

## Feature Notes

Model: FM-HCF56i

In addition to high speed fax and data transfer functions, your fax/modem supports the following additional voice features:

### Personal Voice Messaging System

- Automatically detect and route incoming voice, fax and data calls.
- Create up to 999 voice mailboxes, each with a personal mailbox greeting message.
- Listen to voice messages through the telephone handset or speakers.
- Record your own greeting messages for each mailbox.
- Monitor incoming calls and answer the calls at your own convenience.
- Password-protection for each mailbox.
- Log of received incoming messages for each mailbox displaying status, date and time received, assigned record number, duration and file size of each message.
- Call from a remote location with a touch tone telephone to retrieve messages.
- Call your pager to notify you of received messages.

### Speaker Phone

- Turns your computer into a full-functioned speaker phone (Speakers and microphone required)
- Places and answers telephone calls directly from your computer
- Features mute, redial, hold, pause and clear functions
- Direct dialing from your computer keyboard
- Phonebook with speed dialing access
- Software volume control

### Class 1

This fax/modem supports Class 1 fax commands. This allows the fax/modem to execute the initial negotiations during a fax transmission session. In order for this fax/modem to operate properly you must set the modem type to either Class 1 in your fax/modem software.

### On-line Technical Support

If you have access to the World Wide Web be sure to visit the Zoltrix home page at: <http://www.zoltrix.com>

You may also want to read the updated Modem Questions and Answers located at: <http://www.zoltrix.com/modem-qa.htm>

You may also locate the complete AT commands and Windows 95 drivers from the following page: <http://www.zoltrix.com/modem.htm>

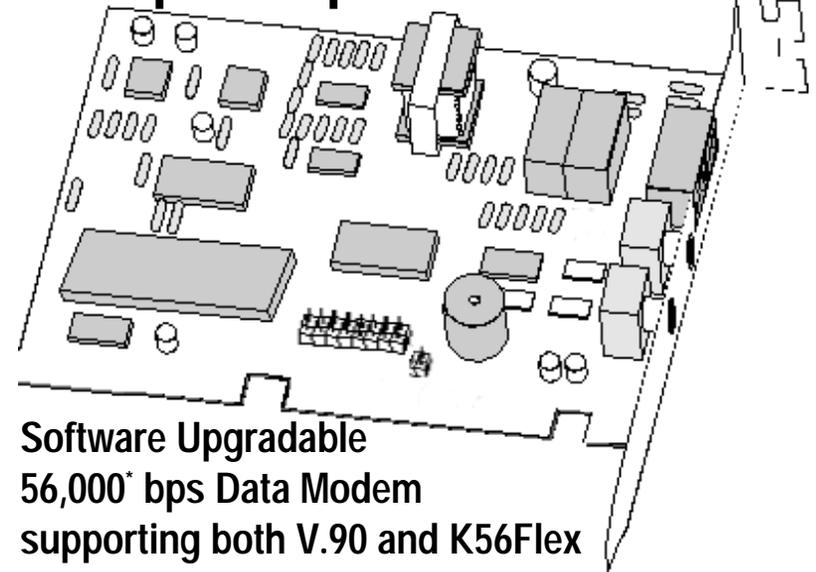
You may also locate the Technical Support phone numbers, e-mail addresses and defective product return information on the Tech Support Web page at: <http://www.zoltrix.com/techsupp.htm>

### Technical Specifications

- Operating Modes V.90, K56Flex
- V.34, V.32 bis, V.32, V.22 bis, V.22, V.17, V.29, V.27 ter, and V.21 Channel 2
- Group 3 Send and Receive Facsimile
- Error Correction (V.42/MNP2-4)
- Data Compression (V.42 bis/MNP5)
- Hayes-compatible "AT" Command Set with TIES escape sequences
- EIA/TIA 578 Class 1 and T.31 Class 1.0 Fax commands
- DTE Speed up to 115,200 bps
- Caller ID (US Version only.)
- TIA-695 voice command set
- V.8/V.8bis and AT commands (V.25 ter with Annex A)
- V.80 synchronous access mode
- H.324 Video Conferencing interface support

## Quick Installation Reference Card

# Spirit V.90/K56 Flex PCI PnP Modem VoiceFax/Modems with Speakerphone Functions



- ✓ Software Upgradable
- ✓ 56,000\* bps Data Modem supporting both V.90 and K56Flex
- ✓ 14,400 bps Send & Receive Fax
- ✓ Supports speeds up to 115,200 bps
- ✓ Full Featured Voice Messaging
- ✓ Speakerphone Functions
- ✓ V.42 Error Correction and V.42bis 4-to-1 Data Compression

\* Capable of receiving at up to 56kbps, and send at up to 31.2kbps. Due to FCC regulations on power output, receiving speeds limited to 53kbps. Actual speeds vary. Requires compatible phone line and server equipment. Complies with both the V.90/56k standard and K56Flex technology protocols.

