

FCC ID: FQI3DEXV2

EUT: VGA CARD

JOYTECH COMPUTER CO., LTD.

USER'S MANUAL

FEDERAL COMMUNICATIONS COMMISSION

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.

NOTE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Shielded interface cables must be used in order to comply with emission limits.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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Section 1

Introduction

Voodoo2 Graphics™ from 3Dfx Interactive 3D acceleration to the next level. Voodoo2 Graphics™ is a second generation 3D accelerator based on 3Dfx Interactive's groundbreaking Voodoo Graphics chipset, creating a new level of performance while retaining the same basic architecture. New features include higher internal clock speeds, 66 MHz PCI bus support, and full triangle parameter setup.

Voodoo2 Graphics works with any 2D graphics board, using a video pass-through connector to allow the two devices to share a monitor.

The Voodoo2 Graphics chipset uses the industry-standard PCI interface to communicate with a PC or other host.

The extensible architecture of the Voodoo2 Graphics chipset consists of two chips: the pixel buffer interface (Pixel/x²) and the texture-mapping unit (Texel/x²). The basic Voodoo2 Graphics system consists of one Pixel/x² and two Texel/x². Extended configurations can contain as many as two Pixel/x² and four Texel/x² units.

Each chip has its own EDO DRAM memory buffer. Both chips use memory interleaving for maximum performance.

Section 2

Features

1. 8MB or 12MB of high performance EDO DRAM.
2. Based on 3Dfx Voodoo2 chipset with dual texture engines for an incredible 180 megatexel (bilinear MIP-map textured pixel) fill rate, even higher in dual Blackmagic 3D configuration.
3. Full Direct3D hardware acceleration including singlepass bilinear and trilinear MIP-map and Triple Buffering with Z.
4. Compatible with 3Dfx Glide API titles with full hardware acceleration.
5. SLI (Scan Line Interleave) connector and supplied cable to connect a second BLACKMAGIC 3D adapter (in adjacent PCI slot) for double the 3D processing power.
6. SVGA loopback cable included, compatible with any SVGA multimedia accelerator.
7. Up to 800 × 600 resolution with full hardware 3D acceleration.
8. Plays Direct3D and glide titles.
9. Advanced architecture with over 1 GB/s bandwidth.
10. Supports any 2D graphics system through a video passthrough connector.
11. CE Mark & FCC Certification pending.

Section 3

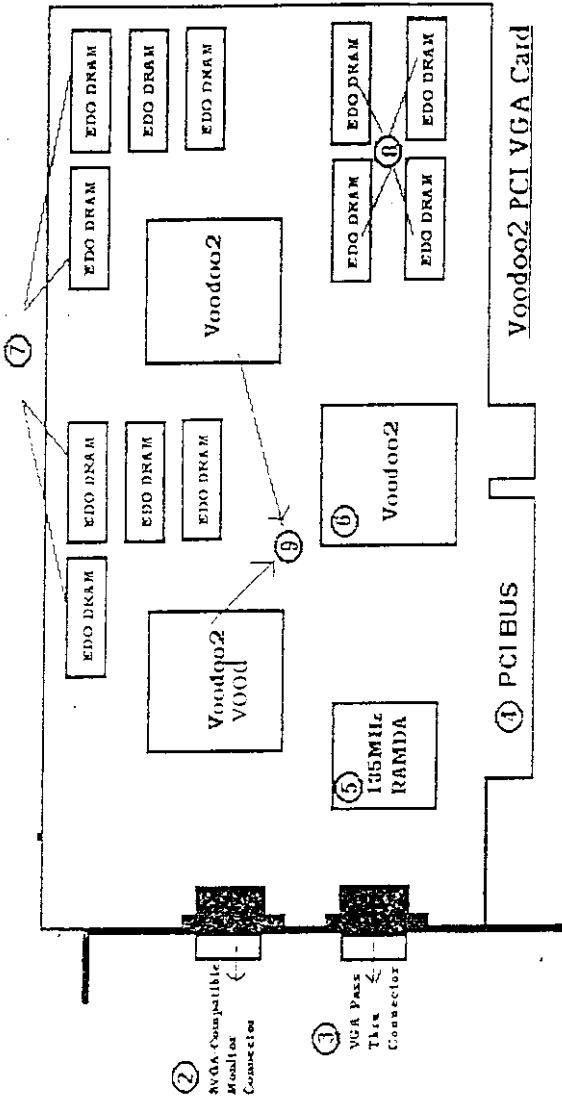
Hardware Installation

The device will have been configured for the options installed at the factory. Before installing the device please check that the memory options fitted and the switch settings correspond and that you have taken note of the static electricity precautions.

