User's
▶▶▶▶▶▶▶ manual

56K V.92 PCI Modem

HM92P

FCC Warning

This equipment has been tested and found to comply with the regulations 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 when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with this user's guide, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his/her own expense.

CE Mark Warning

This is a Class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

Limited Warranty

Hawking Technology guarantees that every HP92M 56K V.92 PCI Modem is free from physical defects in material and workmanship under normal use for one (1) year from the date of purchase.   If the product proves defective during this one-year warranty period, call Hawking Customer Service in order to obtain a Return Authorization number.   Warranty is for repair or replacement only.   Hawking Technology does not issue any refunds.   BE SURE TO HAVE YOUR PROOF OF PURCHASE.   RETURN REQUESTS CANNOT BE PROCESSED WITHOUT PROOF OF PURCHASE.   When returning a product, mark the Return Authorization number clearly on the outside of the package and include your original proof of purchase.

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HM92P 56K V.92 PCI Modem

Get connected with the Hawking HM92P PCI Modem, a modem with V.92 technology that enables you to receive phone calls while you are online. *   At the same time, the HM92P will go into a hold mode when someone calls and immediately resume connection afterward, without the hassle of redialing.*   V.PCM Upload Technology can now reach speeds of 48Kbps so you don't have to wait for a long period of time when sending a file or playing online games.*   For downloads, the V.44 compression standard improves data throughput for faster downloads of Internet data. With the Hawking HM92P Modem, dial-up connection has never been so fast and easy!

*   Note: V.92 Technology requires ISP V.92 Modem Support - contact your ISP for their modem support information. Also, the HM92P PCI Modem with the V.92 enhancement is backward compatible and will negotiate the highest possible speed when connecting to an ISP.

System Requirements
♦   Pentium 233MHz MMX Processor or faster
♦   Microsoft Windows 95/98/ME/NT4.0/2000/XP or Linux.
♦   PCI Slot
♦   CD-ROM Drive

Packing List
♦   PCI Modem
♦   CD Driver
♦   RJ-11 Phone Cable
♦   Quick Installation Guide

Specifications
HM92P 56K V.92 PCI Modem

| Host Interface |
| --- |
| PCI V2.2 and V2.1 |
| **Modem Standard** |
| ITU-T V.92 (down-stream up to 56,000 bps), V.90, V.34, V.32, V. 34bis, V.32 bis, V.32, V.22bis, V.22, V.21, Bell 212A and Bell 103. |
| **Transmission rate** |
| Download: Up to 56 Kbps |
| Upload: Up to 48 Kbps |
| **Error Correction Protocol** |
| V.42 LAPM/MNP 2-4 |
| **Fax Compatibility** |
| EIA 578 Class 1 and 2 |
| ITU V.17, V.29, V.27ter, and V.21 channel 2 |
| **Dialing Features** |
| Call progress monitor |
| On/Off hook control |
| DTMF tone and rotary pulse |
| Distinctive ring for DATA/FAX/TAM(Telephone Answer Machine) |
| **Operating Features** |
| Asynchronous full duplex |
| Manual /Automatic answer |
| **Flow Control** |
| Hardware CTS/RTS |
| Software XON/XOFF |
| **Line Interface** |
| RJ-11, 2 wires dial-up |
| **Software Control Interface** |
| TAPI, Multimedia API, Hayes AT command set standard |
| **Call Progress Monitoring** |
| Dial tone, busy tone and ring-back detection |
| **System Requirements** |
| Pentium 233 MHZ MMX Processor or faster |

Modem Installation Steps:

1. Turn the computer power off and unplug it from the power supply.

2. Remove the computer cover.

3. Insert the HM92P modem card into a PCI slot on the motherboard.
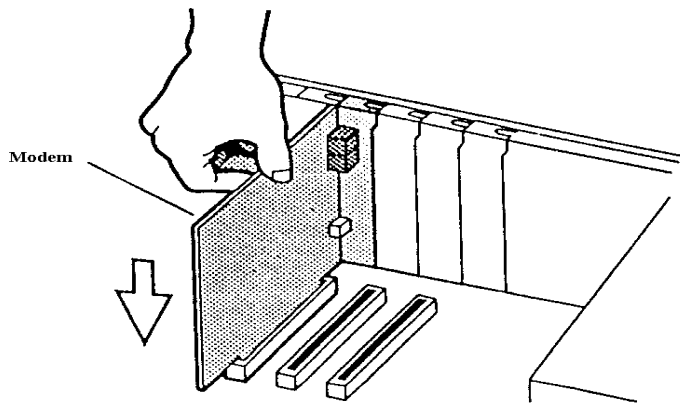
4. Test for a dial-up connection
   a. Plug one end of the telephone cable into the "LINE" jack at the bracket. Plug the other end of the telephone cable into the wall phone jack.
   b. Connect the telephone cable between the telephone set and the phone jack to the bracket outlet.
   c. Lift the handset and listen for a dial tone to confirm a working cable connection.