## Installing your fax/modem

If you have never installed an add-in board in your computer before, please follow the instructions in this section carefully. You may also want to refer to the Installation Chapter in your manual.

### Safety Precautions

1. Turn OFF the computer before you begin. Also, turn OFF any external devices that are connected to your computer, such as printers.
2. Handle the board gently by the edges. Some of the component leads under the board have very sharp edges and may cause serious injury.
3. To prevent electrostatic discharge damage to the components on your modem, do not remove the modem from the static-shielded bag until you have discharged any static electricity from your body by touching any unpainted surface on the case of your computer.

### Necessary Equipment

Make sure that you have all necessary equipment at hand before you begin. You should have:

- The **Zoltrix Spirit K56 Modem** Board
- A Pentium or faster compatible computer with an available PCI expansion slot
- A modular telephone outlet and cable
- A small, flat-blade screwdriver and a small pair of pliers or tweezers
- A telephone set (Optional)
- Shielded PC speakers or headset (required for speaker phone)
- Microphone (required for speakerphone)

### Installation Steps

The steps to install your modem are shown in order in this section. For some steps, you may need to refer to your computer's User's Manual.

### Selecting the COM Port

The **Zoltrix Spirit K56 Modem** is PnP and can use COM ports 1 to 4 and IRQ's 2,3,4,5,10,11,12 & 15. This is selected automatically. There are no hardware jumpers or dip switches to set.

## Common Problems and Their Solutions

**Problem: Modem answers incoming calls and then returns to the on-hook condition, disconnecting the caller.**

This occurs most often when connecting to a UNIX system. In most cases, the host does not prefer to see any result or command echo codes. If this is the case, the codes can be disabled by adding **E0 Q1** to the modem configuration string.

**Problem: No echo from modem**

This is normally caused by an I/O address or IRQ conflict. Verify that the COMPort is not in use by any other serial device and if necessary use another COMPort or I/O address setting. Refer to Appendix A for information on Determining What Serial Ports Are Installed On Your Computer. You may also need to refer to your computer or I/O card hardware manual.

**Problem: The modem dials and appears to complete the connection, but the communications software does not enter the correct mode. (The screen remains blank.)**

There may be an I/O conflict (See the solution for the previous problem, "No echo from modem").

The Result Codes may have been disabled by the software configuration set up. Check if Q1 is in the configuration or initialization string. If so, change it to Q0.

Your software may require numeric result codes rather than verbal result codes. Use either V0 for numeric result codes or V1 for verbal result codes in your initialization or configuration string.

Some software require full extended result codes (ie. CONNECT 33600 instead of CONNECT). This can be controlled by the Xn command. X0 sends a summarized code (CONNECT) and X4 sends a full extended code (CONNECT 33600).

**Problem: The modem does not auto answer.**

The auto answer mode is determined by the S0 register. If S0 has been set to 0, the modem will not answer. Assign another value to S0 by entering the following command S0=n, where n=the number of rings to occur before the call is answered (ATS0=2, the modem answers after two rings).

**Problem: The modem always answers the phone**

Set the S0 register to 0. ATS0=0

**Problem: The communications software displays, "No Dialtone".**

Make sure that your phone cable is working properly and that it is firmly seated to the phone socket at your phone jack and in the rear panel of the modem.

**Problem: A high pitched squeal is emitted from the external speakers..**

This phenomenon is "feedback" and occurs when the microphone is pointed at the external speaker or is close enough to pick up the speaker output. This may be remedied by using a unidirectional microphone, making sure that it is pointed away and as far from the speaker as functionally possible. Another option is to use a headset with an attached microphone.

## Un-Installation of the Windows 95/98 Driver

If you ever want to remove the modem or update the modem drivers with newer versions obtained on the web, you must first remove the HCF modem drivers. We provided a utility program that not only removes the modem driver, but completely removes all the modem entries in the Windows registry. Use the following procedure to remove the modem drivers.

1. Start the Control Panel and double click on



You should see a screen similar to the diagram to the right:

2. Scroll down the list and select the Conexant HCF V.90/56K Modem as shown on the diagram to the right.

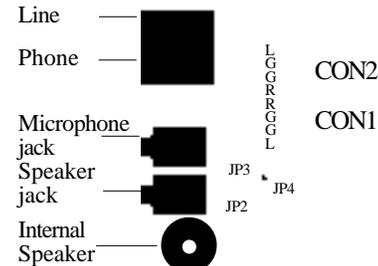
3. Click on the  button.

