

GV-R9000 PRO II

Radeon 9000 PRO Graphics Accelerator

USER'S MANUAL

中文使用手冊

REV. 102

12MD-R90P128-102

Chapter 1 User's Manual

Copyright

Copyright by **GIGA-BYTE TECHNOLOGY CO., LTD. ("GBT")** No part of this manual may be reproduced or transmitted in any form without the expressed, written permission of **GBT**.

Trademarks

Third-party brands and names are the property of their respective owners.

Notice

Due to rapid change in technology, some of the specifications might be out of date before publication of this booklet.

The author assumes no responsibility for any errors or omissions which may appear in this document nor does it make a commitment to update the information contained herein. Please do not remove any labels on VGA card, this may void the warranty of this VGA card.

This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision Corporation. Reverse engineering or disassembly is prohibited.

March 17, 2003 Taipei, Taiwan

Table of Content

1. INTRODUCTION	4
1.1. PREFACE	4
1.2. KEY FEATURES	4
2. HARDWARE INSTALLATION	5
2.1. UNPACKING	5
2.2. BOARD LAYOUT	6
2.3. HARDWARE INSTALLATION	7
3. SOFTWARE INSTALLATION	9
3.1. WINDOWS® 98 /98SE / WINDOWS® ME / WINDOWS® XP DRIVER AND UTILITIES INSTALLATION	9
3.1.1. OPERATING SYSTEM REQUIREMENT	9
3.1.2. DIRECTX INSTALLATION	10
3.1.3. DRIVER INSTALLATION	12
3.1.4. UTILITIES ON DRIVER CD	15
3.1.5. TASKBAR ICON	17
3.1.6. DISPLAY PROPERTIES PAGES	24
3.2. WINDOWS 2000 DRIVER INSTALLATION	32
3.3. BIOS FLASH UTILITY	32
4. Troubleshooting Tips	33
5. Appendix	34
5.1. How to reflash the BIOS	34
5.2. Resolutions and Color Depth Table	36

1. INTRODUCTION

1.1. PREFACE

GV-R9000 PRO II provides high-end performance to the mainstream graphics market at a competitive price point. GV-R9000 PRO II features four parallel, highly optimized rendering pipelines usually available only for the high-end gaming cards that significantly enhance performance and game-play responsiveness by doubling the pixel fill rate compared to the standard 2-pipeline architectures found in most mid-range products.

1.2. KEY FEATURES

- Powered by ATi Radeon 9000 PRO GPU with 128MB DDR SDRAM
- SMARTSHADER™ technology fully supports DirectX® 8.1
- Sharper-looking 3D graphics with ATI SMOOTHVISION™ technology
- Dual display support with HYDRAVISION™
- Featuring ATI CATLYST™ - Industry-leading software suite
- DVI-I and TV-Out supported
- Supports Gigabyte V-Tuner for Tweaker Utility

2. HARDWARE INSTALLATION

2.1. UNPACKING

The GV-R9000 PRO II package contains the following:

- The GV-R9000 PRO II Graphics Accelerator
- This USER'S MANUAL
- The GV-R9000 PRO II Driver CD x 1
- Power DVD XP CD x 1
- Game CD x 2
- One cable support S-video and AV-Output ; DVI-I to D-Sub connector



WARNING!

Expansion cards contain very delicate Integrated Circuit (IC) chips. To protect them against damage from static electricity, you should follow some precautions whenever you work on your computer.

1. Turn off your computer and unplug power supply.
2. Use a grounded wrist strap before handling computer components. If you do not have one, touch both of your hands to a safely grounded object or to a metal object, such as the power supply case.
3. Place components on a grounded antistatic pad or on the bag that came with the components whenever the components are separated from the system.

The card contains sensitive electric components, which can be easily damaged by static electricity, so the card should be left in its original packing until it is installed.