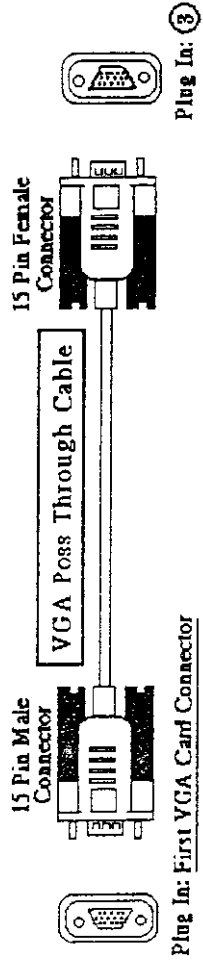
3-1. Knowing Your Voodoo2 PCI Card

1. VOODOO2 PCI VGA CARD

- . SVGA-Compatible Monitor Connector. (Connect with Monitor's cable)
- . VGA Pass Thru Connector. (Connect with VGA Pass Through Cable's 15 Pin Female Connector)
- . PCI Bus Connector.
- . 135MHz RAMDAC.
- . Voodoo2 Frame Buffer Interface.
- . Texture Memory.
- . Frame Buffer Memory.
- . Voodoo2 Texture Management Units.



II. VGA POSS THROUGH CABLE



3-2. Static Electricity Precautions

1. Before handling any components or touching anything inside the system unit, discharge your body static electric charge by touching a grounding surface. If the system unit is connected to a grounded outlet, you can touch any part of the system metal chassis.
2. Do not remove boards from their antistatic bags until you are ready to install them.
3. When handling boards, hold them by their edges and their metal mounting brackets. Avoid touching components on the board and the edge connectors that plug into the expansion slots.
4. Avoid plastic, vinyl, styrofoam and furs in your work area. Wear a grounding wrist strap if one is available.

3-3. Installing The Voodoo2 PCI Card

Installing the Voodoo2 PCI Card in your system is simple, so please follow the instructions carefully.

To install the device:

1. Switch off your system and all peripheral devices, and unplug the power cord from the wall outlet.
2. Touch a metal plate on your system to ground yourself and discharge and static electricity.
3. Remove the cover from your system.

4. Find a free PCI expansion slot in your system.
5. Remove the metal cover plate from the slot you have chosen and put the screw to one side.
6. Align the PCI slot connector with the expansion slot in our PC and gently lower and push the board into the free slot.
7. Secure the board to the expansion slot with the screw you removed from the metal plate.
8. Replace the cover on your system and plug in the power cord.
9. Reattach the video cable to the devices video output connector.
10. Turn on the monitor and power up the system.

Section 4

Software Installation

4-1. Windows 95

A. Requirements

1. Windows 95 or Windows 98.
2. PC with a Pentium II, Pentium Pro, Pentium or similar processor.
3. One free PCI slot
4. 16MB of RAM or more Suggested.

B. Driver Installation

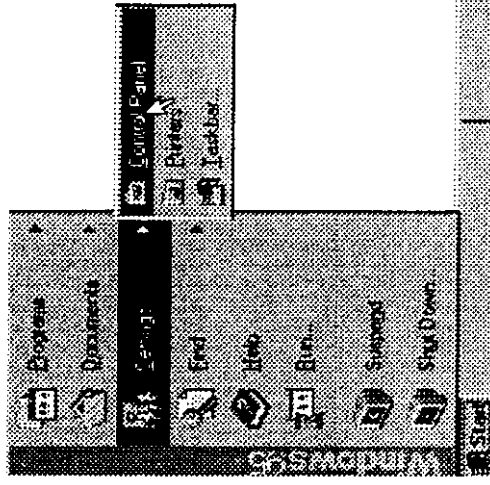
The installation below can vary depending on which version of Windows is installed. To determine the Windows 95 version click **Start**, **Settings**, **Control Panel**. Double-click on the system icon. If the Windows version is **4.00.9506**, Windows 95 OSR2 is running.

Existing Drivers Installed or PCI Multimedia Device shown in Device Mgr.