4. Click on the  button to confirm the driver removal.



## Jumper settings

Before inserting the modem into the slot in the computer, you should go over the following options to properly configure the modems jumper settings.



**CON1 Audio Out:** Connect to the Sound cards CD-ROM audio input

**CON2 Audio In:** Connect to the CD-ROM audio output

**JP2 Short to enable the internal speaker (Default)**

Open to disable the internal speaker

**JP3 Short if connecting speakers to the speaker jack (Default)**

Open if connecting a headset to the speaker jack

**JP4 Short pins 2-3 (Default)**

**.** Denotes JP4's pin 1 location

**Note:** Short = Jumper shorting the designated pins together

Open = No jumper across the designated pins

## Recommended Jumper settings

Following are the recommended settings for various uses:

1. Passive speakers (non amplified) Use the factory default settings.
2. Active speakers (amplified) JP2=short, JP3=open, JP4=2&3
3. Sound card connection JP2=open, JP3=open, JP4=2&3
4. Headset JP2=short, JP3=open, JP4=2&3

## Connecting to a sound card (optional)

If you want the modem to share the sound cards speakers, you can use one of two different methods. The first method needs to be done before installing the modem, while the second method is performed when the modem is installed.

### Connecting to a sound card (via CD-ROM audio-in)

To control the volume of the modem use your sound cards software audio mixer or the Win95 volume control and use the CD selection. A drawback to using this method is that an audio CD will also be affected by the volume change intended for the modem.

1. Connect CON1 to the sound cards CD-Audio-in.
2. Connect the CD-ROM audio-out to CON2 with a 4 pin audio cable.

**Note:** Make sure that the left, right and ground channels from the CD-ROM connects to the proper pins on CON1 and CON2.

### Connecting to a sound card (via Sound cards line-in)

To control the volume of the modem use your sound cards software audio mixer or the Win95 volume control and use the Line selection.

1. Connect an audio cable, with a 1/8 inch stereo plug at both ends, into the modems speaker jack.
2. Connect the other end of the audio cable into the sound cards line-in jack.

## Inserting the Fax/Modem

1. Turn off the power to the computer. Also, turn off any external devices that are attached, such as a printer and monitor.
2. Take out the mounting screws on the back of your computer. Refer to your computer manual if you cannot locate them.
3. Remove the computer cover. Refer to your computer manual if you cannot determine how to remove the cover.
4. Select an empty PCI slot. You may need to remove the metal slot cover first, using a small screwdriver.
5. Discharge any static electricity in your body by touching any bare metal surface on the chassis of the computer and remove the modem from the static-shielded bag.
6. Press the board firmly into the slot ensuring that the gold tabs on the fax/modem are aligned with the connectors in the slot.
7. Insert the screw and tighten slightly. Check to ensure that the telephone jacks in the back of the modem are unobstructed. If so, then tighten the screw securely.
8. Replace the computer cover.

If you have the Zoltrix COMMUNICATIONS CD-ROM, insert the CD-ROM into your CD-ROM drive and select D:\Spirit

**Note:** Replace D: with the drive letter of your CD-ROM drive if necessary. The **OK** button will be grayed out until you find a directory that actually contains a modem driver.

5. Click on the **Next >** button.

If the directory contained the driver you will see a screen similar to the diagram to the right:



6. Click on the **Next >** button.

You will see a screen similar to the diagram to the right:



8. Click on the **Finish** button to complete the modem driver installation.

9. You should then see the Modem driver and Wave device for the voice modem detected and installed.

- Click on the **Finish** button to complete the modem driver installation.

If the screen to the right is displayed, Click on Browse and once again select the correct drive and directory that contains the modem driver to complete the driver installation.



- You should then see the Modem driver and Wave device for the voice modem detected and installed.

### Windows 98 Driver Installation

- Start Windows 98. As soon as Windows 98 starts you will see a screen similar to the diagram to the right:



- Click on the **Next >** button.

You will see a screen similar to the diagram to the right:



- Make sure that the box has a check mark like the diagram to the right

and click on the **Next >** button.

- Make sure that the box has a check mark like the diagram to the right and then either type in the correct path to the driver disk



or

Click on the Browse button and then select the correct drive and directory containing the Win98 driver and then click on the OK button.

### Installing Telephone Lines (See Fig. 2)

The Fax/Modem has two modular telephone jacks on the back of the modem. You will need to connect your Fax/Modem to the wall outlet via a modular telephone cord.

If your wall outlet is not a modular type, you can purchase an inexpensive converter at most electronics or phone stores. It is suggested that you connect your modem to a "dedicated line". A dedicated line is a regular phone line that does not go through a switchboard, PBX, etc...