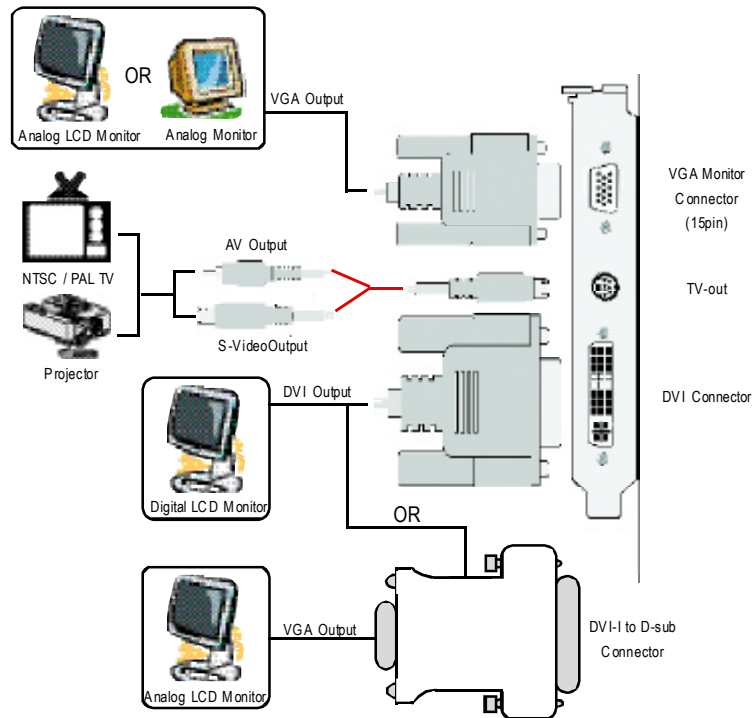
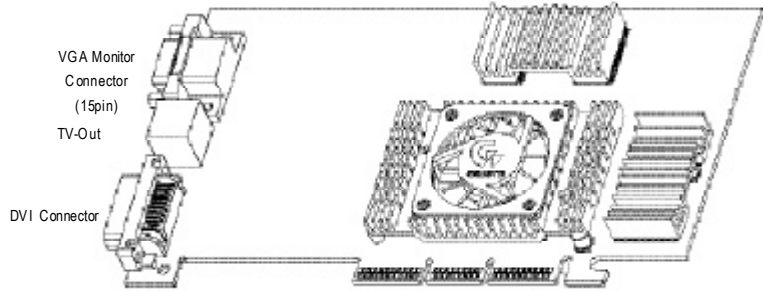
Unpacking and installation should be done on a grounded anti-static mat. The operator should be wearing an anti-static wristband, grounded at the same point as the anti-static mat.

Inspect the card carton for obvious damage. Shipping and handling may cause damage to your card. Be sure there are no shipping and handling damages on the card before proceeding.

- **DO NOT APPLY POWER TO YOUR SYSTEM IF IT HAS BEEN DAMAGED ON THE CARD.**
- **In order to ensure your graphics card working correctly, please use official Gigabyte BIOS only. Use none official gigabyte BIOS might cause problem on the graphics card.**

2.2. BOARD LAYOUT

GV-R9000 PRO II (128MB DDR)



2.3. HARDWARE INSTALLATION

Installing Your Graphics card.

Now that you have prepared your computer, you are ready to install your graphics accelerator card.

To install your graphics accelerator card:

1. Power off the computer and monitor, then disconnect the display cable from the back of your computer.



2. Remove the computer cover. If necessary, consult your computer's manual for help in removing the cover.

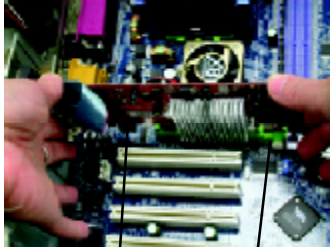


3. Remove any existing graphics card from your computer.

Or, if your computer has any on-board graphics capability, you may need to disable it on the motherboard. For more information, see your computer documentation.



4. Locate the AGP slot. If necessary, remove the metal cover from this slot; then align your graphics card with the AGP slot, and press it in firmly until the card is fully seated.

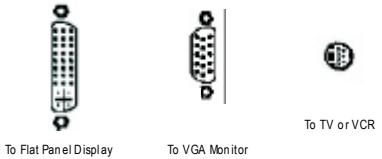


GV-R7000L Series Graphics card AGP Slot

5. Replace the screw to fasten the card in place, and replace the computer cover.



6. Plug the display cable into your card; then turn on the computer and monitor. If your Graphics card came with a DVI connector, you can connect a flat panel display to the appropriate connector, as shown below...



You are now ready to proceed with the installation of the Graphics card driver. For detailed instructions, select your operating system from the list below.

