
Fahrenheit Video 3D

User's Manual



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Orchid Technology
221 Warren Avenue
Fremont, CA 94539

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Introduction

Thank you for choosing the Fahrenheit Video 3D®. Fahrenheit Video 3D is an advanced multimedia graphics and digital video accelerator. It features 2D and 3D graphics performance and full motion digital video acceleration. Full motion digital video can be scaled up to full screen at 1024x768 resolution and maintain 30 frames per second playback.

Fahrenheit Video 3D is multimedia-ready for your 486 or Pentium PCI-based system and is available with 2MB of single-cycle EDO DRAM memory. It comes with dual Local Peripheral Bus (LPB) connectors, which can also be used as a single VESA feature connector. Fahrenheit Video 3D also includes hardware MPEG and TV Tuner upgrade options.

The 3D graphics processor provides three dimensional graphics acceleration with multimedia and entertainment applications. The 3D accelerated features include Bi-Linear and Tri-Linear filtering, MIP mapping and gouraud shading, perspective correction, video texture mapping, depth cueing and fogging, and alpha blending and Z-buffering.

You can display resolutions up to 1600x1200, color depths up to 16.7 million colors and high refresh rates up to 160Hz. Fahrenheit Video 3D supports the leading graphics standards like VESA Video BIOS Extensions and Display Data Channel (DDC). For energy efficiency, full support is provided for the Green PC specification using VESA's DPMS (Display Power Management Signaling) standard.

Fahrenheit Video 3D provides customized drivers. These drivers improve performance and functionality and come with user-friendly utilities such as the Fahrenheit Video 3D control panel, Virtual Desktop and the XingMPEG Player for MPEG video playback.

Care has been taken to ensure that Fahrenheit Video 3D will provide you with years of trouble-free operation. We believe you'll be pleased with your purchase.

About This Manual

While Fahrenheit Video 3D is designed to be easy to install, we recommend that you refer to your computer's reference manual when terminology or installation steps are unfamiliar to you.

Section 1: Hardware Installation

How to properly install the Fahrenheit Video 3D.

Section 2: Software Installation

How to install the device drivers and utilities.

Section 3: Using the Utilities

How to configure your video display and information on other useful utilities.

Section 4: Technical Information

Help to ensure that Fahrenheit Video 3D is operating properly.

Appendix A: Technical Specifications

Fahrenheit Video 3D's technical specifications.

Appendix B: Power Management

Details on the DPMS Power Management technology.

Appendix C: Digital Video Scaling

Information on the digital video scaling feature of Fahrenheit Video 3D.

Appendix D: MPEG Video

Information on the playback of MPEG digital video files.

Before You Begin

This manual will familiarize you with the features, installation and use of your Fahrenheit Video 3D. There are several symbols and conventions used throughout this manual to help draw your attention to a feature or to focus on important information:



When you see the Magnifying Glass, it refers to something you should take a closer look at before proceeding further.



When you see the Exclamation Mark, it gives important information on avoiding damage.

Common Names

AVI	Audio/Video Interleaved
CD	Compact Disc
CD-I	Compact Disc Interactive
DCI	Display Control Interface
DDC	Display Data Channel
DPMS	Display Power Management Signaling
DRAM	Dynamic Random Access Memory
EEPROM	Electrical Erasable Programmable Read Only Memory
EDO	Extended Data Out
LPB	Local Peripheral Bus
MPEG	Motion Picture Experts Group
PCI	Peripheral Component Interconnect
VESA	Video Electronics Standards Association
VFC	VESA Feature Connector
VGA	Video Graphics Array

Section

1

Hardware Installation

Whether you are a beginner or experienced user, Fahrenheit Video 3D's simplified design allows you to get up and running quickly. Installation is simple and all configuration settings are under software control. This section gives you help on how to properly install the Fahrenheit Video 3D .

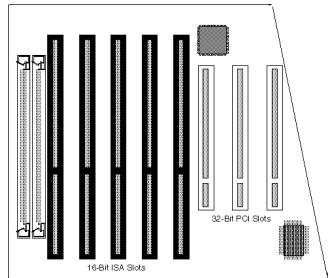


STATIC!

Before handling the Fahrenheit Video 3D, be properly grounded by touching the power supply housing.

Installing Fahrenheit Video 3D

1. Turn off the power to your computer and remove the computer cover.
2. Select a PCI expansion slot for Fahrenheit Video 3D. Most computers accommodate both PCI and ISA slots. The PCI slots are usually the smaller slots (see the example). Please refer to your computer's reference manual for more information.
3. Remove the rear slot cover bracket if it is present and save the screw.
4. Now remove the Fahrenheit Video 3D from its antistatic packaging.
5. Carefully hold Fahrenheit Video 3D by the top edges and lower it into the PCI expansion slot. Ensure that Fahrenheit Video 3D seats firmly into the slot.
6. Secure Fahrenheit Video 3D in place by fastening its metal bracket with the screw you saved.



Section 1: Hardware Installation

7. Replace the cover of the computer.
8. Connect your monitor cable to the 15-pin monitor connector on Fahrenheit Video 3D (see Figure 1.1). For pin-out information, see Appendix A.

You are now ready to install the Fahrenheit Video 3D software. Refer to Section 2: Software Installation.



To install the Fahrenheit Video 3D software, you must have a CD-ROM drive installed.

External Devices

The Fahrenheit Video 3D includes Local Peripheral Bus (LPB) connectors for hardware MPEG and TV Tuner upgrade options. Hardware MPEG decompression improves software MPEG performance, while delivering 30fps MPEG playback with superior audio synchronization. The hardware MPEG daughtercard also features slow playback, fast search, fast forward and freeze frame.

The TV Tuner provides broadcast and cable TV reception on your PC by displaying video in a scalable window. It also supports multiple video sources, such as VCR input, laser disc players, video game consoles or camcorders to display on a VGA monitor.