You can also connect a telephone set to your modem, enabling you to use the phone when the modem is not in use. The modem can also be used as an autodialer with your telephone set. It is recommended that you use a single line phone outlet (RJ11). However, you can use a two-line (RJ14) phone line, but the modem will only work on the first line using the center pair of wires.

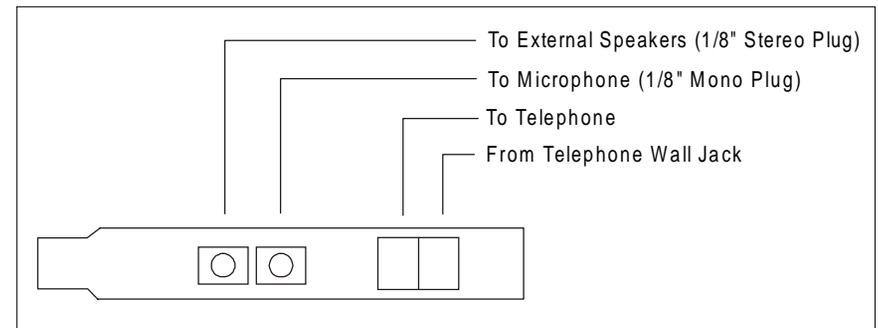


Fig. 2 Board Configuration

#### To connect the telephone line to the modem follow these steps:

- Insert one end of the phone line into the jack on the modem labeled **Line**.
- Insert the other end of the phone line into the phone jack, (usually located on your wall).

#### If you wish to use a phone set in conjunction with your modem, please follow these steps:

- Insert the line from the phone into the jack labeled **Phone**.
- Make sure that the other end of the phone line is connected to the telephone.

#### If you wish to use the speakerphone functions of your modem,

- Using a microphone with a 1/8" mono plug, install the plug into the jack labeled, **microphone**.
- If you followed the steps to connect the modem to the sound card you do not need to connect speakers to the modem, otherwise connect speakers with an 1/8" stereo plug, install the plug into the jack labeled, **speaker**.

## Testing

The actual installation of the modem is now complete. Before attempting to use your modem, you should complete the following steps:

1. Before turning the power back on to the computer, check the telephone connection by lifting the telephone handset. You should hear a dial tone. If you don't, check that all phone cords are firmly connected. If you still don't hear a dial tone, refer to Appendix A (Troubleshooting) in the installation manual.
2. Turn the computer power back on. Lift the handset of the telephone again to check for a dial tone. Once again, you should hear a dial tone. If not, refer to Appendix A (Troubleshooting) in the installation manual.
3. You've now completed the hardware installation of your modem. From here, you are ready to install the communications software. Please refer to the software installation section for instructions.
4. Once you've installed your communications software, test the modem according to the instructions in either the hardware or software manual.

## Windows 95 Driver Installation

1. Start Windows 95. As soon as Windows 95 starts you will see a screen similar to the right:

**Note:** If you do not see the following screen, you may have the OSR2 version of Win95. Refer to the instructions following these.



2. Click the **OK** button. This will bring up a screen similar to the diagram to the right:



3. Insert the Zoltrix COMMUNICATIONS CD-ROM into your CD-ROM drive and select D:\Spirit

**Note:** Replace D: with the drive letter of your CD-ROM drive if necessary

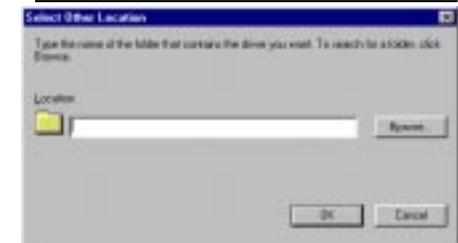
4. Click the **OK** button to start copying the files.
5. You will then see the modem device and wave device found and the drivers will be automatically installed.
6. After all the files are copied, follow any onscreen instructions and the installation of the Driver is complete.

## Windows 95(OSR2) Driver Installation

1. Start Windows 95. As soon as Windows 95 starts you will see a screen similar to the diagram on the right:
2. Click on the **Next >** button.
3. You will see a screen similar to the diagram to the right:



4. Click on the Other Locations button to bring up a screen similar to the diagram to the right:
5. Click on the Browse button and then select the correct drive and directory containing the Win95 driver and then click on the OK button. If you have the Zoltrix COMMUNICATIONS CD-ROM into your CD-ROM drive and select D:\Spirit



**Note:** Replace D: with the drive letter of your CD-ROM drive if necessary.

The **OK** button will be grayed out until you find a directory that actually contains a modem driver.

After Clicking on OK if you do not see a screen similar to the diagram to the right, the location does not contain the correct driver:

