TFM-560X

**V.92 56K External
Data/Voice/Fax Hardware Modem**

User's Guide

TRENDnet ®

TRENDware, USA

What's Next in Networking

TABLE OF CONTENT

Section 1   Contents of Package

- TFM-560X
- Quick Installation Guide   (Multi-Language)
- Software, Driver & User's Guide CD-ROM
- Power Adapter (9VAC, 1000mA)
- 1 x RJ11 Telephone Cable
- 1 x RS-232 Serial Cable

Please contact the place of purchase if any of the above listed items are missing.

## Section 2   Comprehensive Modem Installation Instructions

Section 2.1   System Requirements

The modem operates on a personal computer equipped with the following:

- Windows 95 / 98 / 98SE / ME / NT 4.0 / 2000 / XP/ 2003 Server, MacOS, Linux, or any control device with RS-232 interface
- One vacant RS-232C (COM) port

Section 2.2   Hardware Installation

Please refer to Fig. 2 - 1 and proceed to following steps for how to insert your modem into the computer and connect telephone wire.
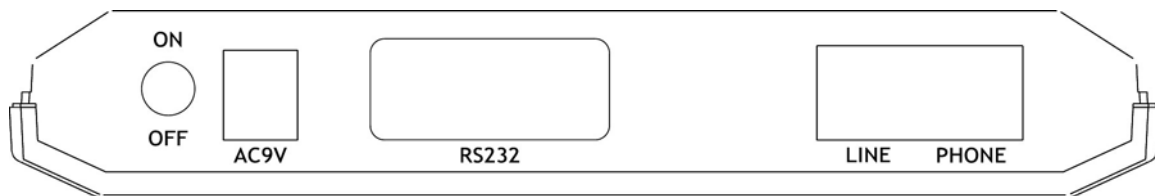
Model: TFM-560X

Figure 2-1 External Modem Rear Panel

1. Turn off and unplug your computer from the AC outlet.
2. Unplug any peripheral devices (keyboard, monitor, etc) from your computer.
3. Connect the male end of the serial cable into the connector marked **RS-232** on the rear panel of the modem. (see Figure 2-1)
4. Connect the female end of serial cable to the available serial port marked **COMx**, **RS-232** or **Serial** on the back of your computer.
5. Plug one end of telephone cord into the "**LINE**" jack at the modem's bracket. Plug the other end of the telephone cord into the telephone wall jack
6. Some model may include a phone jack for an optional telephone. If you wish to use a phone through the same telephone wall jack as the modem when the modem is not in use, plug the telephone cord of the phone into "**PHONE**" jack at the modem's bracket now. Lift the handset and listen for a dial tone to check for a properly connection.
7. Plug the power adapter into a AC outlet, and insert its plug into the "**POWER**" jack on the rear panel of your modem after you verify the modem power switch is in the OFF position.
8. Plug the power cords, and peripherals back into the computer.
9. Turn on the modem power switch. Then turn the computer on.

10. This finishes the hardware installation for external modem. If you have not encountered any problems, you can go to **Section 2.5 Install Communication Software**. If you are having problems, see **Section 3 Troubleshooting**.

NOTE: The telephone wall jack you use must be for an ANALOG phone line (the type found in most homes). Many offices are equipped with digital phone lines. Please be sure you know which type of line you have.

The modem will be damaged if you use a digital phone line.

Indicator Lights

Your external modem features LED indicators on the front panel that report modem status :

MR   Modem Ready Lights when the modem is turned on.

TR   Terminal Ready Lights when the computer is ready to send or receive data. Indicates the status of the DTR signal from the terminal or computer.

SD   Transmit Data Flashes whenever data or commands are transmitted from the serial port of your computer or other device to the modem.

RD   Receive Data Light flashes when data is sent from the modem to your computer or other serial device. At high speeds light may appear continuously on.

OH   Off Hook Lights when the modem is off hook.

CD   Carrier Detect Lights when the Data Carrier Detect (DCD) signal from the modem to the computer is on.