Fahrenheit Video 3D Diagram

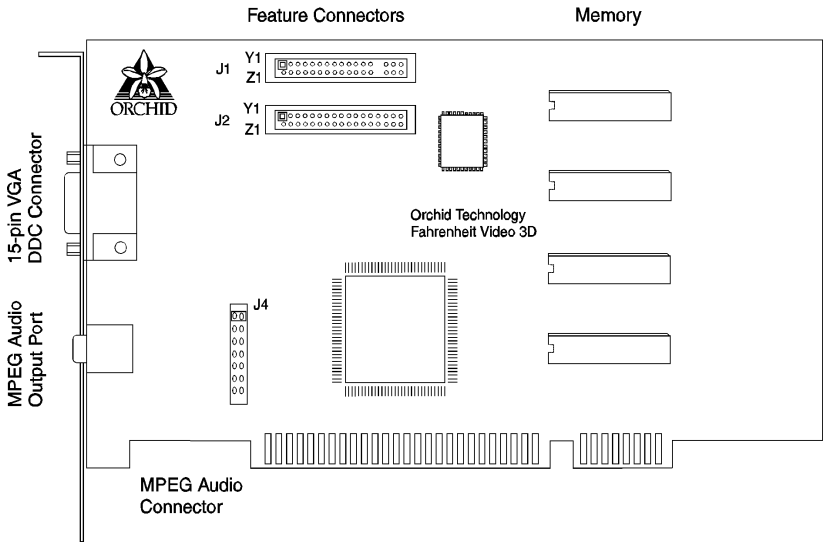


Figure 1.1: Fahrenheit Video 3D Diagram

NOTES:

- ❑ 15-pin VGA DDC connector (see Appendix A).
- ❑ Feature connectors - both connectors can be used as standard 26-pin VESA compatible feature connectors or 34-pin LPB feature connectors (see Appendix A). *NOTE:* The feature connectors cannot be used as VESA and LPB simultaneously.
- ❑ Memory - maximum of 2MB single-cycle EDO DRAM.
- ❑ J4 - MPEG Audio connector for MPEG hardware connection. Pins 1 and 2 are jumpered (default). Remove the jumper before connecting the MPEG daughtercard. *NOTE:* You must replace the jumper when the MPEG daughtercard is not connected.
- ❑ MPEG Audio output port - for MPEG audio stereo output only.

Section

2



This manual presumes you are already familiar with the basics of Microsoft Windows. Please refer to the Microsoft manual when terminology or installation steps are unfamiliar to you.

Software Overview

Once you complete the hardware installation, you can begin the software installation. This section gives you instructions for installing the Fahrenheit Video 3D software and drivers for Windows 3.1x, Windows 95, Windows NT 3.5x and the XingMPEG Player. **NOTE:** To install the Fahrenheit Video 3D software, you must have a CD-ROM drive installed.

High resolution device drivers are included for popular software applications. The software drivers supplied with Fahrenheit Video 3D are:

Windows 3.1x	Windows 95
Windows NT 3.5x	XingMPEG Player

Other drivers may be available only through online services and operating system manufacturers.

Windows 95

Driver Installation

1. Start Microsoft Windows 95. The New Hardware Found screen appears.
2. Insert the Fahrenheit Video 3D CD into your CD-ROM drive.
3. From the New Hardware Found screen, select the Driver From Disk Provided by Hardware Manufacturer option. Click on Next.
4. Type in the driver location: D:\WIN95 (where D is the CD-ROM drive letter). Click on OK.
5. Windows 95 copies the Fahrenheit Video 3D drivers to your hard drive.
6. Restart your computer for the changes to take effect.

Configuring Your Video Display

1. From the Windows 95 desktop, click on the Start button, select Settings, then select Control Panel.
2. From the Control Panel group, double-click on Display. The Display Properties menu appears. This menu will allow you to configure the Fahrenheit Video 3D screen resolution, color depth, refresh rate and other options.
3. To configure the resolution and color depth, click on the Settings tab. The following screen appears:

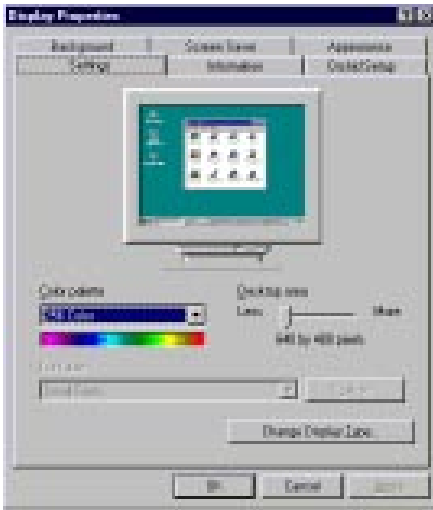


Figure 2.1: Settings Configuration Screen

4. Make your selections. When you are finished making your selections, click on OK to save your settings.
5. To configure the monitor refresh rate, cursor color, enable or disable the Virtual Desktop feature, enable or disable the font cache and adjust your display, click on the Orchid Setup tab. The following screen appears:

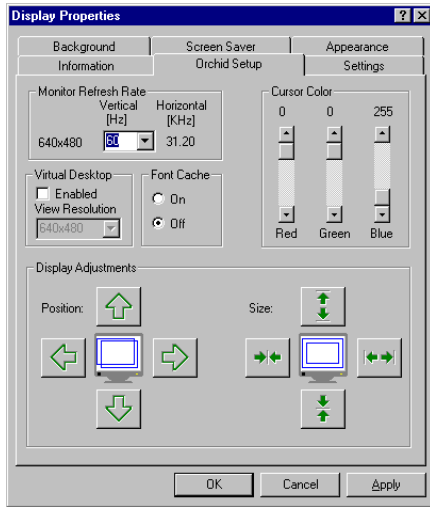


Figure 2.2: Orchid Setup Screen

6. Make your selections. When you are finished, click on OK to save your settings.



To access the online manual, click on the Orchid logo with your right mouse button.

