

Chapter 1

Getting Started

The 3Dfx Voodoo Banshee AGP card is a powerful 3D and video graphics accelerator that dramatically improves the performance of your video display. Employing four times the PCI bus speed and a 528MB per second memory bandwidth, the 3Dfx AGP card features superior DVD playback, high performance video processing for games and applications, enhanced CAD/CAM workstation performance. The AGP card meets the Entertainment PC 98 standard and is one of the best cost/performance products in the high-end display card market.

1.1 Advanced Features

Interface

- High performance AGP interface with sideband addressing operation

Chipset

- Voodoo2 3Dfx Banshee 3D core graphics & video accelerator
- Built-in 128-bit high performance 2D engine
- H/W triangle setup capable of 4M tri/s
- On-chip high speed texture cache unit with integrated Voodoo2 Pixel unit and single texture unit
- 16-bit integer and floating-point Z-buffering with biasing
- The highest performance product in the 3D/2D market
- High-resolution 1600x1200 85Hz with a 230MHz RAMDAC

Memory Interface

- Supports 8MB or 16MB SGRAM memory configuration

Miscellaneous

- Supports VESA Display Power Management Signaling (DPMS) compliant VGA monitors for power management
- Supports DDC1 and DDC2B specifications

1.2 What's in the Package?

Your package includes the following hardware, software, and documentation:

1. 3Dfx AGP VGA card
2. User's Guide
3. AGP Card Driver Pack CD-ROM
4. 3D Game CD-ROM (Option)
5. Software DVD (Option)

If any components are missing or damaged, please contact your dealer.

1.3 System Requirements

Computer system

- ◆ Pentium® or Pentium II processor-based computer system with AGP interface
- ◆ VGA/Super VGA monitor, supporting minimum 640x480 resolution

Operating Environments

- ◆ To take advantage of this AGP card's 1x mode you must use Windows 95 version OSR2.1 or Windows 98. To install OSR2.1, first install OSR2.0 and then upgrade to OSR2.1 with the USBSUPP.EXE file from Microsoft.
- ◆ Windows NT 4.0 with Service Pack 3.0 update. (The Service Pack update is offered at www.microsoft.com.) Using Windows NT 4.0 operating system will result in limited use of the AGP card--i.e., only being able to use its 1x mode.

Sync Signals

- ◆ Separate horizontal and vertical sync at TTL levels

Video BIOS

- ◆ AGP 1.0 compliant

Video Output Connector

- ◆ 15-pin D shell (Female), IBM standard

VGA Feature Connector


- ◆ 2x13 pin header, VGA Out only, VESA standard

1.4 3Dfx Flash Utility

This card is equipped with a Flash ROM which allows users to update the BIOS to a newer version without changing components.

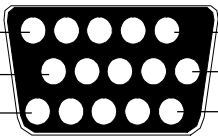
Requirements

- ◆ MS-DOS 6.22, Windows 95 and Windows 98 (via command prompt)
- ◆ PC with a Pentium /Pentium pro/Pentium II or similar processor
- ◆ 16MB of RAM or higher is suggested


 For BIOS update instructions, please see the Read me file in the Flash Utility at the AGP Card Driver Pack CD-ROM for detail instructions.

1.5 Connector Pinouts

1.4.1 Video Connector Output to Monitor

	1 Analog red output 2 Analog green output 3 Analog blue output 4 Not connected 5-8 Ground 9 Not connected	10 Ground 11 Not connected 12 SDA (DDC) 13 TTL horizontal sync 14 TTL vertical sync 15 SCL (DDC)
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1.4.2 VGA Feature Connector

	1-8 Pixel data 9 Pixel clock 10 Blanking 11 Horizontal sync 12 Vertical sync 13-16 Ground 17 External pixel data enable*	18 External sync enable* 19 External pixel clock enable* 20 Unused (reserved) 21-24 Ground 25 Unused (reserved) 26 Unused (reserved)
* When enabled, these signals are low active		

Hardware Installation

2.1 Preparing Your Computer

- ◆ Please first configure your operating system to use a standard VGA driver before installing the AGP card.
- ◆ Discharge your body's static charge by touching a grounded surface, e.g. the metal surface of your system or power supply. Hold the bracket of your card and do not touch any components on the card.