RS   Request to Send Lights when the computer can accept data from the modem. The light will turn off when the modem is set for hardware flow control and the computer is not ready, preventing data flow from the modem

CS   Clear to Send Lights when the modem can accept data from the computer. The light will turn off when the modem is set for hardware flow control and the modem data buffer is full, pre-venting data flow from the computer.
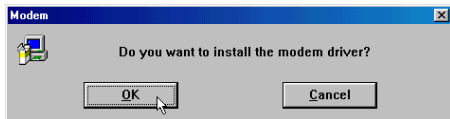
Section 2.3　　　System Setup

Section 2.3.1　　　Setup instructions for Windows 98 / ME / 2000 / XP

STEP 1. Insert the **Modem Driver** CD-ROM disk attached with your modem into the CD-ROM drive device,

Then run **<CD-ROM letter>:\Drivers\Setup.exe** as shown in figure.
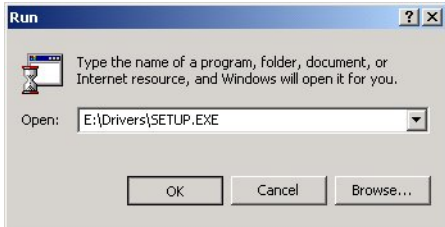
Then click on **OK**

STEP 2. And then, a prompt screen will ask you to ensure to install the modem driver.

Then click **OK**.

The setup utility will copy the needed files into windows system.

[Windows XP only]

STEP 2-1. Choose "Install the software automatically (Recommended)" and click "NEXT>" button.

[Windows 2000 & XP only]

STEP 3. The prompt screen will ask you to ensure the driver for your modem as shown in figure when the system have been restarted.
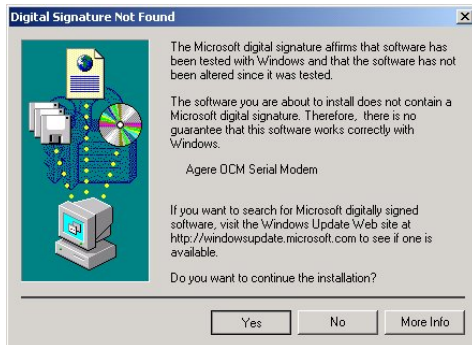
(Windows 2000)

Click on **Yes** to finish installation procedure.

(Windows XP)

Then, click on **Continue Anyway**.

[Windows XP only]

STEP 3-1. The screen will prompt you the installation procedures be done.

Click on "Finish" button.

Section 2.3.2   Uninstall Modem from Windows 98/Me/2000/XP

STEP 1.   Right click on **My Computer** icon on **Desktop** and then choose **Properties** as shown in figure.
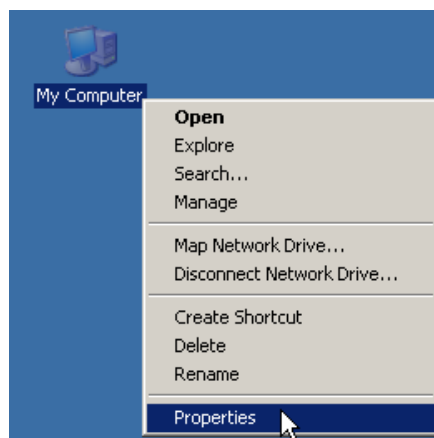
         (Windows 98/Me/2000)   **(Windows XP)**

STEP 2.   Choose **Hardware** tab in **System Properties** window as shown in figure.
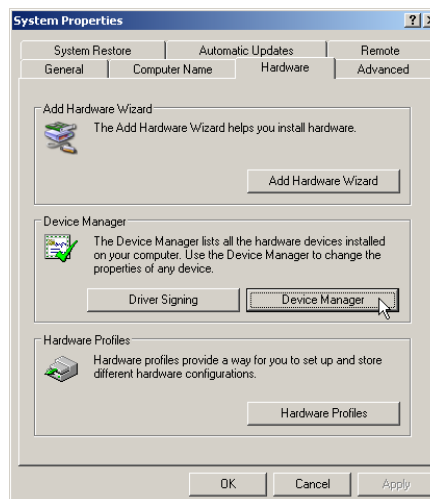
        (Windows Me/2000)   (Windows XP)

        Then, click on **Device Manager.**

* Windows 98 users, please skip this step!

