SR1 have a bug in not been able to detect driver files in the root directory of a CD. You have to path to the "WIN9X" directory of the CD to locate the drivers. The drivers in this directory is exactly the same copy as those in the root directory of the CD.

What does TAPI and Non-TAPI communication applications means?

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.

The Modem Speaker Volume Slider in the Modem Properties does not work.

The Modem Speaker Volume Slider in the Modem Properties is meant to be use with TAPI compliant software. If the Communication Software that you are using is not TAPI compliant, then you will most probably be unable to control the Modem Speaker Volume.

Note that Hyperterminal of Windows® 95 and Windows® 98 supports both TAPI and NON-TAPI mode. In non-TAPI mode, you have to manually type in the AT commands to dial up and set the Modem Speaker Volume yourself. Please check the attached ATCOMSET.PDF for more information.

How can I update my present (Incorrect) Modem Driver Files to "EM6800 56K External Modem" ?

i. Go to the Modem Class in Device Manager.
ii. Go to the properties of your present modem and go to the Driver Tab.
iii. Insert the Modem Installation CD into your CDROM drive and click update Driver.
iv. At the Update Device Driver Wizard screen, select "Yes" to let Windows search for the driver.
v. The driver will be found at the root directory or the "WIN9X" directory of the CD.
vi. Click the "Finish " button to finish the installation.
vii. Updating is completed.

My TAPI mode Communication Software cannot install/Run.

It could be that you do not have the latest UniModem Drivers installed on your System. The default drivers in Windows could be inadequate for your Communication Software. This is the case if you are using Chinese Windows® 95.

i. Go to your Windows Explorer.
ii. Browse to the "UNIMODEM" directory of the CD and locate the file "UNIMODV.INF".
iii. Right Click on the file and choose "Install".
iv. The Latest Unimodem Drivers will be automatically installed into your system.
v. Reboot your system to let the UniModem Drivers take effect.

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

Using Hyperterminal or any other Communication Software that recognizes AT commands. Type in the command "ATI7". You will see V.90 listed in the Options Profile. This means V.90 is supported and ready.

Where can I find all the files installed into my system by the modem ?

Assuming that your Windows Directory is called "WINDOWS", the files are :

ATCOMSET.PDF   -   C:\WINDOWS

MDM450X.INF   -   C:\WINDOWS\INF

WAV450X.INF   -   C:\WINDOWS\INF

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

Proceed to the Network Icon in Control Panel. Ensure that you have installed TCP/IP. If not, click the add button and select Protocol-> Microsoft-> TCP/IP and finally the "OK" button.

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.

How can I de-install my Modem?

If you installed the Modem correctly, then there is a "EM6800 Modem Information" Folder at your Start Button Menu.

Click the "Deinstall Modem" Icon in the folder and follow the simple instructions to completely deinstall your Modem.

Else, you can also proceed to the Add/Remove Program Icon in Control Panel and select "EM6800 External Modem Files" to deinstall the Modem.

If you somehow do not see these two options available, you can run the following files on the Modem Installation CD's root directory or your Windows Directory to deinstall your Modem.

Run the file "DEINSTAU.EXE" to deinstall modem.

I do not see a New folder called "EM6800 Modem Information" after manually installing the Modem.

If you manually add in the Modem through the Modem Icon in Control Panel, then you will only be able to see the New Folder after you restart your Windows.

Appendix

Technical Specifications

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1   Overview

The EM6800-U is a family of stand-alone external modem. It uses the Texas Instrument 4 chip solution Modem chipset.

2   Main Features

Integrated 56000/33600 bps Data/Fax/Speakerphone Modem EM6800-U uses Texas Instrument 4 chip solution Modem chipset.

- V.90 (56 kbps down-link from Internet Service Provider)

- x2 (56 kbps down-link from Internet Service Provider)

- V.34bis data modem (33.6 kbps)

- V.34 (28.8 kbps)

- V.32bis

- V.32

- V.23

- V.22bis

- V.22 A/B

- V.21

- Bell 212A and 103

- V.42, MNP2-4

- V.42bis and MNP5 data compression

- V.17/V.29/V.27ter and V21 channel 2 group 3 fax mode

- V.80 video conferencing ready

- Enhanced ADPCM/PCM voice operation with concurrent DTMF detection

- Auto dialing and auto answer

- Tone or pulse dialing

- Full duplex speakerphone capability

- Voice monitoring function with automatic fax/voice switch

- Line quality monitoring and re-train

- DAA line interface

- Enhance AT, voice and Class 1 fax commands

- Caller ID

- Call progress monitoring via on-board buzzer

- Handset exclusion feature to prevent accidental handset interruption

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