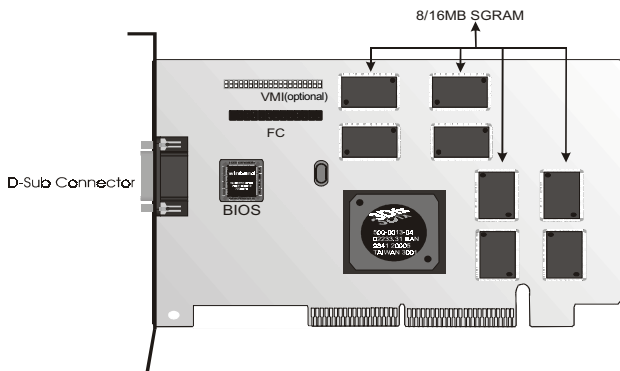


Figure 2-1 AGP Card Layout

2.2 Installing the Hardware

1. Turn the computer's power off but make sure the system is still grounded (leave the power cord connected). Then disconnect the monitor signal cable.
2. Remove the computer cover. Be sure to discharge your body's static electricity by touching the metal area of the computer each time before touching both the old and new VGA cards.
3. Remove the old card, if it exists.
4. Grasp the edge or bracket of the card, align your card with an empty AGP expansion slot and slide it into place.
5. Replace the screw to fasten the card in place, and replace the computer cover.
6. Plug the monitor cable into your card, then turn on the computer and monitor.

Installing AGP Card Enhanced Drivers

3.1 Introduction

This chapter explains how to install AGP card drivers using the VGA Driver Setup tool that is included in the CD-ROM that came with your VGA card.

3.2 AGP Card Driver Pack CD-ROM Contents

The AGP card Driver Pack CD-ROM contains the following items:

- ◆ Windows 95/98 VGA driver
- ◆ Windows NT 4.0 VGA driver
- ◆ Game Patches
- ◆ Flash Utility
- ◆ Microsoft DirectX6

3.3 Driver Installation

AGP Card *Driver Setup Tool*

The VGA Driver Setup tool is a user friendly interface that facilitates the installation of Windows 95/98 drivers. The following figure shows the VGA driver setup screen that appears when the interface is activated.

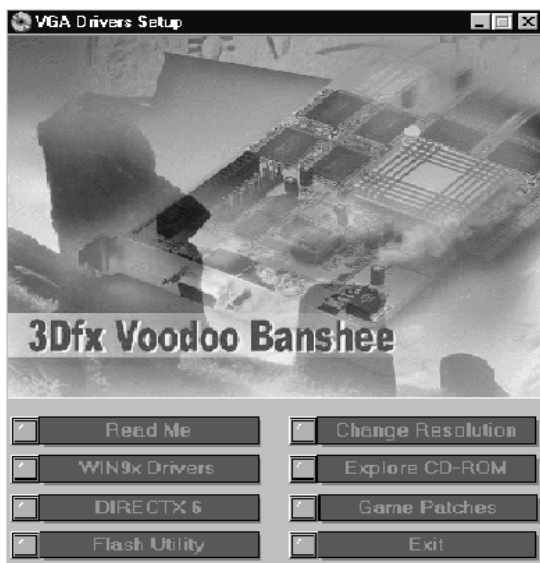


Figure 3-1 VGA Driver Setup Screen

Note

The squares to the left of each item in the above setup menu are either light blue or dark blue, depending on which operating system you are running. Light blue indicates that the item next to the square can be selected in your current operating system. Dark blue indicates non-selectable items. When the mouse pointer enters a clickable area, the squares will blink to verify the area that will be selected.