5. Place the computer cover back on.
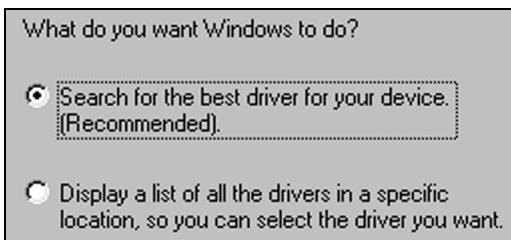
6. Turn the computer power on.
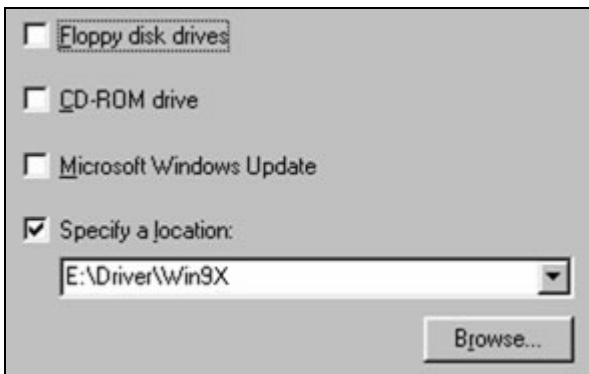
Driver Installation for Windows 98SE

1. Boot the system. The system will detect a new device and request you to install its driver. Click **[Next]**.

2. In the new dialog box, you have two installation options. The default option is "Search for the best driver for your device". Select one of the options and click the **[**Next**]** button to continue.

3. Choose "Specify a location".

4. Insert the driver CD into the CD-ROM device. Select the "Browse" option and choose the CD-ROM location (Ex: E:\Driver\WIN9X)

5. Windows 98 will copy the file into your hard drive. Select the **[Finish]** button.
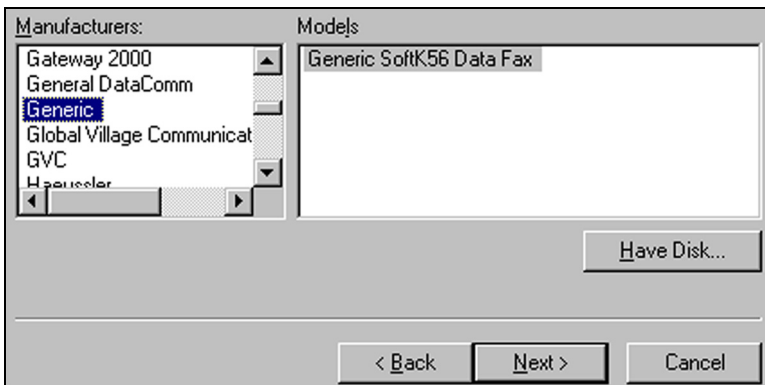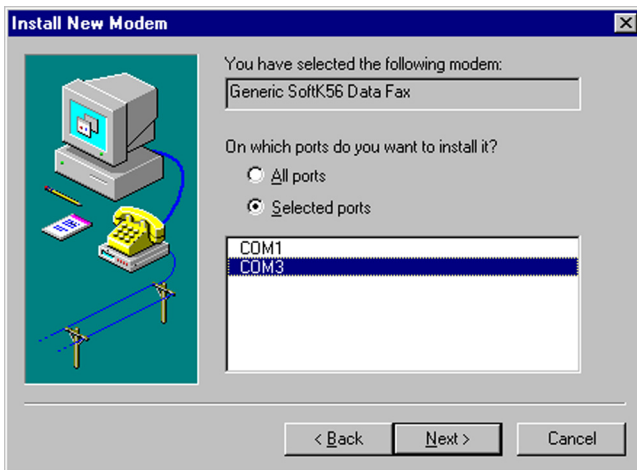
Driver Installation for Windows NT 4.0

1. Load the installation CD into the CD-ROM drive.
2. Please select the "Start" button in the main menu, then choose the "Run" button.
3. Type in "E:/Driver/NT4/Setup.exe" (Add Com-Port)
4. Choose the "**C**ontrol Panel → **M**odems → Select **D**on't detect my modem, I will select it from a list."

5. Select a port.

6. Windows NT4.0 will copy the file into your hard disk. Select the **[Finish]** button.
7. Remote Access Setup

Driver Installation for Windows ME

1. Boot the system. The system will detect a new Device and request you to install its driver.
2. Choose "Specify the location of the driver". Then select the **[**Next**]** button.

3. Choose "Specify a location".
4. Insert the driver CD into the CD-ROM device.

   Click "Browse" and choose a CD-ROM location (Ex: E:\Driver\WINME).

5. Windows ME will copy the file into your hard disk. Then, complete the process with the **[**Finish**]** button

Driver Installation for Windows 2000

1. Boot the system. The system will detect a new device and request you to install its driver. Select the **[**Next**]** button.

2. In the new dialog box, you have two installation options. The default option is "Search for a suitable driver for my device". Select the **[**Next**]** button to continue.

3. Choose "Specify a location" and then select the **[**Next**]** button.

4. Insert the driver CD into the CD-ROM device. Click the "Browse" button and choose a CD-ROM location (Ex: E:\Driver\WINXP_2K).

5. Windows 2000 will copy the file into your hard disk. Click the **[**Finish**]** button.

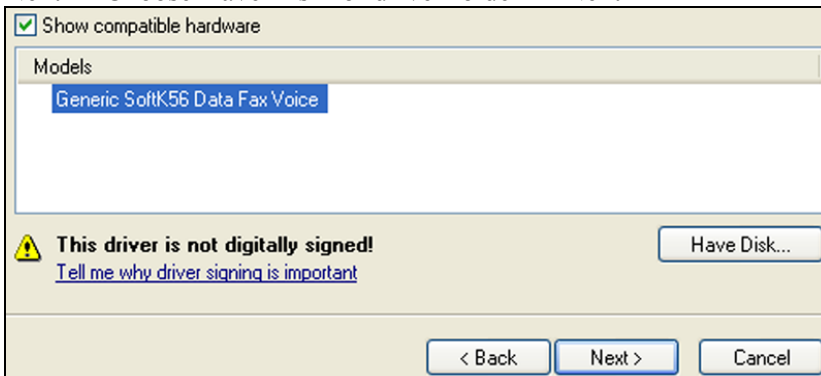## Driver Installation for Windows XP

1. Boot the system.
2. To update the driver, choose "Control Panel → System → Hardware → Device Manager → Modems → Generic SoftK56 → Update Driver"
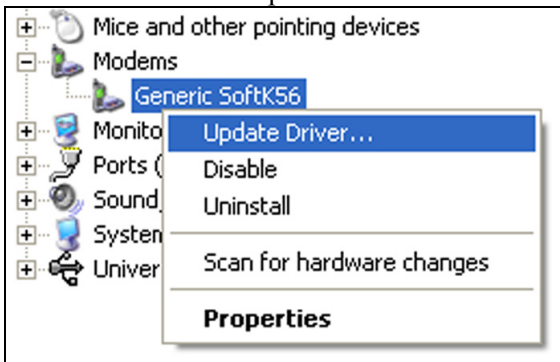
3. Choose "Install from a list or specific location → Next → Don't search. I will choose the driver to install → Next → Choose Have Disk for driver folder → Next"

4. Complete with the **[Finish]** button.

Driver Installation
HM92P 56K V.92 PCI Modem

Driver Installation for Linux

OVERVIEW OF THE HM92P LINUX DRIVER

INTRODUCTION

The HM92P complies with the HSF Linux V4.06.06.02 release. This release supports Linux 2.2 and 2.4 kernels. This source kit is divided into two parts, pre-compiled kernel independent modules and source code for building kernel-specific modules on the target machine. The driver installation procedure will be covered in the installation section below.

The included driver features V.90 Data only. All the data AT commands are implemented. Fax and Voice are not supported at this time and the V.92 is not featured in this release.

APPLICABLE DOCUMENTS

HSF/SmartHSF, HSFi, and SmartMC   Modem Data Sheets
HSF/SmartHSF, HSFi, and SmartMC   Modem Designer's Guides
HSF/SmartHSF, HSFi, and SmartMC   Monopak Reference Designs
HSF/HCF AT Command Set Reference Manual
KPPP Configuration Application Note

SUPPORTED DEVICES

Reference Board Number	Latest Revision Number
HSF Discrete DAA RD00-D480-031	Rev. 2
SmartHSF RD00-D840-581	
Churchill RD00-D180-031	
SmartHSFi	
Athens	
InterSmartMC	

VERSION NUMBERS

Current release	V.4.06.06.02	12/13/01

Driver Installation

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CONFIGURATION INFORMATION

➢ Device Ids

This release is intended for a wide variety of deployed HSF/SmartHSF, HSFi/SmartHSFi, Athens and SmartMC boards. The following device IDs are included in the INFs:

  HSF: 2013, 2014, 2015, and 2016

  SmartHSF: 2043, 2044, 2045, and 2046

  HSFi: Device ID 2700, Subsys: 2002, 2003, 2004

  Intel SmartMC: Vendor ID 8086, Device ID 2416

  Athens: 1631

➢ INF and CTY files

  Note: there is only one INF per modem type.

  linux_hsf.inf

  linux_hsfi

  linux_intel_smartmc

  linux_smarthsf

  linux_athens.inf

  Each INF contains support for the following 46 countries:

USA	Hong Kong	Malaysia	Switzerland
Austria	Hungary	Mexico	Taiwan
Belgium	Iceland	Netherlands	Thailand
Canada	India	New Zealand	UK
China	Indonesia	Norway	Australia
Czech Republic	Ireland	Philippines	Turkey
Denmark	Israel	Portugal	Poland
Finland	Italy	Singapore	United Arab Emirates
France	Japan	South Africa	Russia
Germany	Korea	Spain	Slovenia
Greece	Luxembourg	Sweden	Bulgaria
Croatia	Slovakia		

Driver Installation
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DRIVER INSTALLATION

Prepare to install the drivers using the following sequence:

Log as root on the target Linux machine.

Find out the Vendor ID and Device ID of the PCI modem used and remember them.

Copy the modem driver package file to the directory where you wish to extract it.

Extract the modem driver files from tar file.

tar -xpvzf <tar-file-name>

This creates under the current directory, the directory having the same name as the <tar-file-name> file, but without the .tar.gz suffix and extracts all files into it.

Example: **tar   -xpvzf   hsflinmodem-4.06.06.02.tar.gz**.

This creates the hsflinmodem-4.06.06.02 directory and extracts modem driver files into it.

Change directory to the newly created directory

Example: **cd   hsflinmodem-4.06.06.02**

Update the Vendor ID and Device ID in the .inf file corresponding to the modem board used:

Check the list of the Microsoft Windows style PnP strings under the [Generic] section and if no string corresponds to your PCI modem Vendor ID and Device ID, add the appropriate string to the [Generic] section.

Example: If the Vendor ID is 1234 and the Device ID is 5678, add the line in red to the [Generic] section. The SUBSYS part is redundant for Linux modem drivers and can be omitted:

[Generic]

%HSFModem%   = ModemX, PCI\VEN_14F1&DEV_2013&SUBSYS_201314F1

%HSFModem%   = ModemX, PCI\VEN_14F1&DEV_2014&SUBSYS_201414F1

%HSFModem%   = ModemX, PCI\VEN_14F1&DEV_2015&SUBSYS_201514F1

%HSFModem%   = ModemX, PCI\VEN_14F1&DEV_2016&SUBSYS_201614F1

%HSFModem%   = ModemX, PCI\VEN_1234&DEV_5678

The Inf files are under the directory "inf".

After the INF file has been configured, follow these steps to build/load the modem:

Hint: Use the <tab> key to "auto-complete" long commands. For example, typing "cd hsf<tab>" will result in   "cd hsflinmodem-4.06.06.02** " (if that directory exists within the current directory).

CD to the directory in step 4 above, for example cd hsflinmodem-4.06.06.02

Run: **make install**.

Run: **hsfconfig** (If you have doubts on what to answer on one of the questions, press <enter> for the default answer).

Driver Installation
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During the installation you'll be asked to select your country. To change it after the installation is done, you can use at+gci .

The installation should be done only once (no need to install it again every time the machine is restarted).

The modem may now be tested with Minicom: **minicom -s**

Please see app note:

KPPP Configure Application Note for instructions on setting up dial up networking in KDE.

Please see release notes for HSF_Linux V4.06.06.02 for detailed information about the release.

Read the README file in order to use the right installation script:

CURRENT FEATURES AND FIXED ISSUES

Minimum System Requirements and CPU Utilization

The minimum system requirement is 150 MHz MMX CPU with 16 Mbytes RAM. The HCF modem consumes about 5 MMX MHz in V.90/K56Flex mode and 5 MMX MHz in V.34 mode. Therefore, in a 400 MMX MHz machine in V.90 mode the HCF uses 5 MHz/400 MHz =1.25 %.

NOTE: These measurements are for Windows HCF drivers.

In the past, CPU utilization was measured using the WinBench CPUMark test. This was available through ZDNet's Website. The most current WinBench software does not include CPUMark and will no longer include it in future versions. We are currently evaluating new tools to measure CPU consumption. Any further questions regarding system resource utilization can be directed towards the Application Engineering group.

Key Features of Current Release

1.	V.90 Data

Open Issues

1.	Voice and Fax are not supported. Will be included in subsequent releases.

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For Modem Region Select:

Select "Control Panel → HSF Modem Region Select"