STEP 3. **(Windows 98)**

Expand **Modem** item in **Device Manager** tab and choose **Agere OCM Serial Modem** as shown in figure.
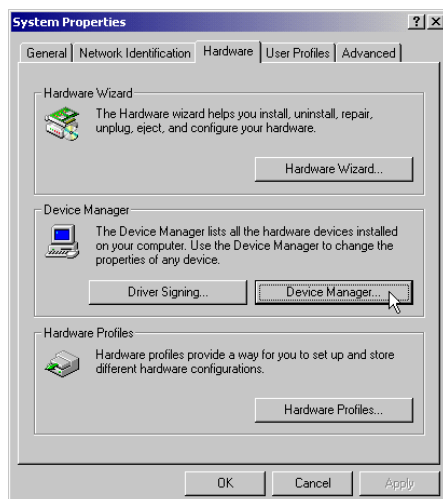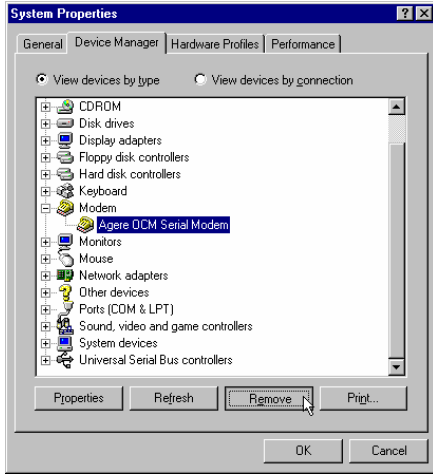

Click on **Remove** button.

(Windows Me/2000/XP)

Expand **Modem** item in **Device Manager** tab and choose **Agere OCM Serial Modem** as shown in figure.
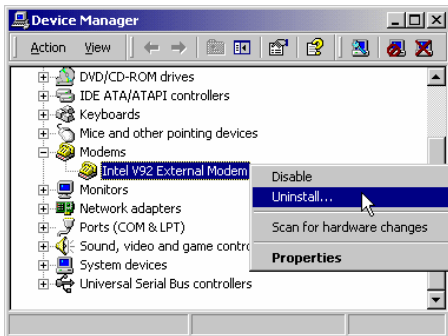
(Windows Me/2000)   (Windows XP)

Right click on **Agere OCM Serial Modem** item and select **Uninstall**.

STEP 4. A prompt screen will ask you to ensure to remove this device from your system as shown in figure.

(Windows 98/Me/2000)   (Windows XP)

Click on **OK** to complete the uninstall procedures.

Section 2.4   Testing Your Modem

Before you set up your software, start with a quick test to check that your modem is working. Once you have determined that your modem is setup properly, go on to **Section 2.5 Install Communication Software** to install your communications software. If you are having problems, see **Section 3 Troubleshooting**.

Click on **Start** and point to **Setting**. Then click on **Control Panel**. When the **Control Panel** window opens. Scroll down to the **Modem** icon and double click on it. Click on the **Diagnostics** tab and highlight the COM port for your modem. Then click on **More Info**, your computer will automatically communicate with your new modem using AT commands and receiving responses from your modem. A list of response means the modem is setup properly.

Section 2.5   Install Communication Software

You can install the communication software from the CD-ROM disc attached with your new modem. Please consult the software manual in the CD-ROM disc for the detail of software installation.

You do not have to use the communication software attached with your new modem. The modem was designed for and tested using a wide range of communications software packages. Many communication applications identify the modem automatically and configure themselves for the correct operating settings. Some of the communication applications will ask you to select the type of modem you are using. Select a **Generic Fax class 1 modem** will let you use basic communication and fax functions.

Rev.1.00

Section 3   Troubleshooting

Your modem is designed to provide reliable and trouble-free functionality, however, should you experience any difficulty, the information contained in this section will assist you in determining and resolving the source of the problem.

Problem: Modem does not respond to AT commands

Possible solutions:

1.   Make sure the modem is not configured with a conflicting COM port and IRQ setting. Make sure the communication software is configured with the correct COM and IRQ settings (the same COM port and IRQ as the modem). Your communications software will not be able to send or receive any data if it is not configured to match the COM port and IRQ settings for the modem.

