

FCC ID: ICUVGA-GW804

EUT: CARDEXPERT 740

GAINWARD CO., LTD.

USER'S MANUAL

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Congratulation on the purchase of your VGA board! You are now the owner of a state-of-the-art video adapter that offers features and functionality equal to, and beyond any other in the VGA class.

**FEATURES**

- High-performance 2D/3D Intel740 Graphics Accelerator
- 2x Full Sideband AGP Support
- 3D Setup Engine support Flat and Gouraud Shading, MIP-Mapping with Bilinear Filtering, Color Alpha Blending for Transparency, Real-Time Texture Paging and Video Texturing, fogging and Atmospheric Effects, Specular Lighting, Edge Anti-Aliasing, Stippling or "Screen Door" Transparency, Backface Culling, Z Buffering.
- NTSC and PAL TV Out Support
  
- Maximum Refresh Rate 85Hz on 1024x768 resolution
- Display Memory support 2/4/8 MB SGRAM or 8MB SDRAM
- Full Bi-direction VMI CCIR601 Video Port
- Software MPEG I/DVD playback
- Support Hardware DVD playback (option)
- VESA DDC/DPMS support

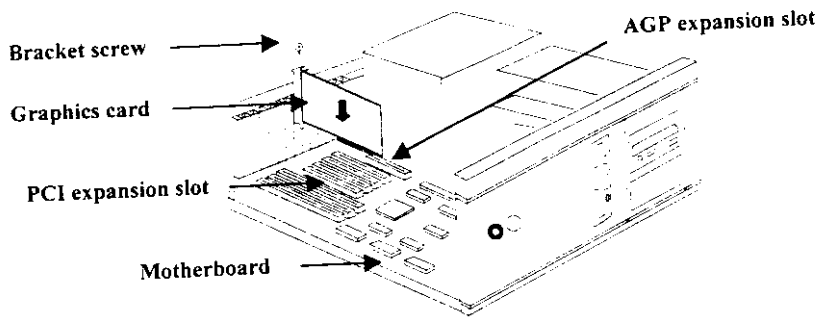
**DRIVER SUPPORT**

- Microsoft Windows NT4.0
- Microsoft Windows NT5.0 (Option)
- Microsoft Windows 95 OSR2.1
- Windows 98
- OpenGL (Option)
- DirectX 5.0

## 2 Hardware Installation

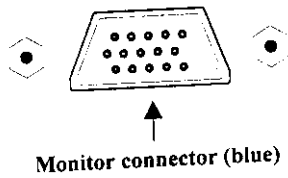
### Insert your Graphic Card

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.



**CAUTION !**

- Before installing the video driver, make sure your Windows NT is installed in VGA mode and work fine.
- Before installing the video driver, please install the Windows NT service pack 3 package first (or please download these drivers from Microsoft web site), otherwise the PowerStrip Utility will not work correctly.

If you are running Windows NT, please note that drivers for NT are not compatible with earlier releases of NT, and *vice versa*. Consult your dealer, local user support groups or on-line services from time to time to ensure you have the latest release for the version of NT you are running.

To install the optimized display drivers for Windows NT, you must be running NT and follow Microsoft standard display driver installation procedure as documented in the NT user manual. Note the somewhat different installation procedures between NT and earlier release below.

**SETUP DRIVER**

1. Turn on your computer and start Windows NT.
2. Insert the **Driver CD** into your CD-ROM driver.
3. Type **D:\CDSETUP [Enter]** in the Run dialog box.
4. The PowerStrip Setup Wizard dialog box will appear on the screen, please follow the instruction to install.
5. In Display Properties, select **Settings | Display Type** and then click the **[Change]** button for Adapter Type.
6. When the Change Display dialog box appears on screen, click the **[Have Disk]** button and enter the path to the driver installation diskette (e.g., D:\winNT4). Click **"OK"**.
7. Select the Correct VGA mode (e.g., Intel740 Video Accelerator), then click **OK** button to restart your computer.

**Windows 95/NT Display Properties**

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

**OpenGL for Windows 95 and NT**

The OpenGL Driver for Windows 95/NT is install at the same time as the installation of the Windows 95/NT drivers. See the Windows 95/NT installation instructions for further information.

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**Technical Information**

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

	2MB		
	256 color	64K color	16.7M color
640x480	85Hz	85Hz	85Hz
1024x768	85Hz	85Hz	-
1280x1024	75Hz	-	-

	4/8MB		
	256 color	64K color	16.7M color
640x480	85Hz	85Hz	85Hz
1024x768	85Hz	85Hz	85Hz
1280x1024	75Hz	75Hz	-

**Monitor Connector Pin Assignments**

Pin no.	Function	Pin no.	Function
1	Red Video	9	Key (no connection)
2	Green Video	10	Sync Return (ground)
3	Blue Video	11	NC
4	NC	12	DDC DATA
5	Ground	13	Horizontal Sync
6	Red Return (ground)	14	Vertical Sync
7	Green Return (ground)	15	DDC CLOCK
8	Blue Return (ground)		

**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.

**Problem:** Software programs will not run with the drivers.

**Solution:**

1. Try running the software with standard VGA drivers supplied with the application program. Most software programs have standard IBM VGA drivers. If the program still does not work it may be a problem with the application software.
2. Removed all **TSR (Terminate and Stay Resident)** programs from your system (specially in DOS system) and try the program again.