Information

The Display Properties menu provides a visual way of obtaining information on the Fahrenheit Video 3D. Click on the Information tab and the following screen appears:

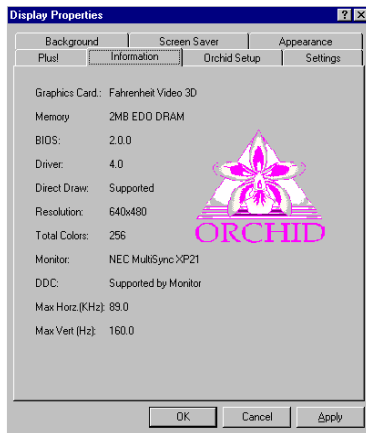


Figure 2.3: Fahrenheit Video 3D Information Screen

Windows 3.1x

Before You Begin

Before installing the Fahrenheit Video 3D high resolution drivers for Windows, you must configure Windows to start up with the standard VGA driver. Follow the steps below to select the standard VGA driver:

1. From DOS, change to your Windows directory. The Windows Setup screen is displayed by typing:

SETUP 

2. Highlight the Display option and press ENTER. From the menu select the VGA video display driver and press ENTER.
3. Save your configuration and exit to DOS.

Software Installation

1. Start Microsoft Windows 3.1.
2. From the Program Manager File menu, choose Run.
3. Insert the Fahrenheit Video 3D CD into your CD-ROM drive.
4. Type in the software location: D:\WIN31\SETUP (where D is the CD-ROM drive letter). Click on OK.
5. The Fahrenheit Video 3D Welcome screen appears. Click on Next to continue with the setup program.
6. Follow the instructions on your screen to complete the software installation.

Configuring Your Video Display

Refer to the Fahrenheit Video 3D Setup utility in Section 3 for instructions on configuring your video display in Windows 3.1x.

Windows NT 3.5x

Driver Installation

1. Boot your system from a DOS system disk.
2. Run the RESETTEEP utility program from the D:\WINNT directory.
3. Boot Windows NT in VGA mode.
4. From the Main group, double-click on Control Panel, then double-click on Display.
5. Select Change Display Type.
6. From the Change Display Type screen, select Change for the adapter type.
7. Select the Other button.
8. Insert the Fahrenheit Video 3D CD into your CD-ROM drive and type: D:\WINNT (where D is the CD-ROM drive letter). Click on OK.
9. From the Select Driver menu, choose Fahrenheit Video 3D Driver Version 1.0. Click on the Install button.
10. Click on Yes to install the driver.
11. Restart your computer for the changes to take effect.

XingMPEG Player

The XingMPEG Player utility allows you to control the playback of MPEG files. It features: VCR-style controls, flexible display modes and diagnostic and benchmark tools. Also included is the XingMPEG Saver, a Windows-compatible screen saver that prevents monitor burn-in by playing MPEG files.

Windows 95

Software Installation

1. Start Microsoft Windows 95.
2. From the Windows 95 desktop, click on the Start button and then click on Run.
3. Insert the Fahrenheit Video 3D CD into your CD-ROM drive and type: D:\MPEG95\SETUP.EXE (where D is the CD-ROM drive letter). Click on OK.
4. The installation program copies the program files to your hard drive and updates your system files.
5. Once the installation is complete, the XingMPEG Player item is installed in the Program group.

Windows 3.1x

Software Installation

1. Start Microsoft Windows.
2. From the Program Manager File menu, choose Run.
3. Insert the Fahrenheit Video 3D CD into your CD-ROM drive and type: D:\MPEG31\SETUP.EXE

(where D is the CD-ROM drive letter). Click on OK. The following screen appears:

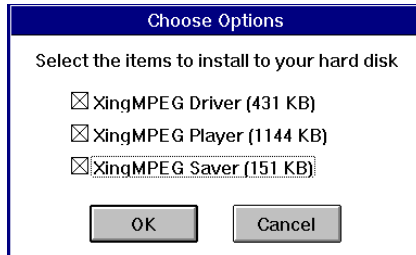


Figure 2.4: XingMPEG Player Options Screen

The XingMPEG Driver is required to play MPEG files from any application. The XingMPEG Player allows you to play an MPEG file. The XingMPEG Saver is needed only if you want to use the MPEG screen saver.

4. Select the options to install and click on OK.
5. Type the software installation location or accept the default.
6. The installation program copies the program files to the selected directory location.

Section

3

Using the Utilities**Fahrenheit Video 3D Setup** (*Windows 3.1x*)

The Fahrenheit Video 3D Setup control panel provides you with an easy way to setup your video display. Use your mouse to select your display type, resolution and colors. You'll be up and running in no time. The control panel features include: Display, Virtual Desktop, Power Management, Alignment, Preferences, Configuration Name and Graphics Information.

Display

Before selecting the values for your monitor, consult your monitor's reference guide for the resolutions and vertical refresh rates available.

Use the Display utility to select your display type, resolution and colors, and enable or disable the Virtual Desktop feature. The Fahrenheit Video 3D supports Display Data Channel (DDC). This standard allows your Fahrenheit Video 3D to automatically detect your monitor's capabilities for automatic identification. You must have a DDC compliant monitor to utilize this feature.

1. Double-click on the Fahrenheit Video 3D Setup icon and the Display menu screen appears:



Click on Help at any time for detailed information.