      DOS based communication program is not working with this modem neither can you operate the modem in MS-DOS prompt screen.

2.   Make sure the modem is properly initialized using the driver software. The software may improperly Initialize your modem because you have selected an incorrect modem type. You may also be prompted to enter an initialization string by the software. Use AT&F as your initialization string.

Problem: Modem dials but does not connect

Possible solutions:

1.   Be sure the IRQ setting is identical on the modem and the software.

2.   Make sure that the phone line is working properly. A noisy line will prevent proper modem operation.

Problem: Modem makes a connection but no data appears on screen

Possible solutions:

3.   Make sure all communication parameters (baud rate, data, stop, and parity bits) are properly configured and are identical on both sides. Be certain hardware flow control (RTS/CTS - default) is enabled in both the modem and the communication software.

4.   Press the ENTER key several times. The remote system may be waiting to receive your data before it begins.

5.   Make sure the correct terminal emulation mode is being used in the software (refer to software manual).

Problem: Modem displays errors while on-line with a remote modem

Possible solutions:

6.   Make sure Call Waiting is turned off.

7.   Make sure RTS/CTS hardware flow control is enabled (do not use XON/XOFF software flow control when transferring binary files).

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8. Make sure the data speed is not faster than your computer capability. Operating too many applications at the same time may cause communication problem. Close unnecessary application in your system.

Problem: Modem exhibits poor voice recording or playback

Possible solutions:

9. Make sure the correct modem type is selected in the Voice/FAX software. Volume adjustment is available in control panel.

10. Make sure your computer is fast enough to handle voice operations (38.4 Kbps). Voice operations are CPU intensive and require a better CPU sharing when running under Windows.

Problem: No dial tone

Possible solutions:

11. Ensure that the telephone cord it securely connected at both modem and wall outlet.

12. Unplug the telephone cord from the computer and connect it directly to a telephone from the wall outlet. Check for a dial tone. If there is none, the problem is in the telephone cord or system. Call your telephone service provider.

13. Double-check your country setting. Different country setting will cause different modem performance. Please select the correct country as you located.

14. Check modem performance with a direct line from your telephone company. Some PBXs may cause the telephone line condition change and affect modem performance.

Problem: The modem does not answer incoming calls

Possible solutions:

15. Ensure that the automatic answer parameter is set to one of the enabled options, using the ATS0 command (ATS0=1 to answer after one ring, and so on).

16. Ensure that no other devices, such as fax or answering machines, are answering calls before the modem does.

If you cannot resolve your situation after reading this section, contact your dealer or vendor for assistance.

Appendix 1   Modem Specifications

Modulation standards: V.92, V.90, V.34, V.32bis, V.32, V.29, V.27ter, V.23, V.22bis, V.21, V.17, Bell212/103

Compression	**:** V.44, V.42bis, MNP Class 5
Error Correction	**:** V.42, MNP Class 2-4
Interface	**:** RS-232C
FAX Group	**:** ITU-T T.31 class1
FAX Command	**:** EIA/TIA 578 class 1
VOICE Command	**:** ITU-T V.250 AT Command Set
Transmit level	**:** -10 dBm +/- 1 dB
Sensitivity	**:** -43 dBm
Temperature	**:** 0℃ to 45℃, operating; -20℃ to 80℃, non-operating

Appendix 2   Government compliance notices

FCC compliance

This equipment complies with Part 68 of the FCC Rules. On this equipment is a label that contains, among other information, the FCC registration number and Ringer Equivalence Number (REN) for this equipment. You must, upon request, provide this information to your telephone company.

If your telephone equipment causes harm to the telephone network, the Telephone Company may discontinue your service temporarily. If possible, they will notify in advance. But, if advance notice isn't practical, you will be notified as soon as possible. You will be informed of your right to file a complaint with the FCC.

Your telephone company may make changes in its facilities, equipment, operations, or procedures that could affect proper operation of your equipment. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service.
The FCC prohibits this equipment to be connected to party lines or coin-telephone service.
In the event that this equipment should fail to operate properly, disconnect the equipment from the phone line to determine if it is causing the problem. If the problem is with the equipment, discontinue use and contact your dealer or vendor.

FCC Class B statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio 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 the 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.