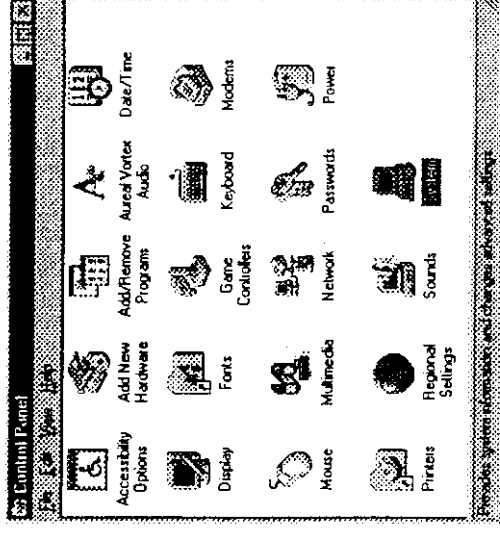
NOTE

- Windows 95 should already be installed.
- Power down the computer and install the Voodoo2 PCI card.
- Now to activate the Voodoo2 PCI, please following the steps to install the Voodoo2 PCI display driver.

1. Click on **Start** Menu. (Figure 1)
2. Choose the **Settings**, and open the **Control Panel**. (Figure 1)
3. Double Click on **System** icon. (Figure 2)

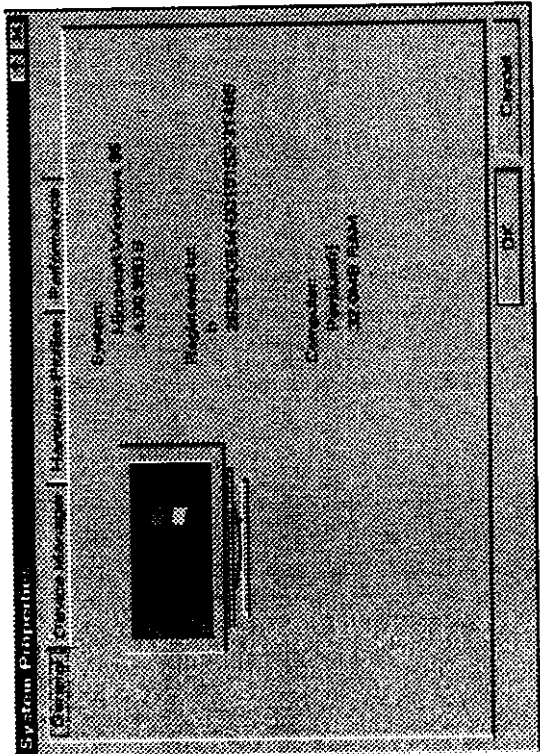


(Figure 1)



(Figure 2)

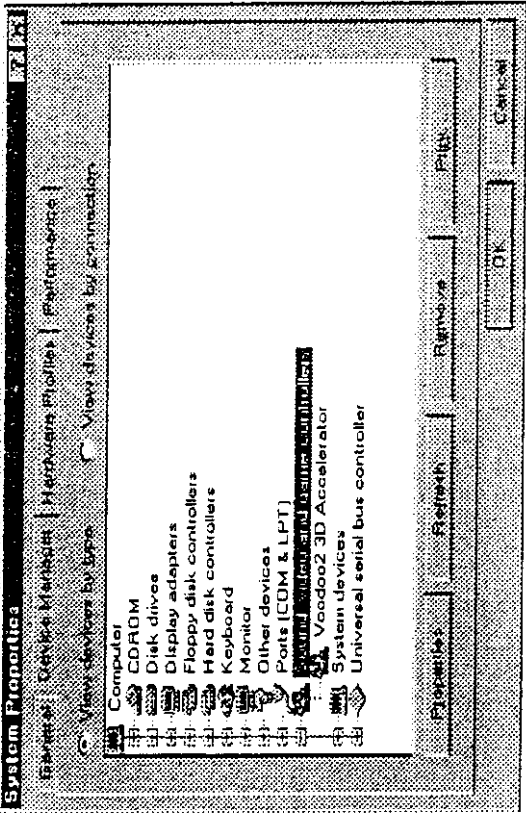
4. Under **System Properties** Menu, click on **Device Manager** button. (Figure 3)



(Figure 3)

5. Click on **Sound, video and game controllers**. (Figure 4)

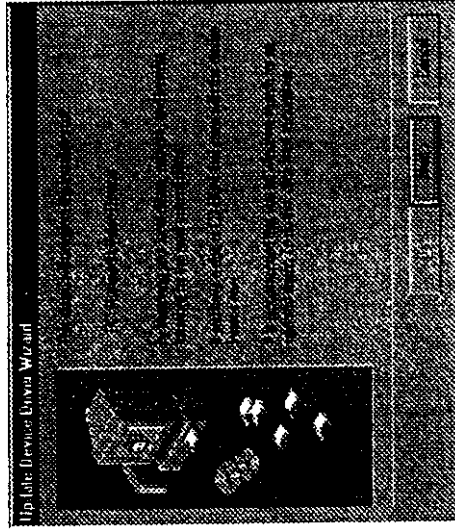
6. Click on **Voodoo2 3D Accelerator**. (Figure 4)



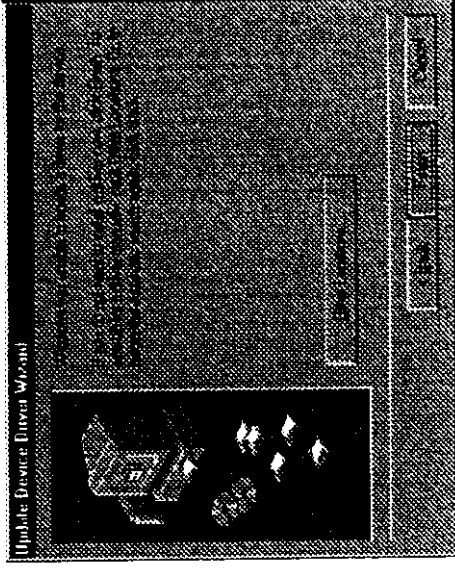
(Figure 4)

7. Double Click on the card, then click the driver Tab.

- 1). Windows 95 Standard Release users: Click **Change Driver** and choose **Have Disk**.
 - 2). Windows 95 OSR2 users: Under **Update Device Driver Wizard** Menu, click the **Next** Button. (Figure 5)
- then Click **Other Locations**. (Figure 6)



(Figure 5)



(Figure 6)

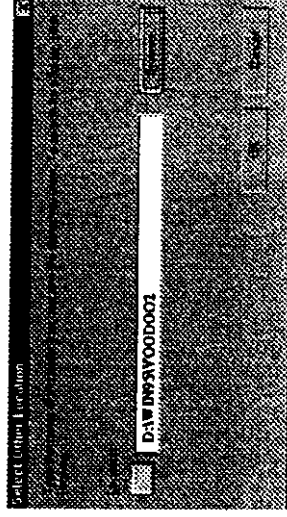
3). Windows 98 users: Click **Update Driver**, then click the **Next** Button twice on the **Detection Dialog Box**. Ensure that **Specify a Location** is checked and **Microsoft Windows Update** is not checked. Click **Browse** to continue.

8. Point the driver location to where the files are extracted to and click **OK**.

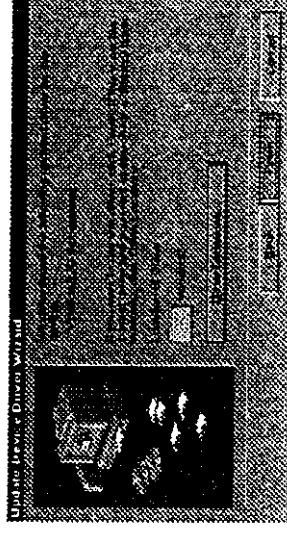
1). Windows Standard Release 95 users: Select **Voodoo2 3D Accelerator** from the List and click **OK**.

Click **OK** again to save changes in **Device Manager**.

2). Windows 95 OSR2 Users: Under **Select Other Location** Menu, if you have one harddisk only, so we suppose the CD-ROM is D:\, you can find a Directory **D:\WIN95\VOODOO2** and click **OK** (Figure 6) and Under **Update Device Driver Wizard** Menu , Click on **Finish** to continue. (Figure 7)



(Figure 6)

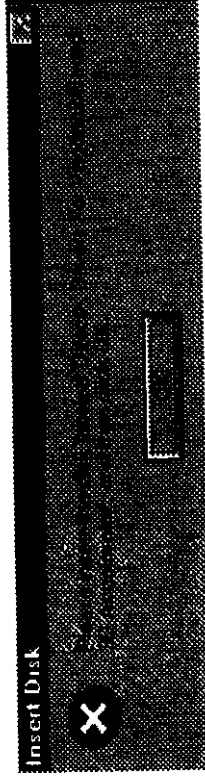


(Figure 7)