**Problem:** How do I get the latest drivers for the card?

**Solution:** You can check with the relative web site to download them.

**Problem:** When I boot the computer the display is not black. It is a different color, such as blue.

**Solution:**

Check the monitor connection. Generally blue, or other color screens are related to improper connections between the video card and monitor cable.

**Problem:** I am using a high resolution multi-frequency monitor. The vertical refresh rate is set for 140Hz using 1024x768 resolution. When going into Windows or other graphics applications, my display size shrinks quit a bit on the screen.

**Solution:**

Use a slower vertical refresh rate. The vertical refresh rate may be set too high for the monitor to support it. The monitor may be compensating for the high frequency rate by reducing the screen size.

**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.



**CAUTION!**

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

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

**Installation**

The PowerStrip is automatically installed when you use the Setup program under windows 95/NT (refer to Chapter 3-4). After you finish the installation, the About the PowerStrip dialog box will appear on the screen, then click "OK". Then click **Programs | PowerStrip | PowerStrip** (Figure 5-1) or double click on the "Monitor" | **Show PowerStrip Configuration** (Figure 5-2) icon in the System tray to show the PowerStrip Properties on your screen. (Figure 5-3)

Note: If you need the more information that is referred to the pstrip.doc file or on line help where locate at **Programs | PowerStrip | Online Documentation**. (Figure 5-1)

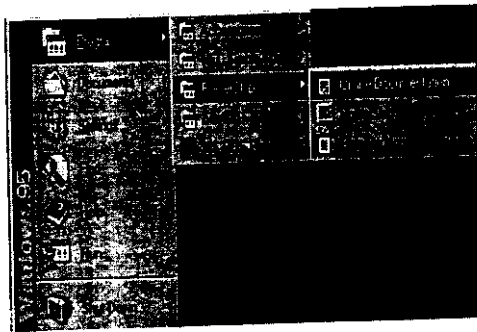


Figure 5-1



Figure 5-2



Figure 5-3 PowerStrip toolbar

**CAUTION!**

- Before installing the Display driver, make sure your Windows 95 is installed in VGA mode and work fine.
- Please install the DirectX before you want to play the MPEG Movie Player.
- This Driver doesn't support Chinese OSR2 at present.

Installation of the Windows 95/98 drivers and utilities is a two-step procedure: (1) first install the Windows 95/98 Utilities using the Setup program, and then (2) install the Windows 95/98 drivers using standard Windows 95/98 procedures. Although we do not recommend this, you can install the display drivers for Windows 95/98 without installing the support files.

**SETUP VGA MODE**

Click the right mouse button anywhere on the Windows 95/98 desktop and select Properties from the pop-up menu that appears on screen. Select **Settings | Change Display Type** 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.

**SETUP DRIVER**

1. Turn on your computer and start Windows 95/98.
2. Insert the **Driver CD** into your CD-ROM driver.
3. Type **D:\CDSETUP [Enter]** in the Run dialog box.
4. The PowerStrip Setup Wizard dialog box will appear on the screen, please follow the instruction to install.
5. In Display Properties, select **Settings | Change Display Type** (If you use the OSR2 please select **Settings | Advanced Properties**. If you use the Win98 please select **Settings | Advanced**) and then click the **[Change]** button for Adapter Type.
6. In Win98, the Update Device Driver Wizard dialog box will appear, please click "next" button and follow the instruction on screen to install.
7. When the Select Device dialog box appears on screen, click the **[Have Disk]** button and enter the path to the driver installation diskette (e.g., D:\win95). Click "OK".
8. Select the Correct VGA mode (e.g., Intel740-xxx Memphis SDR Beta x.x.xxxx-xxxxxx), then click **OK** button. Finally click **Apply** button to restart your computer.

**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**

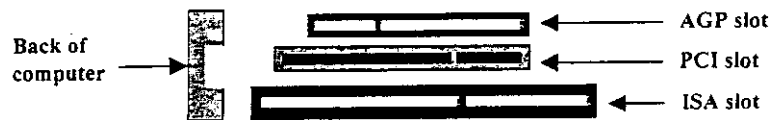
Before you proceed further, make sure your computer system meets the peripheral requirements and switch to the standard VGA display driver.

**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

## 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 radiated 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 o 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.