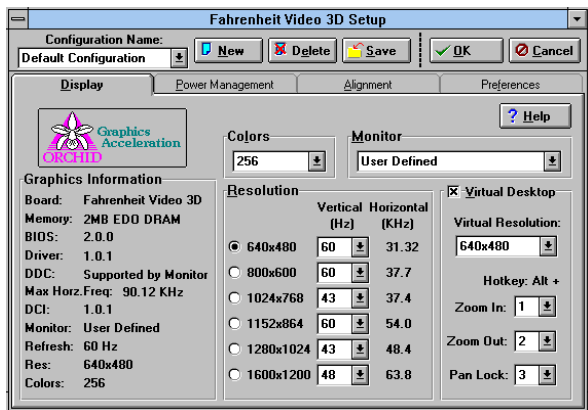


Figure 3.1: Display Menu Screen

Section 3: Using the Utilities

2. Use your mouse to make your selections. If you want to enable the Virtual Desktop option, see the Virtual Desktop section.
3. Before saving your Display menu selections, you can also make selections from the Power Management, Alignment and Preferences menus (see the following sections for information on these features).
4. After making your selections, you can choose to save your configuration settings with or without a configuration name. To save your settings with a configuration name, refer to the section Configuration Name. To save without a configuration name, click on OK. You can click on Cancel to discard any changes made.

Virtual Desktop

You can use the Virtual Desktop option to create a larger desktop workspace. With Virtual Desktop, your mouse movement automatically pans the desktop to give you access to any part of your document or window without resizing or using scroll bars.

This is an ideal solution for spreadsheet or desktop applications. A large area of display can be panned and viewed by simply moving your mouse. Virtual Desktop doubles your workspace by transforming your standard VGA monitor into a virtual display with the maximum resolution available.

1. From the Display menu screen, click on the Virtual Desktop box to enable the option (*the selections are grayed out until you do so*).
2. The Virtual Resolution box will display the highest resolution available. You can change this resolution to be equal to or greater than your display resolution.



The desktop size is determined by the resolution you choose.



Click on Help at any time for detailed information.

3. Choose Zoom In, Zoom Out and Pan Lock Hot-Key combinations from the pull-down boxes.
4. Select your Hot-Key combination at any time by pressing the ALT key plus the number chosen. The Pan Lock Hot-Key toggles between Pan Lock and Unlock.
5. After making your selections, save your settings with a configuration name (refer to the section Configuration Name) or click on the OK button to save your settings. Once you exit the Fahrenheit Video 3D Setup utility the Hot-Key is enabled.

Power Management

Use this utility for power savings on your Green PC monitor while your monitor is inactive. When Power Management is on, your monitor displays a blank screen.

1. Double-click on the Fahrenheit Video 3D Setup icon and the Display menu screen appears. Click on the Power Management tab. The following screen appears:



To ensure reliable performance, verify that your monitor supports the DPMS standard. Consult your monitor's reference documentation.

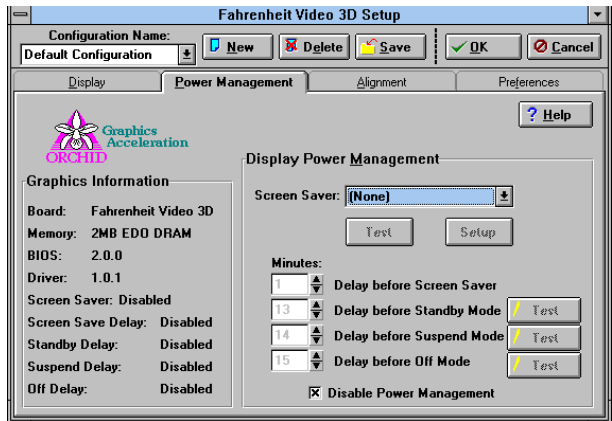


Figure 3.2: Power Management Menu

Section 3: Using the Utilities

2. Click on the Screen Saver pull-down box to select one of the screen savers provided with Windows 3.1x. *NOTE:* If None is selected, the screen saver is disabled.
3. Click on the Setup button to configure the settings for the screen saver and click on the Test button to test the screen saver.
4. Set delays for the Power Management modes. Select the delays by clicking on the arrows to increase or decrease the number. *NOTE:* If the Power Management feature is disabled, you can still use the screen saver selection.
5. Save your settings with a configuration name (refer to the section Configuration Name) or click on the OK button to save your settings.



Click on Help at any time for detailed information.

Alignment

The alignment utility allows you to center your display horizontally and vertically. You can use the alignment utility or your monitor's centering controls to center your display. *NOTE:* You shouldn't attempt to adjust your monitor both ways.

1. Double-click on the Fahrenheit Video 3D Setup icon and the Display menu screen appears. Click on the Alignment tab. The screen on the following page appears:



*If you center the screen off the side of the display, press **ESC** to restore the screen back to normal.*

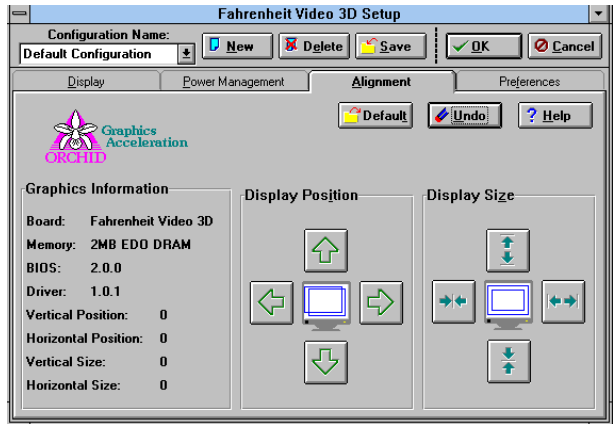


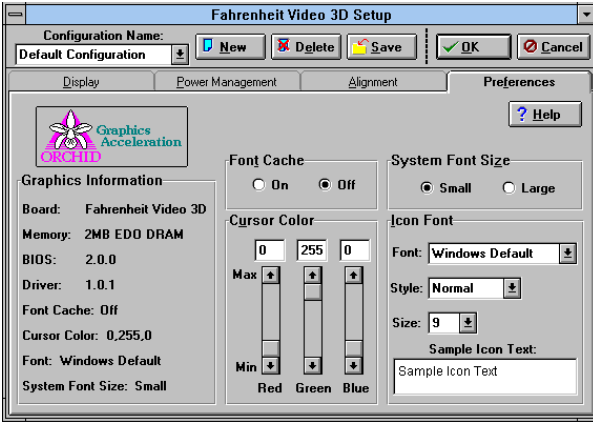
Figure 3.3: Alignment Menu

2. Use your mouse to make your selections. The Display Position option allows you to adjust the screen horizontally or vertically. The Display Size option allows you to increase or decrease the picture size.
3. The Default button can be used to restore the default system settings. Click on the Undo button to restore your previously saved settings.
4. Save your settings with a configuration name (refer to the section Configuration Name) or click on the OK button to save your settings.