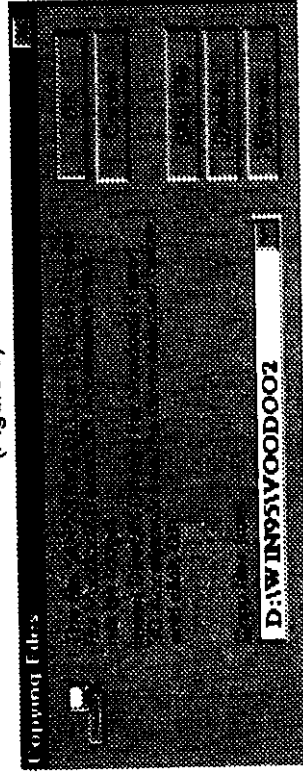
3). Windows 98 users: Click on **Next** to continue.

9. You may then be prompted to insert the **Voodoo2 Drivers for Windows 9X** Disk. (Figure 8)
Again, point to the path you extracted the files to and press **OK**. (Figure 9)

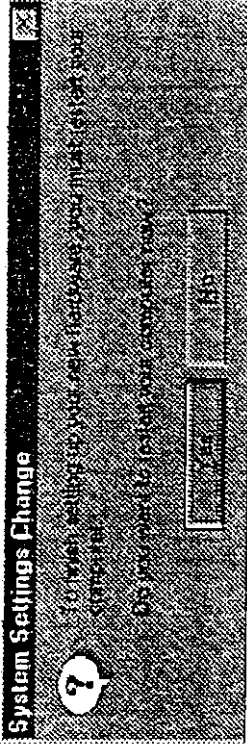
(Figure 8)



(Figure 9)

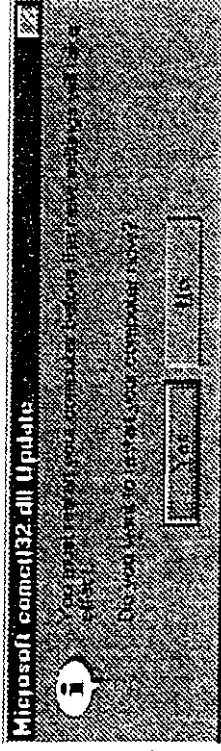


10. Windows will copy the drivers. Reboot the system when prompted. Under **System Settings Change** Menu, click on **Yes** (Figure 10).



(Figure 10)

11. Under **Microsoft comctl32.dll Update** Menu, click on **Yes** and it's completed. (Figure 11)



(Figure 11)

12. Install DirectX 5.0 or higher. (If not already installed).

C. No Current Drivers Installed

1. Single Board

1. Start Windows and extract the drivers to a temporary directory.
2. Shutdown Windows, Power off the system and install your Voodoo2 3D board into a PCI slot.
3. Restart Windows after hardware installation.
4. Windows will detect a **PCI Multimedia Device**, you need to:
 - 1). Windows 95 Standard Release users: Select **Use Driver from Mfr** and click **OK**.
 - 2). Windows 95 OSR2 users: Click the Next Button on the **Detection Dialog Box**. Then click **Other Locations**.
 - 3). Windows 98 users: Click the Next Button twice on the **Detection Dialog Box**. Ensure that **Specify a Location** is checked and **Microsoft Windows Update** is not checked. Click **Browse** to continue.
5. Point the driver location to where the files are extracted to and click **OK**.
(Windows 98: You will need to click on **Next** to continue)
6. You may then be prompted to insert the **Voodoo2 Drivers for Windows 9X** Disk. Enter the path the drivers are extracted to and press **OK**.

7. Windows will copy the drivers. Reboot the system when prompted.
8. Install DirectX 5.0 or higher. (If not already installed).

5. Windows will detect a **PCI Multimedia Device**, you need to:

- 1). Windows 95 Standard Release users: Select **Use Driver from Mfr** and click **OK**.
- 2). Windows 95 OSR2 users: Click the **Next Button** on the **Detection Dialog Box**. Then click **Other Locations**.
- 3). Windows 98 users: Click the **Next Button** twice on the **Detection Dialog Box**. Ensure that **Specify a Location** is checked and **Microsoft Windows Update** is not checked. Click **Browse** to continue.

