Hercules Computer Technology, Inc.

Installation Guide

September 1997, Version 2.0

Hercules Dynamite™

Hercules Stingray™

Hercules Terminator™

Hercules Thriller™

Hercules
The Brand of Choice

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ATTENTION

DUE TO A DESIGN ISSUE WITH SOME PCI MOTHERBOARDS, WE STRONGLY SUGGEST THAT YOU INSTALL YOUR NEW HERCULES PRODUCT IN PCI SLOT 2, 3, OR 4 INSTEAD OF INSTALLING IT IN PCI SLOT 1. IN SOME CASES YOUR NEW HERCULES PRODUCT MAY NOT FUNCTION CORRECTLY IN SLOT 1! PLEASE CONSULT YOUR COMPUTER'S MANUAL TO LOCATE AN APPROPRIATE PCI SLOT.

FCC Compliance Statement

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. The use of shielded cables for connection of the monitor to the card is required to meet FCC requirements.

Note: This device complies with Part 15 of 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 device has been tested and found to comply with the limits of a Class B digital device, pursuant to Part 15 of the FCC Rules. If this equipment causes 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:

1. Reorient or relocate the receiving antenna.

2. Increase the separation between the equipment and receiver.

3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

4. Consult the dealer or an experienced radio/TV technician for help

The user is advised that any equipment changes or modifications not expressly approved by the party responsible for compliance would void the compliance to FCC regulations and therefore, the user's authority to operate the equipment.

Table of Contents

1. How to Reach Hercules

United States		Europe	
Hercules Computer Technology, Inc.		Hercules Marketing GmbH, Bussardstrasse 5	
3839 Spinnaker Court, Fremont, CA 94538, USA		D-82166 Gräfelfing/Munich, Germany	
Hotline Number	(800) 323-0601	Hotline Number	+49-89-8989-0573
	(510) 623-6050		10:00 to 12:00; 14:00 to 15:30 CET
	6:00 AM to 6:00 PM (Pacific Time)		Monday, Tuesday, Thursday, Friday
	Monday through Friday		
Fax	(510) 623-4215	Fax	+49-89-8989-0585
Fax-Back	(800) 711-HERC	BBS Analog	+49-89-8989-0576
BBS	(510)-623-7449	BBS ISDN	+49-89-8989-0234
CompuServe	GO HERCULES		
World Wide Web	www.hercules.com	e-mail	support@hercules.com
FTP	ftp.hercules.com		

Welcome!

Welcome to the Hercules family! You are now the owner of a powerful, state-of-the-art and easy to use accelerator that will make using your PC more productive and enjoyable.

Hercules Information Server

With your e-mail address, you can subscribe to our Hercules Information Server mailing list and receive automatic notification of new driver updates or other news (See Section 5).

If Your Product Needs Service

If your Hercules product is defective, contact Hercules or your reseller. All returns must be accompanied by a return authorization number (RMA). See Section 10 for Limited Warranty information.

About This Installation Guide

This booklet contains installation and operating instructions for our line of graphics, multimedia, and 3D accelerators. Because Hercules' products have many unique features, therefore you may receive a separate, product-specific installation supplement in addition to this installation guide. An updated version of this "Installation Guide" can be found as soft copy on the CD ROM which is shipped with your new Hercules product. Open the directory "MANUALS" and select the directory with the language of your choice. Open the file MANUAL.DOC using WORDPAD.

Typographical Conventions

ALL CAPITALS for filenames, directories and acronyms.
`Computer Type` for commands that need to be typed by you.

About the Hercules CD-ROM

All Hercules products are shipped with a CD-ROM which contains all the drivers and utilities needed. Most of the software is also available on our on-line services. If you are not able to connect with us on-line, a diskette can be mailed to you for a nominal shipping and processing fee. For the latest information that may not be included in this manual, see the README.TXT and WHATSNEW.TXT files in the root directory on the Hercules CD-ROM. In addition, we've placed a variety of third party utilities on the enclosed CD-ROM as another way of saying "thank you!" for being a Hercules customer. You'll find these in the \GOODIES directories on the CD-ROM.

An Important Installation Note

Your new Hercules display adapter is designed to work in a PCI or AGP bus slot in a computer with any Intel Pentium or Intel 80486 or compatible processor (AMD, Cyrix, etc.). It will not operate in a PowerPC, or in an ISA or VL-Bus slot.

2. Installing Your Hercules Card - Express Method for Windows 95

If you have no experience in installing hardware and/or software on your computer, we suggest that you also read the detailed installation procedure further on in this manual.

Step 1: Preparing Your System

1. Turn on your computer.
2. Start your Operating System, and reconfigure it to use "Standard VGA". It is important, to do this now.
3. Save your new configuration and shut down the system.
4. Turn off your computer.

Step 2: Hardware Installation

1. Remove the power cord from your PC.
2. Remove the monitor cable from the graphics card.
3. Remove the computer's cover.
4. Ground yourself by touching a metal surface before you continue!
5. Locate the existing graphics adapter, remove the screw that fastens it to the case and pull out the adapter in a straight upwards way.
6. **Ground yourself** by touching a metal surface before you continue!
7. Remove the new Hercules card from the anti-static bag and insert it into an empty PCI or AGP slot. Note: On some PCI systems PCI slot 1 will not function correctly due to a design issue. In such a case it is recommended that you use either slot 2,3 or 4 instead. Consult your computer's manual.
8. Fasten the Hercules card's metal bracket to the case. This will avoid the card from coming loose while attaching to the monitor cable.
9. Attach the monitor cable to your Hercules card.
10. Replace the computer's cover.
11. Reconnect the power cable.

Step 3: Restart Your Computer and Install the Hercules Software

1. Turn on your computer
2. Start your Operating System. Your Operating System should come up in Standard VGA mode, 640 x 480, in 16 colors. Most likely, if you are using a Plug&Play Operating System such as Windows 95, You will be informed that your graphics adapter has changed, then you will be asked to install new drivers. If you are not sure, on how to proceed, please read the detailed Section 2.1 in this manual.
3. Install our Hercules software and drivers from CD.
4. Save your new configuration and restart the computer.
5. After restarting your Operating System with the new drivers installed, it should come up without any error messages.

Now you are done!

2.1 Using Your Hercules Card with Windows 95

Step 1: Prepare Your Computer

When replacing an existing graphics card, your PC must be operating in a standard VGA mode before you remove your old display adapter. If you are installing your Hercules product as your system's first graphics card, proceed to Step 2.

Here's what to do if you're replacing an older display adapter:

Although Windows 95 is very good at detecting hardware changes when it starts up, we still recommend that you go back to the standard VGA driver before removing your old display adapter.

1. Open the "Display Properties" dialog box by clicking on the desktop with the right mouse button and selecting "Properties" from the pop-up menu, or by launching the "My Computer" icon, selecting "Control Panel", and then selecting "Display".
2. Select the "Settings" tab.
3. For users of the original version of Windows 95: Click the "Change Display Type"... button near the bottom of the dialog box. This will display the "Change Display Type" dialog box.

For users of the OSR2 version of Windows 95: Click the "Advanced Properties" button near the bottom. This will display the "Advanced Display Properties" dialog box.

4. Click the "Change..." button in the "Adapter Type" section. This displays the "Select Device" dialog box.
5. Choose "Show all Devices" by clicking the radio button on the lower left. This will split the "Select Device" dialog box into two sections.
6. In the Manufacturers section on the left side, scroll all the way to the top. Select the entry titled ("Standard display types"), then in the "Models" section on the right side select the "Standard Display Adapter" (VGA) entry, then click the "OK" button. Some files will be copied at this time, and you may be prompted for your Windows 95 CD-ROM.
7. You are now back at the previous dialog box, but with the "Standard Display Adapter" (VGA) now listed near the top. Click on the "Close" button.
8. You are now back at the "Settings" section of the "Display Propertie"s dialog box. Click on the "Apply" button in the lower right corner.
9. Windows 95 will ask you if you would like to restart your computer now. Select "No".
10. Click on the "Start" button, select the "Shut Down" option, and shut down the computer.

Step 2: Install the Hardware

1. Turn off your PC and remove the computer's cover or access panel.
2. Remove your existing display adapter. Your Hercules display adapter is a complete graphics solution, and will not work with another VGA or SuperVGA card installed. To see which of the cards in your PC is the display adapter, look for the one that's connected to your monitor cable. If your monitor cable is attached directly to your computer's motherboard, your system has built-in video support. See your PC's documentation for instructions on disabling the on-board video.
3. Install the Hercules card into an empty PCI or AGP bus slot. To prevent the card from becoming loose and malfunctioning, secure the card's bracket to the PC case using the screw or fastener provided with your PC.
4. Attach the monitor cable to the video connector on the back of the Hercules card. Your monitor cable must have an Amphenol 15-pin D-shell connector (Section 9).
5. If your Hercules product came with a MPEG decompression module, TV tuner, or any other accessory, see the special insert for additional installation instructions.

6. Close your computer's case and turn on your PC and monitor. You should see the normal boot display (BIOS message, memory count, etc.). If the display is scrambled or blank, or if your system beeps or makes other unusual noises, shut down your PC and turn to the Troubleshooting Section 4.

Step 3: Install the Hercules Software

In order to use your Hercules product under Windows 95, we recommend you install the following software:

☆ Hercules high performance PowerDrive™ display driver and utilities
  (Hercules Touch™ and Hercules Entertainment Center™)

☆ DirectX and DirectVideo, for fast game and multimedia performance

☆ The software MPEG Player, for playback of MPEG video files

You may also need to install more software to take advantage of additional features. In this case, your Hercules' product will have come with an installation supplement that contains specific instructions.

With Windows 95's Plug-and-Play features, installing your new Hercules product is simple. When you install your Hercules product and start your PC, the operating system automatically detects that you've installed new display hardware and starts in basic VGA mode. Next, it attempts to identify the graphics chip on your display adapter. If Windows 95 successfully identifies the chipset on your display adapter, it will choose the most appropriate display driver from those built-in to Windows.

Special note for Hercules Dynamite 128/Video™ owners: Your card uses the Tseng Labs ET6000 graphics and multimedia engine. Windows 95 may incorrectly identify it as an older Tseng Labs ET4000 or ET4000W32 engine and temporarily install the driver for one of these older chips. Don't panic! When you follow the instructions in Installing Our Display Driver and Utilities below, the correct PowerDrive™ driver for the Dynamite 128/Video™ will be installed.

If you're using a newer Hercules product for which Windows 95 doesn't have built in support, you'll be asked if you'd like to install a new driver. Do the following:

1. Windows will display the "New Hardware Found" dialog box. Choose "Do not install a driver", then click "OK".
2. A new dialog box will state that "Your display adapter is not configured correctly." Click the "Cancel" button.
3. The "Display Properties" dialog box will appear. Again, click the "Cancel" button. You are now ready to proceed with our software installation procedure!

Installing Our Display Driver and Utilities

Insert the Hercules CD-ROM into your CD-ROM drive. It uses Windows 95's AutoPlay feature to automatically launch our INSTALL.EXE program. If AutoPlay doesn't work on your PC, you can manually launch INSTALL.EXE by opening the "My Computer" folder and double-clicking on the CD-ROM icon, or by selecting "Run..." from the Start menu on the task bar, then entering the path to INSTALL.EXE on your CD-ROM drive. For example, if your CD-ROM is drive D:, type D:\INSTALL.EXE then click on "OK" to start our installation program.

INSTALL.EXE uses the familiar Windows 95 "Wizard" interface. You can follow the on-screen instructions or follow the steps below.

You will first be asked to choose a language you desire when viewing our utilities and help files. Click "Next" when you have made your selection. Then you will be asked if you want to start the installation or make diskettes. We have provided this option in case you do not have a CD-ROM drive, but do have access to one via a neighbor, friend, or work.

1. The "Welcome" dialog box has an important warning and legal notice in it. Read this carefully then press "Next" to continue.
2. You will now see the "Choose Destination Location" dialog box. By default, the directory is C:\Program Files\Hercules\ but you may select a different location by clicking on "Browse..." Click on "Next" to continue.

If your Hercules product came with a MPEG decompression module, TV tuner, or any other accessory, see the special insert that we've included for additional installation instructions.

6. Close your computer's case and turn on your PC and monitor. You should see the normal boot display (BIOS message, memory count, etc.). If the display is scrambled or blank, or if your system beeps or makes other unusual noises, shut down your PC and refer to the Troubleshooting Section 4.

Step 3: Install Our Software

The Hercules CD-ROM contains Windows 3.xx drivers for many Hercules products. Since the installation procedure for Windows 3.xx varies from product to product, we've provided on-line documentation.

If you have a ...	Please see...
Hercules Dynamite™	\DYNAMITE\WIN31\README.TXT
Hercules Stingray™	\STINGRAY\WIN31\README.TXT
Hercules Terminator™	\TERM\WIN31\README.TXT
Hercules Thriller™	\THRILLER\WIN31\README.TXT

Installing the Software MPEG Player

The Hercules CD-ROM may include a software MPEG decoder for Windows 95 for decompressing MPEG video files, including VideoCDs, as well as the actual MPEG player. You'll want to install this software if your Hercules product doesn't already include built-in hardware-based MPEG decompression.

The installation procedure may vary as this software is updated periodically. On-line installation instructions may be found in the README.TXT file in the \MPEG\SOFTWARE directory on the Hercules CD-ROM.

Installing Additional Software

If your Hercules product came with an MPEG decompression daughtercard, TV tuner / video capture add-on card, or any other accessory, you may need to install additional software to make it work. In this case, your Hercules product will have come with an installation supplement that contains specific instructions.

2.2 Using Your Hercules Card with Windows 3.xx

If you've received your Hercules product as part of a new system, you can go directly to Step 2: "Install The Hardware". If your new Hercules product replaces the display adapter in your PC, follow the steps below to ensure that your PC is operating in a standard VGA mode before you remove your old display adapter.

Step 1: Prepare Your Computer

The first step is to reconfigure Windows 3.xx to use the standard VGA display driver. You may do this from the Windows environment or from the DOS prompt.

How To Do This From within Windows 3.xx

1. Run Windows "Setup" in the "Main" program group.
2. Select "Change System Settings..." from the "Options" menu.
3. Select "VGA" from the "Display" menu. You'll be asked if you'd like to restart Windows. Select "No".
4. Exit Windows 3.xx and proceed to Step 2 below.

How To Do This From DOS

1. Change to the Windows directory. If Windows 3.xx is installed in C:\WINDOWS, you should type:

```
C:
CD \WINDOWS
```

2. Run the SETUP.EXE program by typing: SETUP. SETUP will analyze your current system configuration and display the settings. Move the highlight bar up to the line that says "Display" and press [Enter].

3. You will see a list of all the display drivers available on your system. Using the Up and Down arrow keys, scroll through the list and select "VGA". Press [Enter] to select the driver.

4. You'll be asked to either replace or keep the existing VGA display driver. Press [Enter] to keep the current VGA driver.

5. You will be returned to the DOS prompt. Proceed to Step 2.

If your system is configured to automatically start Windows 3.xx when you turn it on, edit your AUTOEXEC.BAT file and "remark out" the WIN command. Use EDIT or your favorite text editor to open AUTOEXEC.BAT and look for a line near the bottom of the file that looks like this: WIN

Edit this line so it looks like this: REM WIN

Save your changes and exit the editor. After you've installed our hardware and software, you can restore the line and continue to go directly into Windows when you turn on your PC.

Step 2: Install the Hardware

1. Turn off your PC and remove the case cover or access panel.

2. Remove your existing display adapter. Your Hercules display adapter is a complete graphics solution and it will not work with another VGA or SuperVGA card installed. To see which of the cards in your PC is the display adapter, look for the one that's connected to your monitor with a cable. If your monitor cable is attached directly to your computer's motherboard, your system has built-in video support. See your PC's documentation for instructions on disabling the on-board video.

3. Install the Hercules card into an empty bus slot. To prevent the card from becoming loose and malfunctioning, secure the card's bracket to the PC case using the screw or fastener provided with your PC.

4. Attach the monitor's cable to the video connector on the back of the Hercules card. To work with our card, your monitor cable must have an Amphenol 15-pin D-shell connector.

5. If your Hercules product came with a MPEG decompression module, TV tuner, or any other accessory, see the special insert for additional installation instructions.

6. Close your computer's case and turn on your PC and monitor. You should see the normal boot display (BIOS message, memory count, etc.). If the display is scrambled or blank, or if your system beeps or makes other unusual noises, shut down your PC and refer to the Troubleshooting Section 4.

Step 3: Install Our Software

The Hercules CD-ROM contains Windows 3.xx drivers for many Hercules products. Since the installation procedure for Windows 3.xx varies from product to product, we've provided on-line documentation.

If you have a ...	Please see...
Hercules Dynamite™	\DYNAMITE\WIN31\README.TXT
Hercules Stingray™	\STINGRAY\WIN31\README.TXT
Hercules Terminator™	\TERM\WIN31\README.TXT
Hercules Thriller™	\THRILLER\WIN31\README.TXT

Installing the Software MPEG Player

The Hercules CD-ROM may include a software MPEG decoder for Windows 3.xx for decompressing MPEG video files, including VideoCDs, as well as the actual MPEG player. You'll want to install this software if your Hercules product doesn't already include built-in hardware-based MPEG decompression.

The installation procedure may vary as this software is updated periodically. On-line installation instructions may be found in the README.TXT file in the \MPEG\SOFTWARE directory on the Hercules CD-ROM.

Installing Additional Software

If your Hercules product came with an MPEG decompression daughtercard, TV tuner / video capture add-on card, or any other accessory, you may need to install additional software to make it work. In this case, your Hercules product will have come with an installation supplement that contains specific instructions.

2.2 Using Your Hercules Card with Windows NT 4.0

Step 1: Prepare Your Computer

Windows NT 4.0 offers you the option of starting in VGA mode every time the system is started. No advanced preparation is necessary.

Step 2: Install the Hardware

1. Turn off your PC and remove the case cover or access panel.

2. Remove your existing display adapter. Your Hercules' display adapter is a complete graphics solution and it will not work with another VGA or SuperVGA card installed. To see which of the cards in your PC is the display adapter, look for the one that's connected to your monitor with a cable. If your monitor cable is attached directly to your computer's motherboard, your system has built-in video support. See your PC's documentation for instructions on disabling the on-board video.

3. Install the Hercules card into an empty PCI or AGP bus slot. To prevent the card from becoming loose and malfunctioning, secure the card's bracket to the PC case using the screw or fastener provided with your PC.

4. Attach the monitor's cable to the video connector on the back of the Hercules card. To work with our card, your monitor cable must have an Amphenol 15-pin D-shell connector.

5. If your Hercules product came with a MPEG decompression module, TV tuner, or any other accessory, see the special insert that we've included for additional installation instructions.

6. Close your computer's case and turn on your PC and monitor. You should see the normal boot display (BIOS message, memory count, etc.). If the display is scrambled or blank, or if your system beeps or makes other unusual noises, shut down your PC and refer to the Troubleshooting Section 4.

Step 3: Install Our Software

1. Select Windows NT 4.0's VGA mode from the menu.

2. Once Windows NT 4.0 is restarted, open the "Display Properties" dialog box by clicking on the "Desktop" with the right mouse button and selecting "Properties" from the pop-up menu, or by launching the "My Computer" icon, selecting "Control Panel", and then selecting "Display".

3. Select the "Settings" tab.

4. Click the "Display Type..." button near the bottom of the dialog box. This displays the "Display Type" dialog box.

5. Click the "Change..." button. This displays the "Change Display" dialog box.

6. In the Manufacturers section on the left side, scroll all the way to the top. Select the entry titled ("Standard display types"), then in the "Models" section on the right side select the "VGA compatible display adapter" entry, then click the "OK" button. Some files will be copied at this time, and you may be prompted for your Windows NT 4.0 CD-ROM.

7. You are now back at the previous dialog box, but with the VGA compatible display adapter now listed near the top. Click on the "Close" button.

8. You are now back at the "Settings" section of the "Display Properties" dialog box. Click on the "Close" button. Windows NT 4.0 will ask you if you would like to restart your computer now. Choose "Yes".

9. Once your computer has restarted and you are back at the Windows NT 4.0 boot menu, select the normal mode (not VGA) to restart Windows NT 4.0.

10. You will see a dialog box that will tell you that your display adapter has changed. Click "OK" to clear this box.

11. You are now back at the "Settings" section of the "Display Properties" dialog box. Click on the "Test" button.

12. The Test Screen will appear for 5 seconds, then it will clear and you will be asked if it appeared correctly. Click on the "Yes" button, followed by the "Apply" button. You are now ready to proceed with the instructions below.

Installing the Hercules Display Driver and Utilities

Insert the Hercules CD-ROM into your CD-ROM drive. It uses Windows NT 4.0's AutoPlay feature to automatically launch our INSTALL.EXE program. If AutoPlay doesn't work on your PC, you can manually launch INSTALL.EXE by opening the "My Computer" folder and double-clicking on the CD-ROM icon, or by selecting "Run..." from the "Start" menu on the task bar, then entering the path to INSTALL.EXE on your CD-ROM drive. If your CD-ROM is drive D:, you would type D:\INSTALL.EXE then click "OK" to start our installation program.

INSTALL.EXE uses the familiar Windows NT 4.0 "Wizard" interface. You can follow the on-screen instructions, or follow the steps below.

1. You will first be asked to choose a language you wish to use when viewing our utilities and help files. Click "Next" when you have made your selection.
2. The next window will ask if you want to start the installation or make diskettes. We have provided this option in case you do not have a CD-ROM drive, but do have access to one via a neighbor, friend, or work.
3. The "Welcome" dialog box has an important warning and legal notice in it. Read this carefully then click "Next" to continue.
4. You will now see the "Choose Destination Location" dialog box. By default, the directory is C:\Program Files\Hercules\ but you may select a different location by clicking on "Browse...". Click on "Next" to continue.
5. Now you will need to select your Setup Type - either Typical, Compact or Custom. Typical (the default and recommended selection) will install our PowerDrive™ drivers and our utilities. Compact will install the PowerDrive™ drivers only. Custom will let you choose which of the components to install. Once you have made your choice, click "Next" to continue.
6. You will now need to select the program folder to install to. This folder name will be seen when you access the "Start" menu, then go to "Programs". The default folder name is Hercules Power Tools™, but you can change this. Click on "Next" to continue.
7. The appropriate files will now be copied, and when that is done you will be presented with the "Setup Complete" dialog box. You will need to restart your computer for the changes to take effect, so simply click on "Finish" to do this. Important: As there are many files and registry entries being written or modified, it may take a minute for the computer to shut down correctly and completely before restarting.
8. Once your system has restarted, you will see our "Welcome!" dialog box. To launch our Touch™ utility, simply click "Yes". Once Touch™ is up, choose your favorite resolution and color depth, zoom in on parts of your desktop, or find out how to contact us. If you are stuck at any point, click on the "Help" key for full on-screen documentation.
9. You will also see the Hercules Power Tools™ folder open on your desktop. This has shortcuts to the Hercules Entertainment Center™, the latest README file about the Hercules PowerDrive™ driver just installed, connections to our Internet services and more!

Installing the Software MPEG Player

The Hercules CD-ROM may include a software MPEG decoder for Windows NT 4.0 for decompressing MPEG video files, including VideoCDs, as well as the actual MPEG player. You'll want to install this software if your Hercules product doesn't already include built-in hardware-based MPEG decompression. The installation procedure may vary as this software is updated periodically. On-line installation instructions may be found in the README.TXT file in the \MPEG\SOFTWARE directory on the Hercules CD-ROM.

Installing Additional Software

If your Hercules product came with an MPEG decompression daughtercard, TV tuner / video capture add-on card, or any other accessory, you may need to install additional software to make it work. In this case, your Hercules product will come with an installation supplement that contains specific instructions.

2.4 Using Your Hercules Card with Windows NT 3.5x

Step 1: Prepare Your Computer

Windows NT 3.5x offers you the option of starting in VGA mode every time the system is started. No advanced preparation is necessary.

Step 2: Install the Hardware

1. Turn off your PC and remove the case.
2. Remove your existing display adapter. Your Hercules display adapter is a complete graphics solution and it will not work with another VGA or SuperVGA card installed. To see which of the cards in your PC is the display adapter, look for the one that's connected to your monitor cable. If your monitor cable is attached directly to your computer's motherboard, your system has built-in video support. See your PC's documentation for instructions on disabling the on-board video.
3. Install the Hercules card into an empty PCI or AGP bus slot. To prevent the card from becoming loose and malfunctioning, secure the card's bracket to the PC case using the screw or fastener provided with your PC.
4. Attach the monitor's cable to the video connector on the back of the Hercules card. To work with our card, your monitor cable must have a 15-pin, standard VGA "D-shell" connector (Section 9).
5. If your Hercules product came with a MPEG decompression module, TV tuner, or any other accessory, see the special insert for additional installation instructions.
6. Close your computer's case and turn on your PC and monitor. You will see the normal boot display (BIOS message, memory count, etc.). If the display is scrambled or blank, or if your system beeps or makes other unusual noises, shut down your PC and refer to the Troubleshooting Section 4.

Step 3: Install the Hercules Software

The Hercules CD-ROM contains Windows NT 3.5x drivers for many Hercules products. Since the installation procedure varies from product to product and from version to version of Windows NT, we've provided on-line documentation.

If you have a ...	Please see...
Hercules Dynamite™	\DYNAMITE\WINNT35\README.TXT
Hercules Stingray™	\STINGRAY\WINNT35\README.TXT
Hercules Terminator™	\TERM\WINNT35\README.TXT
Hercules Thriller™	\THRILLER\WINNT35\README.TXT

Installing Additional Software

If your Hercules product came with an MPEG decompression daughtercard, TV tuner/video capture add-on card, or any other accessory, you may need to install additional software to make it work. In this case, your Hercules product will come with an installation supplement that contains specific instructions.

2.5 Using Your Hercules Card with OS/2

If you've received your Hercules product as part of a new system, you can go directly to Step 2: "Install The Hardware." If your new Hercules product replaces the display adapter in your PC, you'll need to take the following steps to make sure that your PC is operating in a standard VGA mode before you remove your old display adapter.

Step 1: Prepare Your Computer

Prior to removing your existing display adapter, you must install IBM's standard VGA driver through OS/2's "Selective Install" procedure. While there are other methods of Installing OS/2's VGA driver, using "Selective Install" is the only way to ensure that your display configuration is returned to a default state.

1. Open the OS/2 System Folder.
2. Open System Setup.
3. Double-click on "Selective Install". From the "System Install" menu, click on "Primary Display".
4. From the "Primary Display Adapter Type" window, select "Video Graphics Array" (VGA) and click on the "OK" button.
5. Click on the "OK" button on the "Selective Install" menu.
6. Select "Install" from the "Install Options" menu.

At this point, you'll be prompted to insert OS/2's Display Driver Diskettes or your OS/2 CD-ROM. Insert the appropriate media and follow the on-screen instructions. Once OS/2 has installed the VGA driver, you may shut down your system and proceed with installing your new Hercules product.

Step 2: Install the Hardware

1. Turn off your PC and remove the case cover or access panel.
2. Remove your existing display adapter. Your Hercules display adapter is a complete graphics solution, and will not work with another VGA or SuperVGA card installed. To see which of the cards in your PC is the display adapter, look for the one that's connected to your monitor with a cable. If your monitor cable is attached directly to your computer's motherboard, your system has built-in video support. See your PC's documentation for instructions on disabling the on-board video.
3. Install the Hercules card into an empty PCI or AGP bus slot. To prevent the card from becoming loose and malfunctioning, secure the card's bracket to the PC case using the screw or fastener provided with your PC.
4. Attach the monitor's cable to the video connector on the back of the Hercules card. To work with our card, your monitor cable must have an Amphenol 15-pin D-shell connector (See Section 9).
5. If your Hercules product came with a MPEG decompression module, TV tuner, or any other accessory, see the special insert for additional installation instructions.
6. Close your computer's case and turn on your PC and monitor. You should see the normal boot display (BIOS message, memory count, etc.). If the display is scrambled or blank, or if your system beeps or makes other unusual noises, shut down your PC and refer to the Troubleshooting Section 4.

Step 3: Install Our Software

The Hercules CD-ROM contains OS/2 Warp drivers for many Hercules products. Since the installation procedure for OS/2 varies from product to product, we've provided on-line documentation.

If you have a ...	Please see...
Hercules Dynamite™	\DYNAMITE\OS2\README.TXT
Hercules Stingray™	\STINGRAY\OS2\README.TXT
Hercules Terminator™	\TERM\OS2\README.TXT
Hercules Thriller™	\THRILLER\OS2\README.TXT

2.6 Using Your Hercules Card with Other Operating Systems

Step 1: Prepare Your Computer

If your new Hercules product replaces the display adapter that's currently in your PC, you may need to take steps to ensure that your PC is operating in a standard VGA mode before you remove your old display adapter. See your operating system's documentation for more information.

Step 2: Install The Hardware

1. Turn off your PC and remove the case cover or access panel.
2. Remove your existing display adapter. Your Hercules display adapter is a complete graphics solution and will not work with another VGA or SuperVGA card installed. To see which of the cards in your PC is the display adapter, look for the one that's connected to your monitor with a cable. If your monitor cable is attached directly to your computer's motherboard, your system has built-in video support. See your PC's documentation for instructions on disabling the on-board video.
3. Install the Hercules card into an empty PCI or AGP bus slot. To prevent the card from becoming loose and malfunctioning, secure the card's bracket to the PC case using the screw or fastener provided with your PC.
4. Attach the monitor's cable to the video connector on the back of the Hercules card. To work with our card, your monitor cable must have an Amphenol 15-pin D-shell connector.
5. If your Hercules product came with a MPEG decompression module or any other accessory, see the special insert that we might have included for additional installation instructions.
6. Close your computer's case and turn on your PC and monitor. You should see the normal boot display. If the display is scrambled or blank, or if your system beeps or makes other unusual noises, shut down your PC and refer to the Troubleshooting Section 4.

Step 3: Install the Display Driver

Although we don't supply display drivers for operating systems other than Windows and OS/2, we've worked extensively with the vendors of other operating systems to ensure that our products are as compatible as possible. Your operating system probably includes a high-resolution display driver for your Hercules product. If you need assistance, see your operating system's manual.

3. The Hercules Entertainment Center

Hercules Entertainment Center™ is a suite of tools for controlling the multimedia components of your PC. You can set the volume and balance of the various inputs and outputs of your sound card, and play audio CDs, wave files, MIDI files and video files. You can also arrange audio and video files into albums, perform sophisticated track programming and configure each component to behave the way you'd like. All of the components in Hercules Entertainment Center™ look and work the same way. To get up and running right away, take a look at Section 3.1 "Quick Start Guide".

3.1 Quick Start Guide

Hercules Entertainment Center™ takes a modular approach: each component is a separate item which operates in the same way. The behavior of each can also be configured separately. The Hercules Entertainment Center™ is designed to look like an audio/video entertainment center. Perhaps the fastest way to learn how to use Hercules Entertainment Center™ is to start playing with it! To activate a component (or "turn it on"), just click on it. You'll be shown a basic set of controls for opening files or, in the case of the CD Player, ejecting the CD-DROM drive's drawer and playing CD audio tracks or audio/video files. Click the "maximize" (⬆) button with the arrow showing upwards and the component will be "maximized", giving you complete access to all the options. Don't forget to take a look at the "bookshelf" near the top right corner, especially the "Configure" book. It will help you configure each component to do what you want.