Preferences

Use the Preferences utility to select a desktop font size, cursor color, icon font and enable or disable the font cache.

1. Double-click on the Fahrenheit Video 3D Setup icon and the Display menu screen appears. Click on the Preferences tab. The screen on the following page appears:



Click on Help at any time for detailed information.

Figure 3.4: Preferences Menu

2. The Font cache can be turned ON or OFF. When the font cache selection is ON, a reserved section of system memory is used to store font information. The maximum memory usage is about 400KB.
3. You can use the default cursor color for your mouse pointer or choose a new color. The colors available can be selected by adjusting the red, green and blue sliders.
4. Choose a System Font Size. The size selected will affect the size of your desktop fonts, desktop control buttons and other system dependent resources.
5. Select a font, font style and size for your icon names. The Sample Icon Text box shows what the font will look like.
6. After making your selections, save your settings with a configuration name (refer to the Configuration Name section) or click on the OK button to save your settings.

Configuration Name

Configuration Name is an optional selection that allows you to save multiple configuration settings by name. You can save your settings from the Display, Power Management, Alignment and Preferences menus.

You may find you prefer 800x600 for word-processing, 1024x768 for working with spreadsheets and 640x480 for games. Configuration Names allow you to set up multiple configurations such as different resolutions, fonts and monitor types, for individual tasks like spreadsheets, desktop publishing and word-processing. When you create multiple configurations with unique names, you can change configurations on-the-fly as you change tasks.



The Configuration Name selection is available from any menu.

1. After making your selections, click on the pull-down menu to select the Default Configuration name or create a new configuration name.
2. To create a new configuration name, click on the New button. When the dialog box appears, type the new configuration name. Click on OK.

NOTE: You can only use alphanumeric characters in your specified configuration name.

3. You can have a maximum of ten configuration names. Click on the Delete button to delete configuration names you no longer want. *NOTE:* The Default Configuration name can't be deleted.
4. Once you have selected a configuration name, click on Save to save the configuration.
5. Click on OK to save your settings and exit.
6. To launch a different configuration, open the Fahrenheit Video 3D Setup control panel, select the configuration name and click on OK to load the new settings.

Using the XingMPEG Player (for Windows 3.1x and Windows 95)

Open the XingMPEG Player program group. Double-click on the XingMPEG Player icon. The following screen appears:



Figure 3.5: XingMPEG Player Screen

Opening a File

1. From the File menu, click on Open.
2. Select the drive and directory where the file is located.
3. Click on the List Files Of Type box and choose a file format.
4. Select a filename and click on the OK button.
5. After opening an MPEG file, use the ► button to begin playback. To stop playback, click on the || button.
6. To play a file in a continuous loop, select the Auto Repeat Option from the Playback Settings menu.



Click on Help at any time for details on the XingMPEG Player utility.

Setting the Playback Options

You can control several playback options through the Settings menu. The options are:

Audio - controls the volume of the file.

Playback - opens the Playback options menu.

Diagnostics - opens the Diagnostics options menu.



Fahrenheit Video 3D's on-board EEPROM retains data until it is erased.

RESETEEP

Use this utility to reset the Fahrenheit Video 3D's EEPROM. If your video frequency or centering is distorted and you cannot manually correct it, run this utility from DOS. RESETEEP is installed in the Orchid subdirectory.

For Windows 3.1x

1. Boot your system to DOS.
2. From the DOS prompt type:

```
C:\CD ORCHID 
```

then

```
RESETEEP.EXE 
```

3. The program will display a message indicating that the EEPROM is being erased. This process will take about 30-60 seconds.
4. After the process is completed, the program will return to the DOS prompt.

For Windows 95

1. During system bootup, press the F8 key for a list of bootup options.
2. Select Command Prompt Only. From the command prompt type:

```
C:\CD ORCHID 
```

then

```
RESETEEP.EXE 
```

3. The program will display a message indicating that the EEPROM is being erased. This process will take about 30-60 seconds.

Section 3: Using the Utilities

4. After the process is completed, the program will return to the command prompt.
5. Reboot your computer to Windows 95.

For Windows NT 3.5x

1. Boot your system from a DOS system disk.
2. From the DOS prompt type:

C:\CD ORCHID 
then

RESETEEP.EXE 

3. The program will display a message indicating that the EEPROM is being erased. This process will take about 30-60 seconds.
4. After the process is completed, the program will return to the DOS prompt.

Uninstalling Fahrenheit Video 3D

For Windows 95. The Fahrenheit Video 3D's software can be removed by using the Windows 95 Add/Remove program. Follow the steps below:

1. From the Windows 95 desktop, select Settings, then select Control Panel.
2. From the Control Panel group, double-click on Add/Remove Programs.
3. From the Add/Remove Programs Properties dialog box, select Fahrenheit Video 3D.
4. Click on the Add/Remove button.
5. Click on OK to save your settings and exit the program.

Section

4

Technical Information Overview

Orchid Technology is known for its responsiveness to its customers. This section gives you a list of helpful tips for troubleshooting your Fahrenheit Video 3D. You're also given information on how to contact Technical Support and how to receive advice and support via our online services.

Troubleshooting Fahrenheit Video 3D

To help you diagnose problems you may have with the Fahrenheit Video 3D, we've presented the following helpful hints in a symptom and solution format. This format serves a twofold purpose:

You may be able to fix your problem . . .

or

if these steps don't help you solve your problem, they will most certainly give you a better handle on what to tell Technical Support once you contact them.

Operation

Symptom	Solution
<p>Computer doesn't power-up or respond when turned on. The screen is completely blank.</p> <p>Computer gives an error of 1 long beep and 2 short beeps at power up.</p> <p>Fahrenheit Video 3D works well in another brand computer, but not at all in mine.</p>	<p>(1) Verify that your computer and monitor are plugged in. Check the power cables.</p> <p>(2) Make sure the Fahrenheit Video 3D is properly installed in the slot. The edge connector must be inserted all the way into the expansion slot.</p> <p>(3) Verify whether there's another video display adapter in your system. If it's an on-board display adapter, make sure it's disabled. If it's an add-in card other than a standard monochrome display adapter, remove it from your computer.</p> <p>(4) Your computer may not be set up correctly for the Fahrenheit Video 3D. Refer to your computer's reference manual for information on setting up your computer.</p>
<p>The Fahrenheit Video 3D icon doesn't appear in the Windows Control Panel.</p>	<p>(1) Check to make sure that you installed the Fahrenheit Video 3D Windows drivers into the correct directory.</p> <p>(2) Memory managers can prevent icons from appearing. Refer to your memory manager documentation for details on using a memory exclusion statement.</p>
<p>Fahrenheit Video 3D runs correctly under normal conditions but fails when playing video sequences.</p>	<p>(1) Verify that the proper video codec is installed for the video format (such as MPEG or Video for Windows) of the file you're trying to play. In Window 3.1x, open the Control Panel, double-click on the Drivers icon and select the driver. In Windows 95, open the Control Panel and double-click on the Multimedia icon. Click on Advanced and select the driver.</p>

Display

Symptom	Solution
Computer seems to boot up properly but there's no display.	<ol style="list-style-type: none">(1) Check the power cable to your monitor.(2) Your monitor cable may not be fastened securely and properly. Check both the connection at the monitor and at the Fahrenheit Video 3D card.(3) Verify whether there's another video display adapter in your system. If it's an on-board display adapter, make sure it's disabled. If it's an add-in card other than a standard monochrome display adapter, remove it from your computer.(4) It's possible that your monitor cable is not the correct type for the Fahrenheit Video 3D. See Appendix A for the proper pin-out information to determine if your cable is correct.
Display is no longer adjusted once a software program is opened.	<ol style="list-style-type: none">(1) If your monitor has a vertical hold adjustment, try adjusting the display.(2) Verify that your software is properly installed for your current application. Refer to Section 2 for display device driver information.(3) Your monitor may not be able to display the graphics mode you're using. Double check your monitor specifications for the graphics modes supported.(4) Your monitor may not be able to display the vertical refresh rate you're using. Double check your monitor specifications for the refresh rates supported.
A garbled or scrolling display in Windows.	<p>The resolution selected is too high for your monitor. To change the resolution:</p> <ul style="list-style-type: none">- Run SETUP from the Windows subdirectory- Select the VGA display driver- Start Windows- Open the Fahrenheit Video 3D program group.- Double-click on the Fahrenheit Video 3D Setup icon- Click on Display and select a resolution your monitor is capable of supporting
Video display is blank after setting the vertical display frequency or after adjusting the display position or size.	<ol style="list-style-type: none">(1) Boot to a DOS prompt. (For Windows 95 you must press F8 during the initial bootup phase.)(2) Change to the Orchid utility directory.(3) Run the RESETEEP utility program. Reboot your system after running the RESETEEP utility program.

MPEG (Xing Software)

Symptom	Solution
Software MPEG playback appears slow or jerky and there's no audio sync.	<p>(1) The software MPEG playback performance is directly related to processor speed, the current screen resolution and color depth. On most Pentium 75MHz or higher systems, the playback is smooth. Slower systems may exhibit slow MPEG video, or may not display MPEG digital video playback at full frame rate.</p> <p>(2) If you experience slow or jerky MPEG playback with your system, you can purchase the Fahrenheit Video 3D hardware MPEG upgrade option to improve MPEG performance.</p>

If You Need To Contact Us

Technical Support

If you've checked our troubleshooting tips and still require help, our Technical Support staff will be glad to assist you. Before calling please have the following information ready:

- The model name and serial number of your Orchid product.
- Your computer information such as CPU type, operating system, amount of installed memory and other peripherals installed in your computer.
- Call from the location of your computer. If you can't, please print out the information from your CONFIG.SYS and AUTOEXEC.BAT files.
- The version number of the Orchid product driver.

NOTE: For Return Material Authorization (RMA) purposes, please keep a copy of your product receipt.

In the United States:

Technical Support	(510) 661-3000
Technical Support Fax	(510) 651-6982
RMA Department	(510) 683-0428

In Europe:

France Technical Support	+33 (1) 45 16 33 96
France Technical Support Fax	+33 (1) 45 16 31 10
United Kingdom Technical Support	(44)1 256 844 899
United Kingdom Technical Support Fax	(44) 1 256 54476
Germany Technical Support	49-89-6881646
Germany Technical Support Fax	49-89-429517

Online Services

Bulletin Board System (BBS)

You can download updates and drivers for your product via our Bulletin Board System.

In the United States:

Technical Support BBS - 14400 baud rate, Parity=N, Data Bits=8, Stop Bits=1, YMODEM and ZMODEM (recommended file transfer protocols)

(510)651-6837

In Europe:

Germany Technical Support BBS 49-89-6881686
France Technical Support BBS +33 14 784 7057
United Kingdom Technical Support BBS
(44) 1 256 63373

CompuServe

In addition to calling Orchid Technology, technical support is available through the CompuServe Information Service (CIS). You can also download drivers and get new product information. To find us on CompuServe, follow the instructions below:

1. Log onto CompuServe.
2. Type GO ORCHID to get immediate access to the Orchid section.

World Wide Web

You will find information on the latest technology, new product releases, customer service and other categories of information. Access the Internet and type:
<http://www.orchid.com>

Appendix

Technical Specifications

A

This appendix provides the technical specifications and features for Fahrenheit Video 3D.

Configuration

Fahrenheit Video 3D - 2048KB EDO DRAM

Video Chipset:

S3 ViRGE (w/ integrated 135MHz RAMDAC)

BIOS:

8-bit

CPU Requirements:

80486 and Pentium-based compatibles

32-bit Bus - PCI

Connectors:

DB-15 analog VGA w/ DDC

3.5mm audio (for MPEG audio playback)

VESA 8-bit Feature Connector

S3 Local Peripheral Bus

Memory Address Segments:

RAM: A000-BFFF

ROM: C000-C7FF

I/O Address: 3B0-3DF (IBM standard)

Temperature:

Operating: from 0 to 50 degrees C

Storage: from -30 to 60 degrees C

Humidity:

Operating: from 15% to 90%

Storage: from 10% to 95%

Memory Address Setting

Fahrenheit Video 3D uses the A000-C7FF memory address segment. Some memory manager programs may try to use this address segment. If you encounter a conflict, add an exclusion statement in your CONFIG.SYS file, to exclude the Fahrenheit Video 3D address segment from being used. Refer to your memory manager user's manual for details on using a memory exclusion statement.

VESA Support

Fahrenheit Video 3D is designed to support the VESA BIOS Extension (VBE) through its BIOS. Extended modes can be selected through the VESA option in the application you're running. The BIOS supports the VESA 1.2 specification.

Display Data Channel Support

Fahrenheit Video 3D is designed to support the Display Data Channel (DDC) standard. This standard allows your Fahrenheit Video 3D to automatically detect your monitor's capabilities for automatic identification. Fahrenheit Video 3D is fully DDC 2b hardware and software compliant.

Resolutions and Refresh Rates

The tables below lists the resolutions and refresh rates for the standard VGA video graphics modes and video text modes.

Mode #	Resolution	Colors	Horz.	Vert.	Polarity	
04	320 x 200	4	31.5	70	-	+
05	320 x 200	4	31.5	70	-	+
06	640 x 200	2	31.5	70	-	+
OD	320 x 200	16	31.5	70	-	+
OE	640 x 200	16	31.5	70	-	+
OF	640 x 350	Mono	31.5	70	+	-
10	640 x 350	16	31.5	70	+	-
11	640 x 480	2	31.5	60	-	-
12	640 x 480	16	31.5	60	-	-
13	320 x 200	256	31.5	70	-	+

Table A1: VGA Graphics Modes

Mode #	Resolution	Colors	Horz.	Vert.	Polarity	
00	40 x 25	16	31.5	70	-	+
01	40 x 25	16	31.5	70	-	+
02	80 x 25	16	31.5	70	-	+
03	80 x 25	16	31.5	70	-	+
07	80 x 25	Mono	31.5	70	-	+

Table A2: Video Text Modes

*NOTE: Horizontal frequencies are in kHz.
Vertical frequencies are in Hz.*

Feature Connector Pin Outs

The feature connectors located at the upper left corner of the Fahrenheit Video 3D can be used as a single standard 26-pin VESA feature connector or as dual 34-pin Local Peripheral Bus (LPB) connectors (see Figure 1.1). The VESA feature connector permits third party add-on accessories to both share signals and share control of the VGA circuitry. The following table lists the VESA feature connector's pin-out information.

Fahrenheit Video 3D Feature Connector Pin-Outs							
Pin	Function	Pin	Function	Pin	Function	Pin	Function
Y1	Pixel Data 0	Y8	Pixel Data 7	Z2	Ground	Z9	Ground
Y2	Pixel Data 1	Y9	Pixel Clock	Z3	Ground	Z10	Ground
Y3	Pixel Data 2	Y10	Blanking	Z4	(See Note 1)	Z11	Ground
Y4	Pixel Data 3	Y11	Hor. Sync	Z5	(See Note 2)	Z12	No Connect
Y5	Pixel Data 4	Y12	Vert. Sync	Z6	(See Note 3)	Z13	No Pin (Key)
Y6	Pixel Data 5	Y13	Ground	Z7	No Connect		
Y7	Pixel Data 6	Z1	Ground	Z8	Ground		

Table A.3: VESA Feature Connector Pin-Outs

NOTES:

- (1) Low Enable External Pixel Data Input to the motherboard DAC.
- (2) Low Enable External Sync and Blanking Inputs to the motherboard DAC.
- (3) Low Enable External Pixel Clock Input to the motherboard DAC.

Local Peripheral Bus (LPB) Connector

The 34-pin LPB connector is a special feature connector designed by S3 Incorporated. It provides a bidirectional interface to video devices such as an MPEG decoder and TV Tuner. The LPB connector is an extension of the VESA feature connector with spaces set aside to allow connections to standard 26-pin cables.

VGA Pin-Out Specifications

The 15-pin VGA connector on the Fahrenheit Video 3D is the same as the standard 15-pin D-shell connector. **NOTE:** The Royal Blue color indicates that power is available on pin 9 in accordance with the DDC standard. The pin-outs are as follows:

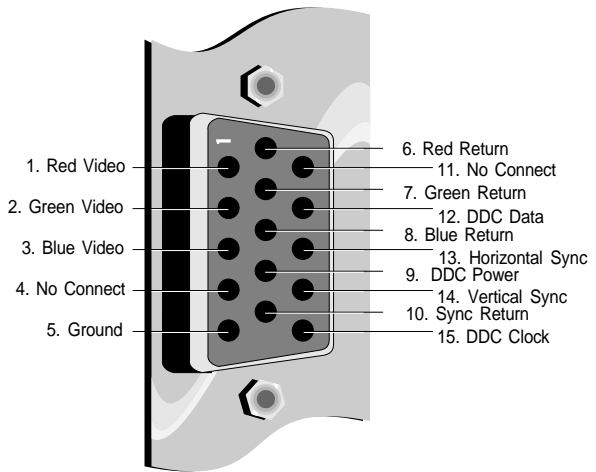


Figure A.1: Fahrenheit Video 3D 15-pin Connector

Appendix **Power Management**

B

Orchid stays on the cutting edge of technology while maintaining compatibility. With the Fahrenheit Video 3D, we use a power saving approach by incorporating VESA's Display Power Management Signaling (DPMS) technology.