Note

In the following installation instructions, drive D:\ is assumed to be your CD-ROM drive.

◆ To install the driver for **Windows 95 version OSR2.1** or **Windows 98**

1. Properly install the VGA card on your mainboard.
2. Turn your PC's power on.
3. Launch Microsoft Windows 95/98.*
4. Insert the AGP Card Driver Pack CD-ROM into your CD-ROM drive.
5. Windows 95/98 will automatically run D:\3Dfx\3Dfx.EXE.
6. The setup program will display the VGA Driver Setup window.
7. Click on the Win9x Drivers button and follow the instructions on the screen to complete driver installation. Note that you must first install the DirectX driver before installing the Windows 9x driver. automatically install the DirectX driver by clicking on its button in the VGA Driver Setup window. See Section 3.4 for more information on DirectX.
8. Restart Windows 95/98 and configure your driver settings.

*Windows 95/98 users who are installing the AGP card for the first time will be prompted to install the driver for the VGA card as soon as Windows starts. We suggest that you first click on cancel to bypass driver installation. After Windows 95/98 has completely loaded, continue with step 4 above. If you want to install the VGA driver without using the VGA Driver Setup Tool, install the Banshee.inf file at D:\3Dfx\Win95\Banshee.inf or D:\3Dfx\Win98\Banshee.inf via the pathway Start/Settings/Control Panel/System/Device Manager/Display Adapters.

◆ To install the **Windows NT 4.0** VGA driver

1. Properly install the VGA card on your mainboard.
2. Turn your PC's power on.
3. Launch Microsoft Windows NT 4.0.
4. Insert the AGP Card Driver Pack CD-ROM into your CD-ROM drive.
5. Select "My Computer" icon
6. Select "Control Panel" under "My Computer"
7. Select "Display" under "Control Panel"
8. Select "Settings" under "Display Properties"
9. Select "Display Type" under "Settings"
10. Select "Change.." under "Change Display"
11. Select "Browse" under "Have Disk"
12. Give the path where the driver was stored under "Locate File" then Click "Open". For example:D:\3DFx\WINNT40
13. Back to "Install From Disk" screen then click "OK"
14. The message "3DFx interactive, Inc. Voodoo Banshee" will appear under "Change Display" Click"OK"
15. Confirm "Yes" under " Third-party Drivers".WinNT will perform driver installation and ask the user to close windows to restart system.
16. Close "Display Type" window
17. Close "Display Properties" window
18. Reboot the system then the driver installation is completed

✎ Since AGP support was not written into NT 4.0 at the time it was released, NT4.0 does not detect the AGP properly. Windows NT Service Pack 3 must first be installed to enabled the NT4.0 to recognized the AGP driver .

3.4 Reference

3.4.1 DirectX™

DirectX, a finely-tuned set of application programming interfaces (APIs) was created by Microsoft. The purpose of DirectX is to make Windows-based platform performance equal or exceed that of MS-DOS-based platforms and game-system platforms. DirectX provides a consistent interface between hardware manufacturers and the application developer, reducing the complexity of installation and configuration while utilizing the hardware to its best advantage. DirectX is composed with several interfaces: DirectDraw, DirectSound, DirectPlay, Direct3D, and DirectInput.

3.4.2 Direct3D™

Direct3D is the next generation of real-time, interactive 3D technology for mainstream computer users on the Internet. Direct3D is a complete set of real-time 3D graphics services that delivers fast software-based rendering of the full 3D rendering pipeline (transformations, lighting, and rasterization) and transparent access to hardware acceleration. Direct3D is fully scalable, enabling all or part of the 3D rendering pipeline to be accelerated by hardware. This VGA card is designed to support, and accelerate Direct3D.

3.4.3 Game Patches

Game patch is created by game software manufacturers for fixing compability problem with the 3Dfx Voodoo Banshee AGP card. For updating instruction, please see the **Read me** file in the CD-ROM pack.

Memo

