

EUT:Dragon 4000

FCC ID:ICUVGA-GW816D

GAINWARD 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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Overview

Congratulation on the purchase of this VGA board! You are now the owner of a state-of-the-art video adapter that offers feature and function equal to, and this VGA card is beyond that of any other card in its class.

FEATURE

- Fully integrated 128-bit VGA/2D/3D/Video Accelerator.
- Ultimate 3D experience with 100 Mpixels/sec and 4 million triangles/sec.
- No-compromise 3D image quality at frame rates.
- Optimized for software DVD acceleration.
- Full VMI (includes the host port) for Hardware DVD decoding, Video capture, and TV tuner support.
- Screen resolution up to 1600x1200 at 85 Hz with standard 230MHz RAMDAC.

- Supports 8Mbyte SGRAM and 16Mbyte SDRAM frame buffer.
- VESA DDC2B support.
- Compatible with Voodoo®3D, all the hundreds of 3D titles that have been optimized for acceleration on Voodoo Graphics, Voodoo Rush, and Voodoo 2.

DRIVER SUPPORT

- Microsoft Windows 98
- Microsoft Windows 95
- Microsoft Windows NT4.0

CAUTION !

Static electricity can severely damage electronic parts. Take these precautions:

- Before touching any electronic parts, drain the static electricity from your body. You can do this by touching the internal metal frame of your computer while it's unplugged.
- Don't remove a card from the anti-static container it shipped in until you're ready to install it. When you remove a card from your computer, place it back in its container.
- Don't let your clothes touch any electronic parts.
- When handling a card, hold it by its edges, and avoid touching its circuitry.

Before You Begin

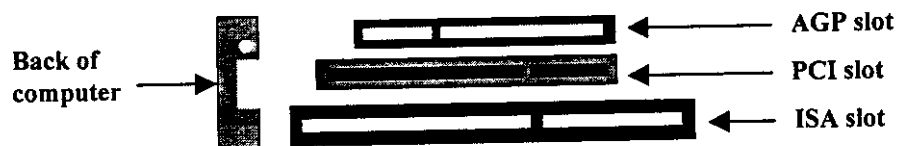
Before you proceed further, make sure your computer system meets the peripheral requirements and switch to the standard VGA display driver.

Prepare Your Computer for Installation

Prior to working on your computer, make sure the power of the computer and any related equipment is turned off.

Select a Vacant Expansion PCI (AGP) Slot

Most AGP (PCI) bus computers have a combination of AGP (PCI) and ISA expansion slots. AGP (PCI) are usually made with plastic of a contrasting brown color (beige color), and are shorter than other slots in your computer. Your system manual should identify the AGP (PCI) slots. Plugging your Graphic card into a non-AGP (PCI) slot could damage the card, your computer, or both.



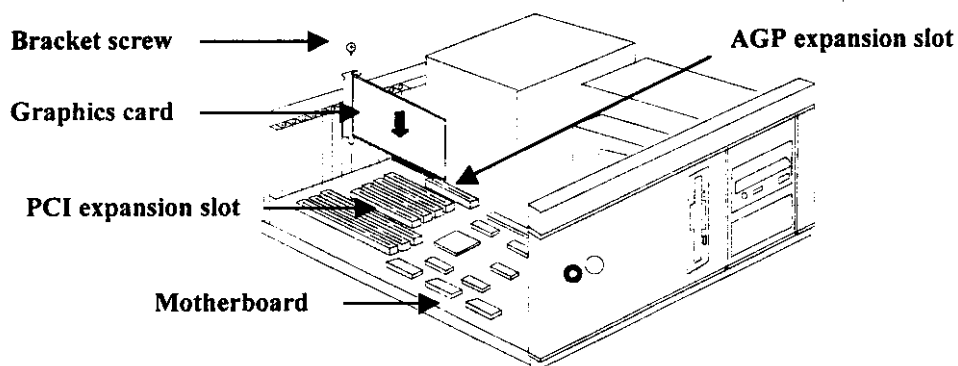
AGP vs. PCI vs. ISA expansion slots

2

Hardware Installation

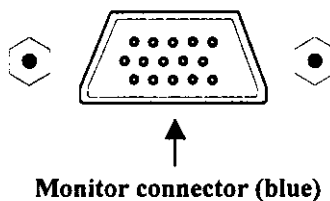
Insert your Graphic Card

Remove the cover for the slot you intend to use and save the screw for the mounting bracket. Then, pick up the Graphic card and position it over the expansion slot you've chosen. Push the card with firmly and evenly until it's fully seated in the slot. Replace the screw to secure the bracket of the Graphic card to the computer chassis.



Connect the Monitor

Plug your monitor cable into the monitor connector on your Graphic card. Make sure the other end of the monitor cable is properly connected to your monitor.



3

Software Installation

- ☛ *Before installing the Display driver, make sure your Windows 95/98/NT is installed in VGA mode and work fine.*
- ☛ *For Windows 95 system, please install the DirectX before you want to play the MPEG Movie Player.*
- ☛ *To use an AGP graphics card with NT4.0, you may need to pre-install NT with Service Pack 3 (SP3) before installing the AGP card.*

Before You Begin

If your system is running Windows 95/98/NT, the New Hardware Found dialog box will appear after restart. Select **Driver from disk** provided by hardware manufacturer, click **OK**, then follow all on-screen instructions. If the New Hardware Found dialog box does not appear, follow the instructions below.

Setup VGA Mode

Click the right mouse button anywhere on the Windows 95/98/NT desktop and select **Properties** from the pop-up menu that appears on screen. Select **Settings | Change Display Type** (If you use the OSR2, please select **Settings | Advanced Properties**. If you use the Windows 98, please select **Settings | Advanced**) and then click the **[Change]** button for Adapter Type. When the **Select Device** dialog box appears on the screen, please select **[Standard display types]** from the manufactures and select **Standard Display Adapter (VGA)** from the Models then click **OK** button.

Install Software Driver

1. Turn on your computer and start Windows 95/98/NT.
2. Insert the **Driver CD** into your CD-ROM driver.
3. Click the **Start** button on the task bar and then select **Run** button.
4. Type **D:\CDSETUP** [Enter] in the Run dialog box (where **D:** is the location of your CD-ROM drive).
5. Follow the instructions on screen to complete installation.
6. Final, restart your computer for the changes to take effect.

Windows 95/98/NT Display Properties

Windows 95/98/NT allows you to select resolution, color depth, refresh frequency and font size using the standard Windows 95/98/NT Display Properties sheet, which can be accessed by right clicking anywhere on the Windows 95/98/NT desktop, and then selecting **Properties** from the pop-up menu that appears on screen.

3

Software Installation

The picture as below is only for reference under Win95.

After you restart your computer for the changes to take effect. Click the right mouse button anywhere on the Windows 95 desktop and select **Properties** from the pop-up menu that appears on screen. Under **Display Properties** screen, select **Voodoo Banshee** button. The Display Properties will be changed as Figure 3-1.

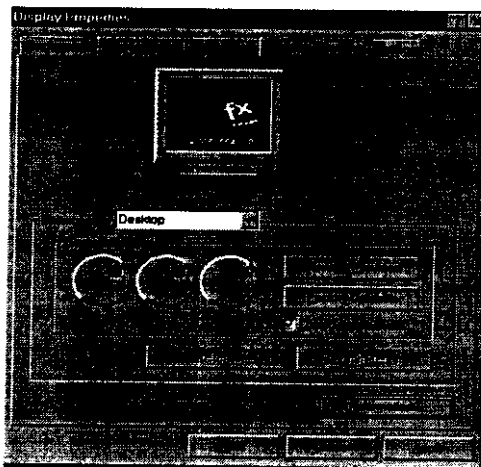


Figure 3-1

Gamma Settings: This control allows you to adjust the amount of Red Gamma.

Reset to Previous: Click this button to reset all Gamma values to the last saved values.

Factory Defaults: Click this button to reset all Gamma values to factory default values.

Lock Gamma Dials: Check this box to link the Red, Green and Blue Gamma dials together.

Options: This button allows you to display advanced settings for 3Dfx Voodoo Banshee hardware and software drivers.

Refresh Rates: Click this button to select refresh rates for specific video modes.

Information: This button displays hardware and driver information.

4

Display Utility for Windows

- For maximum compatibility and flexibility, the Expertool can be loaded and unloaded dynamically, but note that many of the features it provides are only available while the Expertool is running.

The Expertool is a display control and desktop enhancement utility for Windows 95/98/NT, specially designed and optimized for use with your graphics accelerator. You should think of the Expertool as a kind of supplementary "device driver" which works in conjunction with your accelerator's display driver.

Installation

The Expertool is automatically installed when you use the Setup program under windows 95/98/NT (refer to Chapter 3). Then click **Programs | Expertool | Expertool** (Figure 4-1) or click on the "Expertool" (Figure 4-3) icon in the System tray to show the Expertool Properties on your screen. (Figure 4-2)

Uninstall

1. Click **Close** button to close the Expertool. (Figure 4-2)
2. Then click **Start** button on the task bar and select **Settings | Control Panel | add/Remove Programs**.
3. Choose **Expertool** item for Install/Uninstall and click **add/Remove** button.
4. Click **OK** to uninstall the Expertool.

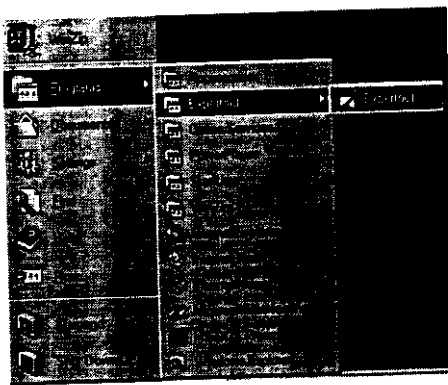


Figure 4-1

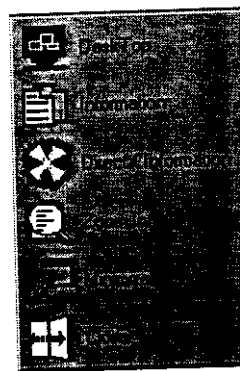


Figure 4-2



Figure 4-3 Expertool icon in the System tray

Flash Rom Utility:

1. Copy from your CD path \Dos\flash*. * to your hardisk and then execute **FLASH.EXE** <BIOS file>.
2. You can also download the BIOS file from the relative web site.

CN3 Connector:

CN3 Connector is a VIP port, you can connect to related daughter Board. (for example: TV-Encoder/Capture card etc.)

Display Memory Configuration**Memory-Resolution/Color**

This table is only for reference:

	8/16MB			
	256 color	64K color	16.7M color	
640x480	200Hz	200Hz	160Hz	160Hz
800x600	180Hz	180Hz	160Hz	160Hz
1024x768	150Hz	150Hz	120Hz	120Hz
1280x1024	100Hz	100Hz	100Hz	100Hz
1600x1200	85Hz	85Hz	85Hz	85Hz

Problem: After installation and restarting, Windows 95 informs me that display setting is still incorrect. What can I do?
There may be conflict between previous and current display drivers.
This is caused by not complete removal of previous display driver. Try the following steps to remove it:

Solution:

- (1) Use right button of mouse to click on "My Computer" icon on desktop.
- (2) Select "Properties" and "System Properties" box appears
- (3) Click on "Device Manager" tab
- (4) You will see a list of devices on your computer.
- (5) Open "Display adapters" in the list (double click it).
- (6) You will find two (or more) conflicted adapters listed here.
- (7) Remove all previous adapters by selecting them and press "Remove"
- (8) Close Device Manager and restart Windows 95.
- (9) Now display driver will work correctly.

Problem: After installing the driver, Windows 95 doesn't prompt me for restarting and the driver still doesn't work after I reboot it by myself.
You may have installed similar drivers before. Try the following steps to install:

Solution:

- (1) Use right button of mouse to click on "My Computer" icon on desktop.
- (2) Select "Properties" and "System Properties" box appears
- (3) Click on "Device Manager" tab
- (4) You will see a list of devices on your computer.
- (5) If "Display adapters" appears in the list, click it.
If "Display adapters" doesn't appear, jump to step 9 and continue.
- (6) The name of your card will be listed in the box. Double click it.
- (7) The properties box of your card appears. Select "Driver" tab.
- (8) Click "Change Driver.." and follow the installation steps.
- (9) Click "Other devices" you will see your card is listed.
- (10) Click on the name of card, the properties box appears.
Select "Driver" tab.
- (11) Click "Change Driver.." and follow the installation steps.

6**Trouble Shooting**

When you need advanced technique service, please Complete this form and FAX to your dealer.

Your name:

Phone :

Product S/N:

PCB NO.:

HARDWARE CONFIGURATION			
Mainboard Chipset:		CPU Speed: MHz	
Mainboard CPU:		VGA Memory Type:	
Mainboard Memory: MB		VGA Memory MB	
Mainboard Brand:		VGA Memory Brand:	
Cache Memory: KB		FDD/HDC Card:	
Monitor Type:		Horizontal Freq. : kHz to KHZ Vertical Freq. : HZ to HZ	
Operating System or Test Programs:			
Application Software:			
Other Cards installed in system:			
Problem Description:			

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