Notice: 1) Shielded cables, if any, must be used in order to comply with the emission limits.

　　　　2) Any change or modification not expressly approved by the Grantee of the equipment

　　　　　authorization could void the user　s authority to operate the equipment.

DOC compliance information

NOTICE: The Canadian Department of Communications label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational and safety requirements. The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users ensure that it is permissible to be connected to the facilities of the local Telecommunications Company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions might not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

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

NOTICE: The Load Number (LN) assigned to each terminal device denotes the percentage of the total load to be connected to a telephone loop which is used by the device, to prevent overloading. The termination on a loop may consist of any combination of devices subject only to the requirement that the sum of the Load Numbers of all the devices does not exceed 100.

European CTR 21 compliance

The equipment has been approved in accordance with Council Decision 98/482/EC for pan-European single terminal connection to the public switched telephone network (PSTN). However, due to differences between the individual PSTNs provided in different countries, the approval does not, of itself, give an unconditional assurance of successful operation on every PSTN network termination point. In the event of problem, you should contact your equipment supplier in the first instance.

Note: The manufacturer should ensure that the vendor and user of the equipment is clearly informed of the above information by means of package and /or user manuals of the forms of user instructions.

Limited Warranty

TRENDware warrants its products against defects in material and workmanship, under normal use and service, for the following lengths of time from the date of purchase.

TFM-560X – 5 Years Warranty

If a product does not operate as warranted above during the applicable warranty period, TRENDware shall, at its option and expense, repair the defective product or part, deliver to customer an equivalent product or part to replace the defective item, or refund to customer the purchase price paid for the defective product.   All products that are replaced will become the property of TRENDware.   Replacement products may be new or reconditioned.

TRENDware shall not be responsible for any software, firmware, information, or memory data of customer contained in, stored on, or integrated with any products returned to TRENDware pursuant to any warranty.

There are no user serviceable parts inside the product.   Do not remove or attempt to service the product by any unauthorized service center.   This warranty is voided if (i) the product has been modified or repaired by any unauthorized service center, (ii) the product was subject to accident, abuse, or improper use (iii) the product was subject to conditions more severe than those specified in the manual.

Warranty service may be obtained by contacting TRENDware office within the applicable warranty period for a Return Material Authorization (RMA) number, accompanied by a copy of the dated proof of the purchase.   Products returned to TRENDware must be pre-authorized by TRENDware with RMA number marked on the outside of the package, and sent prepaid, insured and packaged appropriately for safe shipment.

WARRANTIES EXCLUSIVE: IF THE TRENDWARE PRODUCT DOES NOT OPERATE AS WARRANTED ABOVE, THE CUSTOMER'S SOLE REMEDY SHALL BE, AT TRENDWARE'S OPTION, REPAIR OR REPLACEMENT. THE FOREGOING WARRANTIES AND REMEDIES ARE EXCLUSIVE AND ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, EITHER IN FACT OR BY OPERATION OF LAW, STATUTORY OR OTHERWISE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. TRENDWARE NEITHER ASSUMES NOR AUTHORIZES ANY OTHER PERSON TO ASSUME FOR IT ANY OTHER LIABILITY IN CONNECTION WITH THE SALE, INSTALLATION MAINTENANCE OR USE OF TRENDWARE'S PRODUCTS.

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

Governing Law: This Limited Warranty shall be governed by the laws of the state of California.

AC/DC Power Adapter, Cooling Fan, and Power Supply carry 1 Year Warranty

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Technical Support

You can find the most recent driver/firmware/software and user documentations on the **TRENDware website**. **TRENDware** provides **FREE technical support** for all customers for the duration of the warranty period on this product.

TRENDware Technical Support
Tel: +1-310-626-6252
Fax: +1-310-626-6267
E-mail: support@trendware.com
www.TRENDnet.com

Monday ~ Friday, 7:30AM ~ 6:00PM Pacific Standard Time
(Except holidays)

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TRENDware, USA

What's Next in Networking

Product Warranty Registration

Please take a moment to register your product online.
Go to TRENDware's website at http://www.TRENDNET.com

TRENDware International, Inc.
3135 Kashiwa Street
Torrance, CA 90505

http://www.TRENDNET.com