The help section for each component includes a screen shot of each component. You can click on any display area or control in each screen shot and see an explanation of its function.
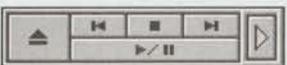
3.2 CD Player

This component plays audio CDs. To play VideoCD titles, please use the Video Player. This is what the CD Player looks like when it's turned off.

To activate the CD Player, just click on it. This is what it looks like when it's turned on.

When you click anywhere on the track index or time index displays, or around the border (in other words, anywhere but on one of the buttons) the CD Player shows you a minimal set of controls.

To see more features, click on the "maximize" button (⬆). This is what the CD Player looks like when it's maximized.
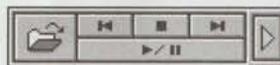

3.3 Wave Player

This component plays audio WAVE (.WAV) files. This is what the Wave Player looks like when it's turned off.

To activate the Wave Player, just click on it. This is what it looks like when it's turned on.

When you click anywhere on the track index or time index displays, or around the border (in other words, anywhere but on one of the buttons) the CD Player shows you a minimal set of controls.

To see more features, click on the maximize button (⬆). This is what the Wave Player looks like when it's maximized.

3.4 MIDI Player

This component plays audio MIDI (.MID) files. This is what the MIDI Player looks like when it's turned off.

To activate the MIDI Player, just click on it. This is what it looks like when it's turned on.

When you click anywhere on the "track index" or "time index" displays, or around the border (in other words, anywhere but on one of the buttons) the MIDI Player shows you a minimal set of controls.
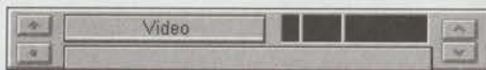
To see more features, click on the maximize button (⬆). This is what the MIDI Player looks like when it's maximized:

3.5 Video Player

This component plays video files. It can play AVI files as well as any other video file type supported by your system. When you play a video, it appears in the "monitor" above the Video Player. If you double-click on the monitor, the video is placed in a window which you can scale. Double-clicking on the window places the video back within the monitor.

When the video is in a scalable window, you can right-click on the window and choose a ratio of 50%, 100%, 200%, 300% or 400% of the video's original size, or full screen.

This is what the Video Player looks like when it's turned off:

To activate the Video Player, just click on it. This is what it looks like when it's turned on:

To see more features, click on the maximize button ( ). This is what the Video Player looks like when it's maximized:

3.6 Video Browser

The video browser lets you see your entire collection of AVI files at a glance. After you select the directory to view, each AVI file in the directory will be represented by a postage stamp image. You may play a clip by double-clicking on the image or selecting the Play Video button. The Preview control lets you select which frame is used to represent each clip. You may select the first, second, middle or last frame, the second key frame, or just the filename, with no visual representation. These options can be useful when your collection includes clips that fade in or otherwise contain frames that don't work very well as a representation of the entire clip. The video browser uses the Video Player to play video clips.

3.7 Mixer

This component lets you adjust the playback volume and input levels for your audio devices. Depending on the capabilities of your sound card, you can change the master volume, the volume for wave file playback, FM synthesis (MIDI), audio CD playback, line-in volume, microphone volume, and PC speaker (amplified output) volume. To adjust the volume of both the left and the right channel simultaneously, slide the vertical controls (or "faders") using the left mouse button. To adjust the left or right channel fader individually, move it with the right mouse button.
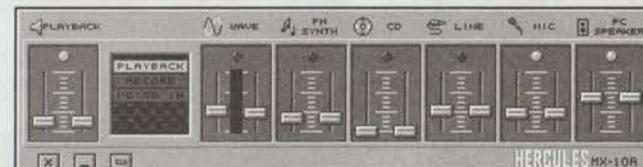

Here's what the Mixer looks like when it's turned off.

To activate the Mixer, just click on it. This is what it looks like when it's turned on.

To see more features, click on the "maximize" button ( ). This is what the Mixer looks like when it's maximized:


3.8 Configuration Menu

Use this dialog box to configure the operation of each of the components, as well as Hercules Entertainment Center™ itself. The configuration menu is launched by clicking on the "book" labeled "Configure" at the upper right corner of Hercules Entertainment Center™. Here's what you can do:

Hercules Entertainment Center Tab™: Controls how videos are displayed in the "monitor" and which components are automatically launched upon startup. For each component that's launched automatically, you can specify minimized mode (with a basic set of controls, but occupying less desktop space) or maximized mode (offering full functionality, but taking up more desktop space).
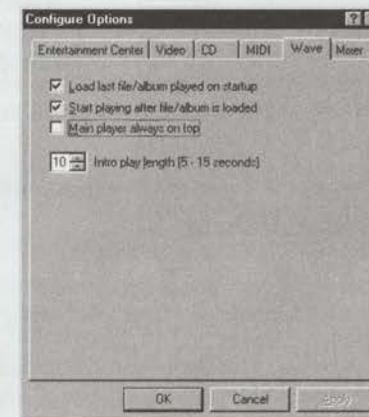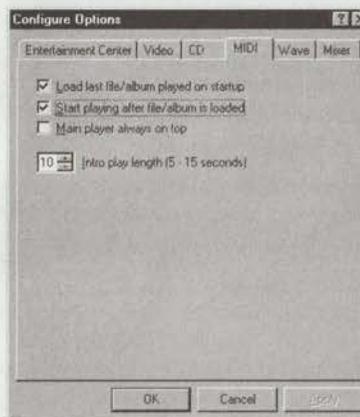
You have four standard options with the MIDI, Wave and Video Players which are: to have the last file or album to automatically be loaded on startup, to have a file or album to automatically start playing when it's loaded and to have the player to "float" on your desktop so it's always visible, or behave normally. You can also set the length of the intro time (between five and 15 seconds) when the player is in intro mode.

Some of the components have additional options, as well:
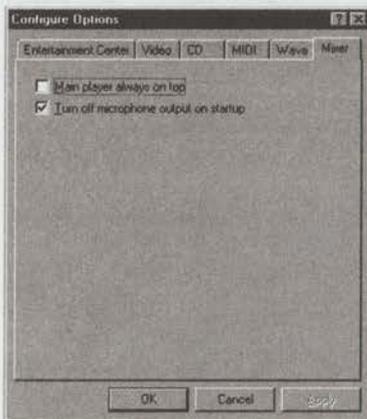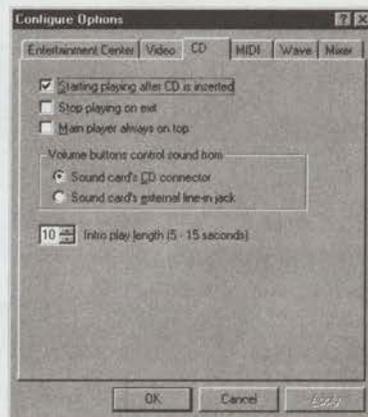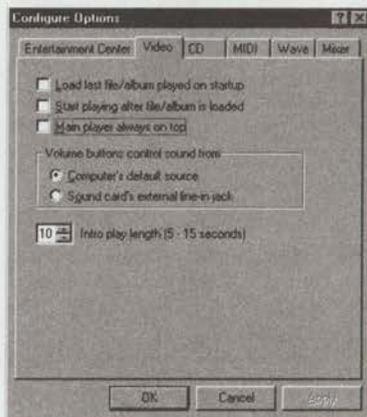
Video Tab: You can choose the audio source for video playback (either the sound card driver or the line-in jack of your sound card).

CD Tab: You can select the source of the CD Player's audio input (either the "CD audio in" internal connector on your sound card or the line-in jack on the sound card's bracket).

Mixer Tab: You can select whether you'd like the microphone to be activated on startup.

4. Troubleshooting

This section contains a list of symptoms and troubleshooting steps you can take to solve the problem you may experience with your software or hardware,. If, after trying our suggestions, you're still having a problem, or if you're having a problem which is not mentioned below, please contact us. See "How to Reach Hercules" (Section 1).

The turned on system doesn't boot, there is no display and the PC beeps abnormally.