6. Point the driver location to where the files are extracted to and click **OK**.
(Windows 98: You will need to click on **Next** to continue)
7. You MAY then be prompted to insert the **Voodoo2 Drivers for Windows 9X** Disk. Enter the path the drivers are extracted to and press **OK**.
8. Windows will copy the drivers. When prompted to reboot the system, click **No**. You may be asked to reboot several more times. Manually restart the system by clicking **Start**, **Shutdown** and **Restart**.
9. Install DirectX 5.0 or higher. (If not already installed).

D.DirectX

We recommend you to install DirectX 5.0 to get a better performance under some Direct 3D games.

4-2. Windows NT 4.0

A. Requirements

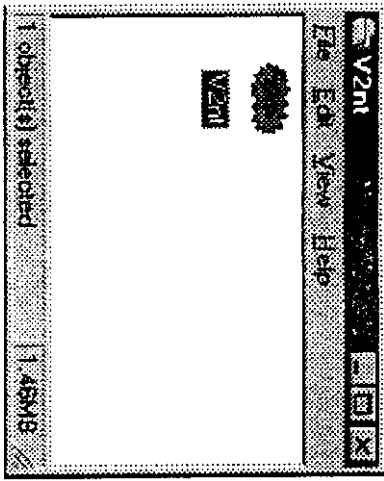
- 1.Windows NT4.0 or later.
- 2.PC with a Pentium II , Pentium Pro, Pentium or similar processor.
- 3.One free PCI slot

B. Driver Installation

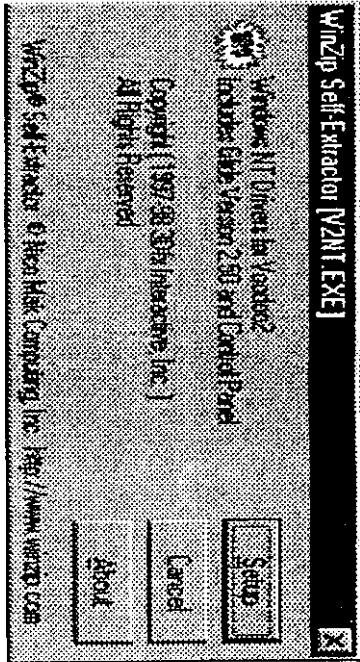
The setup program must be run under Windows NT 4.0 to install the Windows NT 4.0 drivers and 3Dfx device services. The account used during install must have administrator privileges.If you are first time to start windows NT 4.0, please select **VGA Mode** from boot menu.

1. After you login the Windows NT 4.0, the default display are standard VGA mode, now you need to install the Voodoo2 PCI to active the driver.
2. Insert the installation CD-ROM and into the CD-ROM driver.
3. Under **[My Computer]** Menu and double click on **[CD-ROM]** icon to open the file. (If you have one harddisk only, so we suppose the CD-ROM is D:)

4. To find a directory "NT40\WOODCOO2" and double click on file name "V2NT.EXE". (Figure 1) Then run the V2NT program to execution to begin setup
5. Under WinZip Self-Extractor [V2NT.EXE] Menu, click on [Setup] button. (Figure 2) Follow the on screen prompts.

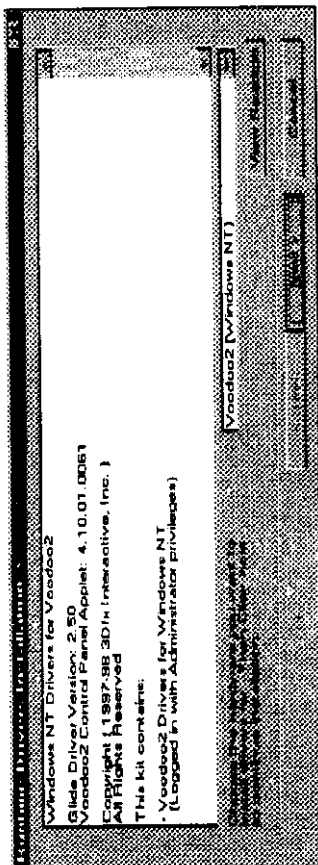


(Figure 1)



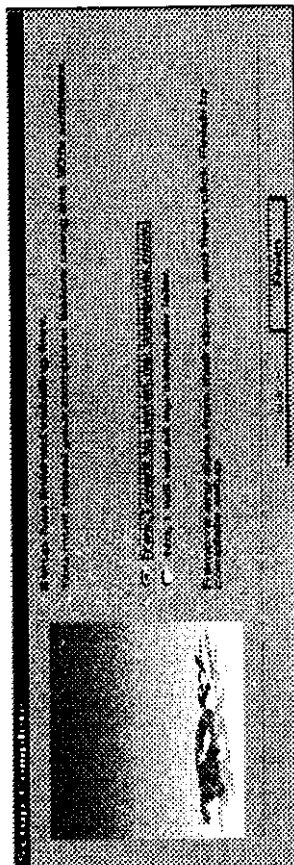
(Figure 2)

8. After under **Runtime Drivers Installation** Menu continue to move your mouse click on **Next** button. (Figure 5)



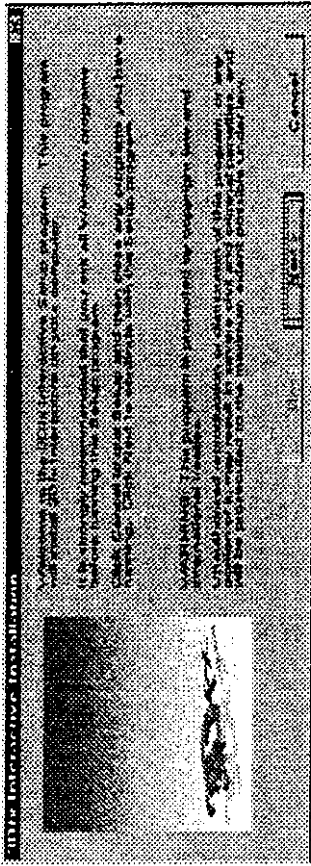
(Figure 5)

9. Under **Set Complete** Menu, click on **Finish** button and it's completed. (Figure 6)



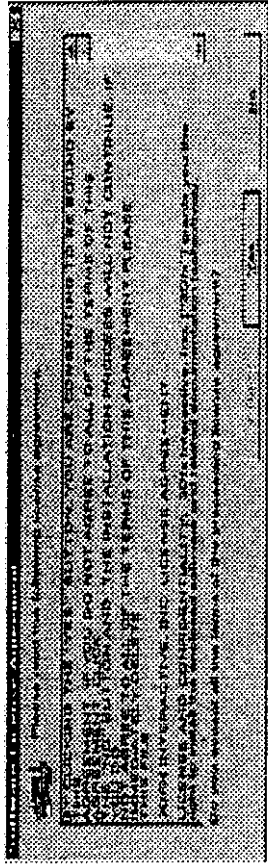
(Figure 6)

6. Under **3Dfx Interactive Installation Menu**, click on **Next** button. (Figure 3)



(Figure 3)

7. Under **Software License Agreement Menu**, click on **Yes** button. (Figure 4)



(Figure 4)

Section 5

Appendix

5-1. 3D Winbench 98 Hardware Quality Test

No.	Test Item	Result	NO.	TEST ITEM	Result
01	Gouraud Shading	O.K.	15	Cull None	O.K.
02	Z-Buffer	O.K.	16	Fog Table Linear	O.K.
03	Perspective Correction	O.K.	17	Fog Table Exponential	O.K.
04	Nearest MIPMAP Nearest	O.K.	18	Specular Highlights	O.K.
05	Nearest MIPMAP Linear	O.K.	19	Alpha Transparency	O.K.
06	Linear MIPMAP Nearest	O.K.	20	Source Alpha Transparency	O.K.
07	Linear MIPMAP Linear	O.K.	21	Add Pixel Blending	O.K.
08	Decal Texture Blending	O.K.	22	Modulate Pixel Blending	O.K.
09	Decal Alpha Texture Blending	O.K.	23	Alpha Vertices	O.K.
10	Modulate Alpha Texture Blending	O.K.	24	Fog Vertex and Alpha	O.K.
11	Flat Wrap Texture Addressing	O.K.	25	Texture Swapping	O.K.
12	Clamp Texture Addressing	O.K.	26	High Triangle Count	O.K.
13	Cull Counterclockwise	O.K.	27	Texture Fidelity	O.K.
14	Cull Clockwise	O.K.			

5-2. Refresh Rates (Hz)

No.	Mode Resolutions	Double Buffer (no Z)	Double Buffer (with Z)	Triple Buffer (no Z)	Triple Buffer (with Z)
01					
02	640x480	72,75,85,120	72,75,85,120	72,75,85,120	72,75,85,120
03					
04	1024x768	72,75,85	72,75,85	72,75,85	72,75,85