Power Management Feature

The Power Management feature supports the Green PC specification and allows a computer system to be energy efficient. On computer desktop systems, monitors usually consume over 50% of the overall power used. Most monitors consume between 130-200 watts, even when idling.

Using a Green PC monitor and a Fahrenheit Video 3D in conjunction, you can lower the power consumption to 30 watts when the monitor is idle. This power management feature is required by the EPA's Energy Star Program and is also required by all U. S. Government agencies.

A Green PC monitor and your Fahrenheit Video 3D can be placed into one of four states: On, Standby, Suspend or Off. Here is an overview of VESA's DPMS signaling method:

Monitor State	Power Savings	Recovery Time
On	None	N/A
Standby	Minimal	Short
Suspend	Substantial	Longer
Off	Maximum	System-dependent

Appendix B: Power Management

On Mode

This is a full operation state with both the HSYNC Active and VSYNC Active.

Standby Mode

This is an optional state of minimal power reduction with the HSYNC Inactive and VSYNC Active.

Suspend Mode

This is a significant reduction of power consumption with the HSYNC Active and VSYNC Inactive.

Off Mode

This is the lowest level of power consumption with the HSYNC Inactive and VSYNC Inactive.

The VESA DPMS technology also implements the U. S. Governmental Protection Agency "Energy Star" and European Nutek standards. The Power Management feature makes Fahrenheit Video 3D a complete cost-effective solution for the energy conscious.

Digital Video Scaling

C

Fahrenheit Video 3D features both horizontal and vertical digital video scaling. With Fahrenheit Video 3D, a Windows digital video clip can be scaled and sized up to full screen. No longer will your video viewing be restricted to postage stamp-sized displays. The scaling feature can be used in all resolutions except 640x480x16 colors and 800x600x16 colors.

Playback of a Windows digital video clip is enhanced with Fahrenheit Video 3D's SuperZoom™ feature. With SuperZoom's advanced scaling techniques, video clips captured at small window sizes can be played back at full-screen full-frame rate. You get smooth video playback without dropping frames, improved image quality and continuous audio data.

By incorporating the new DCI standard, Fahrenheit Video 3D can take on many of the tasks generally shared with the Windows display software. The DCI standard allows Fahrenheit Video 3D's accelerator hardware to act independently during scaling and displaying operations, and for implementing color-space conversion. These tasks are accomplished much more quickly using hardware methods and the resulting displays can then be scaled for full-screen playback.

MPEG Video (Software MPEG)

D

MPEG is a full-motion video compression technology that allows you to play back high-quality video. It records changes between frames of data. Rather than storing information about each individual frame, only the changed data is stored during recording and reassembled during playback.

With Fahrenheit Video 3D you can view MPEG, AVI and other digital video formats at up to 30 frames per second. Fahrenheit Video 3D features the Xing Software MPEG codec for full-screen, full-motion playback of MPEG digital video. This codec algorithm attains the highest playback quality while optimizing file management. It also uses high-quality scaling and pixel interpolation algorithms.

The Fahrenheit Video 3D uses your computer's CPU for software MPEG decoding. Software MPEG playback performance is directly related to processor speed, the current screen resolution and color depth. We recommend a true 75MHz MPC III (Multimedia Personal Computer) system for optimum MPEG and AVI performance.

MPEG Video files can be played using the XingMPEG Player or any Windows MCI (Media Control Device) application. MCI is a standard control device for multimedia devices and files.

NOTE: The Fahrenheit Video 3D's MPEG feature is not compatible with CD titles written exclusively for the Sigma Designs RealMagic products.

FCC NOTICE

Fahrenheit Video 3D
Certified compliant with FCC Class B limits, part 15
To meet FCC requirements, shielded cables are required
to connect the unit to a Class B certified device

“This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.”

This equipment generates and uses radio frequency energy and, if not installed and used properly in strict accordance with the manufacturer’s instructions, may cause interference to radio or television reception.

This device has been tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. Only equipment (computer input/output devices, terminals, printers, etc.) certified to comply with the Class B limits may be attached to this product.

If this equipment causes interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

1. Reorient the receiving antenna.
2. Relocate the computer with respect to the receiver.
3. Move the computer away from the receiver.
4. Plug the computer into an outlet which resides on a different circuit breaker than the receiver.
5. If necessary, consult your dealer, or an experienced radio or television technician for additional suggestions.

You may find the booklet **How To Identify and Resolve Radio-TV Interference Problems** helpful. It was prepared by the Federal Communications Commission and is available from the U.S. Government Printing Office, Washington, DC 20402. Refer to stock number: 004-000-00345-4.

Orchid Technology is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. It is the responsibility of the user to correct such interference.

Operation with non-certified equipment is likely to result in interference to radio and TV reception. The user must use shielded interface cables in order to maintain the product within FCC compliance.

DECLARATION OF CONFORMITY

Application of Council Directives 89/336/EEC.

Standards to which the conformity is declared:

EN55022 EN50082-1

Manufacturer's Name: Orchid Technology

Manufacturer's Address: 221 Warren Avenue
Fremont, California 94539
USA

Tel: (510) 651-2300

Fax: (510) 651-9450

Type of Equipment: Video Card

Model Name: Fahrenheit Video 3D

Tested By: BEMA Technology Corp.
4063 Clipper Court
Fremont, California 94538
USA

Tel: (510) 490-9215

Fax: (510) 490-5790

Test Engineer(s): Jagtar Sahota

I, the undersigned, hereby declare that the specified equipment conforms to the directives and standards listed above.



Ming Ming Hsu
Vice President of Engineering
February 27, 1996

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