This probably means that your new display adapter isn't correctly seated in the PCI or AGP slot. Try the following:

1. Turn off your PC.
2. Remove your new Hercules display adapter from the PCI or AGP slot and reseat it. Make sure that you're placing it in a PCI or AGP slot, and not an ISA or VL-Bus slot. The card should fit into the bus slot perfectly, without extra "fingers" that do not match the slot.
3. Attach the monitor cable to your Hercules card and turn on the PC's power. If the problem persists, repeat step 2, but place the display adapter in another PCI or AGP bus slot.
4. If you have another PC available, you may wish to try installing the display adapter in another PC before calling Hercules. This will help narrow down the cause of the problem.

The system appears to boot normally when it's turned on. There is no display on the monitor.

This probably means that your monitor isn't operating, or isn't connected to the display adapter correctly. Try the following:

1. While the PC is still on, make sure that the monitor is plugged into an electrical outlet and is turned on.
2. Turn off your PC. Reattach the monitor's video cable to your display adapter. This helps rule out the possibility of a loose connection between the display adapter and the monitor. Verify that the display adapter is still tightly inserted into the bus slot.
3. Turn on your PC. If the problem still occurs, take another look at the monitor. Many monitors have an indicator or display that tells you whether or not the monitor is receiving a video signal from the display adapt-er. This information will help when you contact Hercules.
4. If possible, remove the Hercules card and reinstall your old display adapter to verify that the monitor works correctly with the old display adapter.

An application doesn't display correctly or behaves erratically when the high resolution Hercules drivers are used.

This might indicate a problem with our display driver. To narrow down the cause of the problem, try the following:

1. Temporarily switch to the standard VGA driver. Your PC will operate in a low-resolution environment and you won't have accelerated display performance, but this is a good way of seeing if the problem is related to the display driver.
2. If the problem still occurs, you may wish to contact your software vendor before you contact Hercules.
3. Check one of our on-line services or give us a call to see if we have a newer display driver for your product. See "How to Reach Hercules" (Section 1).

After a Hercules Terminator™ is installed, a modem or other serial device no longer works correctly. All Hercules Terminator™ cards based on S3's Vision, Trio and ViRGE series chips will conflict with the standard COM4: address of 2E8 on many systems.The Terminator cards do not use IRQ3 - the standard IRQ that is assigned to COM4:.The S3 controllers, having been based on IBM's original 8514 design, use several 16-bit addresses at x2E8 (where x equals 4, 8, 9, A or E).These do not conflict with the standard 12-bit COM4: address of 2E8.The problem is caused by the serial controllers only decoding the first 12-bits of the I/O port address. These serial controllers are unable to distinguish between read and write operations to 2E8 and read and write operations to 42E8 (or 82E8, 92E8, etc.). Because of this, you may need to disable COM4: and move your modem to another communications port.If you do not have a device using COM4:, or if you do not have COM4: installed, there will be no conflict with any other COM port.

5. The Hercules Information Server™

The Hercules Information Server™ is an electronic mailing list designed to keep you up to date with the latest information on driver status, new product announcements and other important information. Any Hercules customer with an Internet e-mail address is welcome to subscribe. You can subscribe to the Hercules Information Server mailing list for your product family by sending an e-mail message to: listserv@hercules.com with the following line in the body of the message: subscribe [listname] [your name]

You can use your full name, only your last name or whatever you prefer. It doesn't have to be your e-mail address.

Currently, there are five mailing lists available.

stingray   for the Hercules Stingray™ family of accelerators

dynamite   for the Hercules Dynamite™, Dynamite Pro™ and Dynamite Power™

dyn128   for the Hercules Dynamite 128/Video™ series

dyn 3D   for the Hercules Dynamite 3D™ models

term3d   for the Hercules Terminator 3D™ and Terminator 3D/DX™

terminator   for all other Hercules Terminator™ models

thriller   for the Hercules Thriller™ models

You may subscribe to one or more lists in a single message. For example, to subscribe to both the Hercules Stingray™ and the Hercules Terminator™ mailing lists, your message might look like this:

```
To:         listserv@hercules.com
Subject:    [you can leave this blank]
subscribe   stingray John Doe
subscribe   terminator John Doe
```

An automated reply will acknowledge your subscription. When a new version of software, or other important information, is available, you'll automatically receive a new "Update Mailing List Bulletin".

To cancel a subscription to the mailing list, send an e-mail message to listserv@hercules.com with the following line in the body of the message:

```
unsubscribe [listname]
```

You can cancel a subscription for one or more lists in a single message. Of course, we won't give your e-mail address to anybody else. If you'd like to see some examples of previous Hercules Information Server™ bulletins, you can view an index of back issues at http://www.hercules.com/infoserv/.

6. Appendix A: Display Modes and Vertical Refresh Rates

Windows 95 will automatically choose the highest refresh rate that's supported by both your monitor and display adapter. For details on selecting a display mode or refresh rate under Windows 3.1, OS/2 Warp or another operating system, please see the special product supplement included with your display adapter, or the on-line documentation. The resolutions and refresh rates supported by your display adapter may not be available in all operating systems. Additional technical information is available on the Hercules CD-ROM and our on-line services. For details, see "For More Information" (Section 7.4).

6.1 Hercules Dynamite 128/Video™

Resolution	Colors	86Hz(I)	96Hz(I)	60Hz	70Hz	72Hz	75Hz	90Hz	120Hz	150Hz	200Hz
640x480	256			✦		✦	✦	✦	✦	✦	✦
	65,536			✦		✦	✦	✦	✦	✦	✦
	16.7M			✦		✦	✦	✦	✦		
800x600	256			✦		✦	✦	✦	✦	✦	
	65,536			✦		✦	✦	✦	✦		
	16.7M			✦		✦	✦	✦			
1024x768	256	✦		✦		✦	✦	✦	✦		
	65,536	✦		✦		✦	✦	✦			
	16.7M	✦✦		✦✦		✦✦	✦✦				
1280x1024	256	✦		✦	✦		✦				
	65,536	✦✦		✦✦							
1600x1200	256		✦	✦							

(I)   Interlaced mode   ✦   Requires 2 MB   ✦✦   Requires 4 MB

6.2 Hercules Dynamite 3D/GL™

Resolution	Colors	60Hz	70Hz	75Hz	90Hz	120Hz	160Hz
640x480	256	✦	✦	✦	✦	✦	✦
	65,536	✦	✦	✦	✦	✦	✦
	16.7M	✦	✦	✦	✦	✦	✦
800x600	256	✦	✦	✦	✦	✦	✦
	65,536	✦	✦	✦	✦	✦	✦
	16.7M	✦	✦	✦	✦	✦	✦
	16.7M*)	✦	✦	✦	✦		
1024x768	256	✦	✦	✦	✦	✦	
	65,536	✦	✦	✦	✦	✦	
	16.7M	✦	✦	✦	✦	✦	
	16.7M*)	✦	✦	✦	✦	✦	
1152x884	256	✦	✦	✦	✦	✦	
	65,536	✦	✦	✦	✦	✦	
	16.7M	✦	✦	✦	✦	✦	
	16.7M*)	✦	✦	✦	✦		
1280x1024	256	✦	✦	✦	✦		
	65,536	✦	✦	✦	✦		
	16.7M	✦	✦	✦	✦		
	16.7M*)	✦✦	✦✦	✦✦	✦✦		
1600x1200	256	✦	✦	✦	✦		
	65,536	✦	✦	✦	✦		

(I)   Interlaced mode   ✦   Requires 4 MB   ✦✦   Requires 8 MB   *)32 bit color depth

6.3 Hercules Stingray 128/3D™

Resolution	Colors	86Hz(I)	96Hz(I)	56Hz	60Hz	70Hz	72Hz	75Hz	90Hz	120Hz	150Hz	200Hz
640x480	256				✦		✦	✦	✦	✦	✦	✦
	65,536				✦		✦	✦	✦	✦	✦	✦
	16.7M				✦		✦	✦	✦	✦	✦	
800x600	256			✦	✦		✦	✦	✦	✦	✦	
	65,536			✦	✦		✦	✦	✦	✦		
	16.7M			✦	✦		✦	✦	✦	✦		
1024x768	256	✦			✦	✦		✦	✦	✦		
	65,536	✦			✦	✦		✦	✦	✦		
	16.7M	✦			✦	✦		✦	✦			
1152x864	256	✦			✦	✦		✦	✦			
	65,536				✦	✦						
	16.7M				✦	✦						
1280x1024	256	✦			✦	✦		✦	✦			
	65,536				✦	✦		✦				
	16.7M											
1600x1200	256		✦		✦							
	65,536		✦		✦							

(I) Interlaced mode

6.4 Hercules Terminator 64/Video™

Resolution	Colors	86Hz(I)	96Hz(I)	56Hz	60Hz	70Hz	72Hz	75Hz	90Hz	120Hz
640x480	256				✦		✦	✦	✦	✦
	65,536				✦		✦	✦	✦	✦
	16.7M				✦		✦	✦	✦	✦
800x600	256			✦	✦		✦	✦	✦	✦
	65,536			✦	✦		✦	✦	✦	
	16.7M			✦✦	✦✦		✦✦	✦✦	✦✦	
1024x768	256	✦			✦	✦		✦	✦	
	65,536	✦✦			✦✦	✦✦		✦✦	✦✦	
1280x1024	256	✦✦			✦✦			✦✦	✦✦	

(I) Interlaced mode   ✦ Requires 2 MB   ✦✦ Requires 2 MB

6.5 Hercules Terminator 3D/DX™

Resolution	Colors	86Hz(I)	56Hz	60Hz	70Hz	72Hz	75Hz	90Hz	120Hz	160Hz
640x480	256			✦		✦	✦	✦	✦	✦
	65,536			✦		✦	✦	✦	✦	✦
	16.7M			✦		✦	✦	✦	✦	
800x600	256		✦	✦		✦	✦	✦	✦	✦
	65,536		✦	✦		✦	✦	✦	✦	
	16.7M		✦	✦		✦	✦	✦		
1024x768	256	✦		✦	✦		✦	✦	✦	
	65,536	✦		✦	✦		✦	✦		
	16.7M	✦✦		✦✦		✦✦	✦✦	✦✦		
1280x1024	256	✦		✦		✦	✦	✦		
	65,536	✦✦		✦✦		✦✦	✦✦			
1600x1200	256	✦		✦						

(I) Interlaced mode   ✦ Requires 2 MB   ✦✦ Requires 4 MB

6.6 Hercules Thriller 3D™

Resolution	Colors	56Hz	60Hz	72Hz	75Hz	85Hz	90Hz	120H	160Hz	200Hz
640x480	256		✦	✦	✦	✦	✦	✦	✦	✦
	65,536		✦	✦	✦	✦	✦	✦	✦	✦
	16.7M*)		✦	✦	✦	✦	✦	✦	✦	
800x600	256	✦	✦	✦	✦	✦	✦	✦	✦	✦
	65,536	✦	✦	✦	✦	✦	✦	✦	✦	
	16.7M*)	✦	✦	✦	✦	✦	✦	✦		
1024x768	256		✦	✦	✦	✦	✦	✦	✦	
	65,536		✦	✦	✦	✦	✦	✦		
	16.7M*)		✦	✦	✦	✦	✦			
1152x884	256		✦	✦	✦	✦	✦	✦		
	65,536		✦	✦	✦	✦	✦			
	16.7M*)		✦	✦	✦					
1280x1024	256		✦	✦	✦	✦		✦		
	65,536		✦	✦	✦	✦	✦			
	16.7M*)		✦✦	✦✦	✦✦					
1600x1200	256		✦	✦	✦	✦	✦			
	65,536		✦	✦	✦	✦	✦			
	16.7M*)		✦✦							

✦ Requires 4 MB   ✦✦ Requires 8 MB   *)all true color modes (16,7M) are 32 bit modes

7. Appendix B: Technical Information

7.1 Jumper Settings
Hercules Dynamite 3D/GL™

Jumper Open   Jumper Closed

Jumper	1-2	2-3
J1	Base Class 3	Base Class 0 (factory default setting)
J2	VGA Enable (factory default setting)	VGA Disable
J3	VGA Fixed Address Enable (factory default setting)	VGA Fixed Address Disable

Hercules Terminator 64/Video™ - Models T2211, T2212, T2212EDO, T2212M, T2212MEDO
Hercules Terminator 3D/DX™ - Models T3312EDO, T3314EDO

Jumper	Open	Closed
J4	Optional daughtercard attached**	No optional daughtercard attached*

Jumper J4 enables the feature connector (J1 + J2) for use with optional daughtercard.
* Factory default setting on models T2211, T2212, T2212EDO, T2312EDO, T2314EDO, T3312EDO, T3314EDO
** Factory default setting on models T2212M, T2212MEDO

Hercules Thriller 3D™

Jumper	Open	Closed
J4	*	
J5	*	

* Factory default

Hercules Dynamite 128/Video™ - Models D5202 and D5204 have no jumpers.
Hercules Stingray 128/3D™ - Models S3316, S3316TV and S3318TV have no jumpers.

7.2 I/O Ports and Memory Locations

Hercules Dynamite 128/Video™

Display Memory Addresses:	A0000h-BFFFFh
ROM BIOS:	C0000h-C7FFFh
I/O Locations:	3C0, 3C1, 3C2, 3C4-3CF, 3B4, 3B5, 3D4, 3D5, 3B8, 3BA, 3D8, 3DA

Hercules Terminator 64/Video™, Hercules Terminator 3D/DX™

Display memory addresses:	A0000h-BFFFFh
ROM BIOS:	C0000h-C7FFFh
I/O Locations:	102, 2EA, 3B4, 3B5, 3B8-3BB, 3BF, 3C0-3CF, 3D4, 3D5, 3D8-3DC, 42E8, 46E8, 4AE8, 82E8, 86E8, 8AE8, 8EE8, 92E8, 96E8, 9AE8, 9EE8, A2E8, A6E8, AAE8, AEE8, E2E8, E2EA

7.3 A Note on COM4

All Hercules Terminator™ cards based on S3's Vision, Trio and ViRGE series chips will conflict with the standard COM4: address of 2E8 on many systems. The S3 controllers, having been based on IBM's original 8514 design, use several 16-bit addresses at x2E8 (where x equals 4, 8, 9, A or E). These DO NOT conflict with the standard 12-bit COM4: address of 2E8. The problem is caused by the serial controllers only decoding the first 12-bits of the I/O port address. These serial controllers are unable to distinguish between reads/writes to 2E8 and reads/writes to 42E8 (or 82E8, 92E8, etc.). Because of this, you may need to disable COM4:.

7.4 For More Information

We've prepared documents which contain complete technical information of interest for advanced users. It also includes data on older Hercules products, complete display mode tables, instructions for upgrading the memory on your Hercules product, and much more. If you've received your Hercules software on CD-ROM, you'll find these documents in the \INFO directory. Each file is provided as a Microsoft Word Viewer for Windows 95 or Windows 3.1. Here are the file names:

For the Hercules Dynamite™ family:	DYINFO.DOC
For the Hercules Stingray™ family:	STINFO.DOC
For the Hercules Terminator™ family:	TERMINFO.DOC
For the Hercules Thriller™ family:	THRLINFO.DOC

You can also view these files on our World Wide Web site at http://www.hercules.com, download them from our on-line services, or request them via our automated fax-back service. See How to Reach Hercules, at the beginning of this guide, for information.
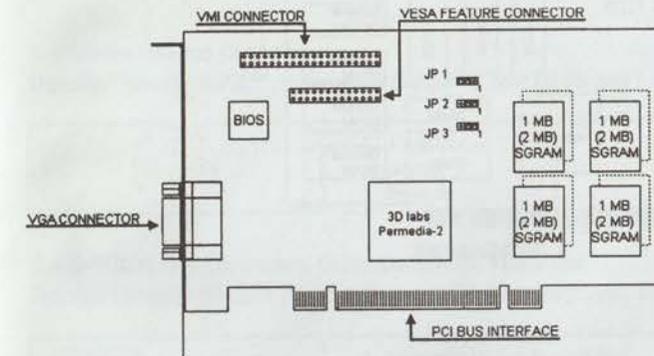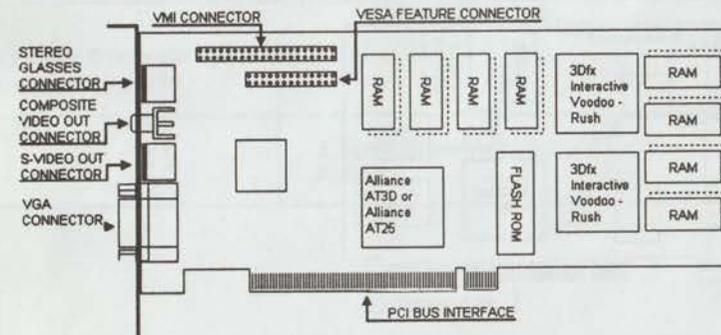
8. Appendix C: Component Layout
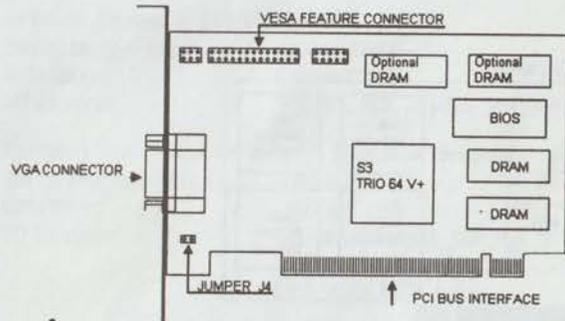
8.1 Hercules Dynamite 128/VIDEO™
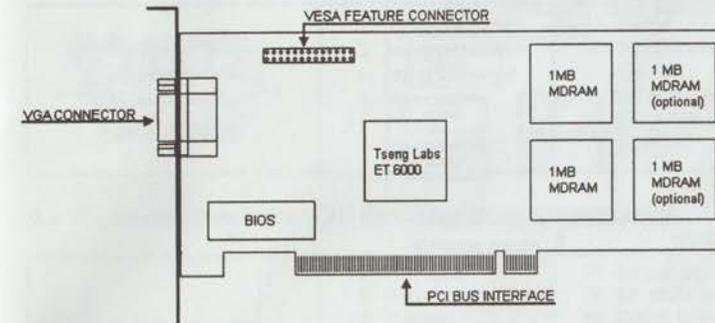
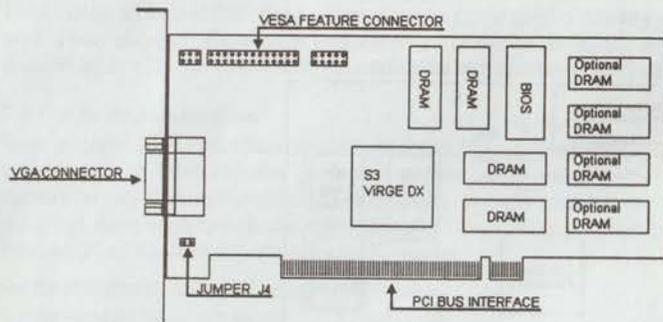### 8.2 Hercules Dynamite 3D/GL™

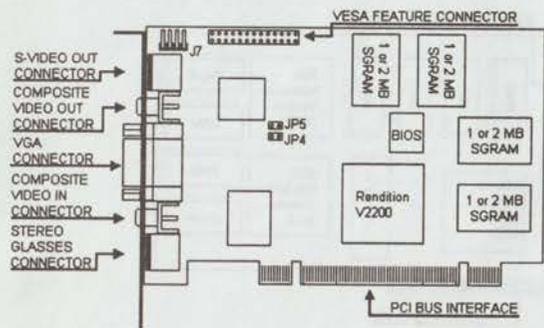### 8.3 Hercules Stingray 128/3D™

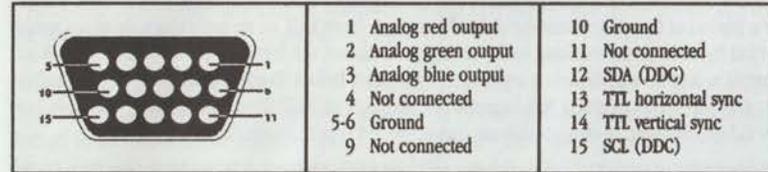## 8.4 Hercules Terminator 64/VIDEO™

8.5 Hercules Terminator 3D/DX™

8.6 Hercules Thriller 3D™

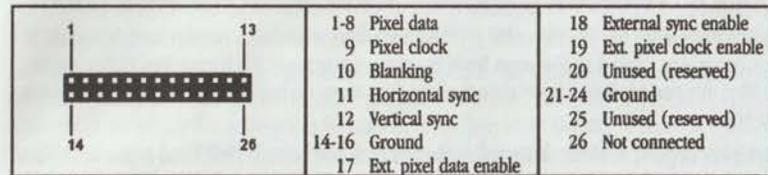# 9. Appendix D: Connectors

## 9.1 Video Connector Output to Monitor of all Hercules Products

1 Analog red output	10 Ground
2 Analog green output	11 Not connected
3 Analog blue output	12 SDA (DDC)
4 Not connected	13 TTL horizontal sync
5-6 Ground	14 TTL vertical sync
9 Not connected	15 SCL (DDC)

9.2 VGA feature Connector of all Hercules Products

1-8 Pixel data	18 External sync enable
9 Pixel clock	19 Ext. pixel clock enable
10 Blanking	20 Unused (reserved)
11 Horizontal sync	21-24 Ground
12 Vertical sync	25 Unused (reserved)
14-16 Ground	26 Not connected
17 Ext. pixel data enable	

9.3 Stereo Glasses Connector

Hercules Dynamite 3D/GL™, Hercules Thriller 3D™, Hercules Stingray 128/3D™
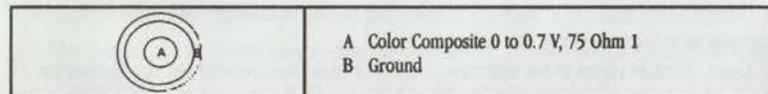
1 + 5 VDC	
2 Ground	
3 Stereo Sync	
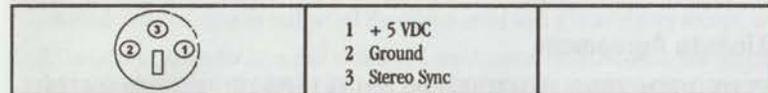
9.4 S-VIDEO Out Connector, Color Composite Video Out

Hercules Dynamite 3D/GL™, Hercules Thriller 3D™, Hercules Stingray 128/3D™

1 Luminance 1V incl. Sync, 75 Ohm	
2 Chrominance 0.3 V burst, 75 Ohm	
2,3,B Ground	
A Color Composite 0 to 0.7 V, 75 Ohm	

9.5 Color Composite Video In

Hercules Thriller 3D™

A Color Composite 0 to 0.7 V, 75 Ohm I	
B Ground	

10. Appendix E: Legal Terms

10.1 Limited Warranty

Hercules Computer Technology, Inc. (HCT) warrants this Hercules' product to be free from defects in materials and workmanship for a period of five years from the date of purchase from HCT or an authorized dealer. Should this Hercules product fail to be in good working order at any time during the five year period. HCT will, at its discretion, repair or replace it at no additional charge, except as stated below. Replacement parts will be either reconditioned or new, and the replaced parts will become the property of HCT. This limited warranty does not cover damage from accident, disaster, abuse, misuse or unauthorized repair or modification.

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2. If Hercules or a reseller is unable to deliver a replacement CD-ROM(s) or diskette(s) which is free from defects in materials or workmanship, you may terminate this Agreement by returning the CD-ROM(s) or diskette(s), along with your Hercules Display Product, to your place of purchase, and your money, if applicable, will be returned.

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You acknowledge that you have read this Agreement, understand it and agree to be bound by its terms and conditions. You further agree that it is the complete and exclusive statement of the agreement between us which supersedes any proposal or prior agreement, oral or written, and any other communication between us relating to the subject matter of this Agreement.