3. SOFTWARE INSTALLATION

In this manual, we assume that your CD-ROM Drive letter to be Drive D:

3.1. WINDOWS® 98 /98SE / WINDOWS® ME / WINDOWS® XP DRIVER AND UTILITIES INSTALLATION

The installation of Win® 98/98SE /WINDOWS® 2000 / Win® ME / Win® XP drivers is very simple. When you insert the driver CD into your CD-ROM drive, you can see the AUTORUN window (if it does not show up, run "D:\setup.exe"). Then you can follow guides to setup your GV-R9000 PRO II driver (Please follow the subsection 3.1.3 "Step By Step Installation" to install the driver for your GV-R9000 PRO II graphics accelerator.

3.1.1. OPERATING SYSTEM REQUIREMENT

- If your OS is Microsoft Windows, when loading the GV-R9000 PRO II drivers for the system, please make sure your system (Windows 98/98SE, Windows2000 or Windows ME) has installed DirectX8.1 or later.
- If you install the GV-R9000 PRO II drivers for the motherboard, which consist of SIS, ALI or VIA chipsets, please install the appropriate Driver program for that motherboard. Or please contact your motherboard nearest dealer for M/B Driver.

3.1.2. DIRECTX INSTALLATION

Install Microsoft DirectX 8.1 to enable 3D hardware acceleration support for Windows® 98/ 98SE/ Windows® 2000/ ME to achieve better 3D performance.

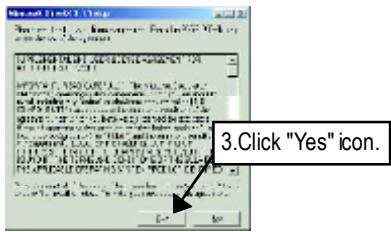
- Note: For software MPEG support in Windows® 98/ 98SE/ Windows® 2000 or Windows® ME, you must install DirectX8.1(or later) first. (If your OS is Windows® XP, please skip this section.)



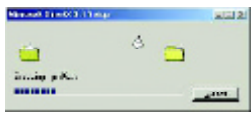
1. Install DirectX Driver:
Click "Install DirectX 8.1" Item.

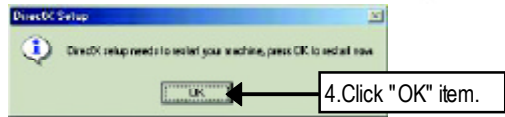


2. Click "Yes" icon.



3. Click "Yes" icon.





Then the DirectX8.1 installation is completed.

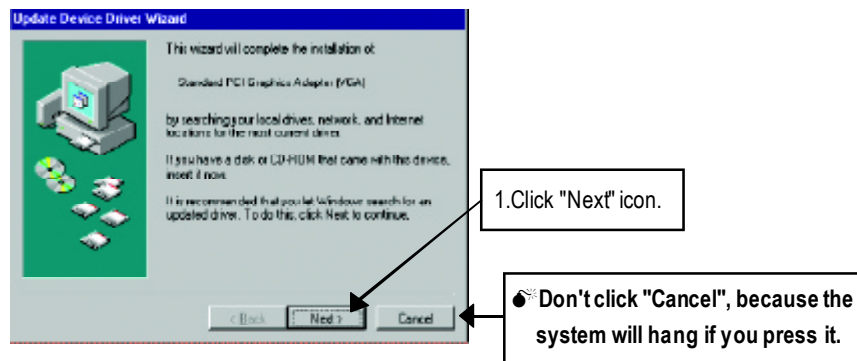
3.1.3. DRIVER INSTALLATION

The following is the step-by-step installation guide.

Step 1: New Hardware Found

After GV-R9000 PRO II is inserted into your computer at the first time, the windows will automatically detect a new hardware in the system and pop out a "New Hardware Found" message. Please select "Do not install a driver" and press OK.

Step 2: Update Device Driver Wizard: Standard PCI Graphics Adapter(VGA)



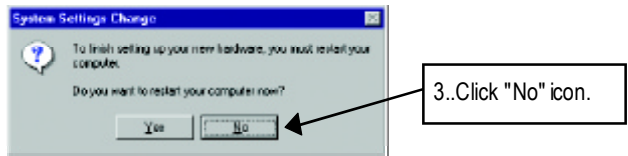
Step 3: Update Device Driver Wizard: Finish

At this time, system will ask for your Windows CD in order to complete the VGA driver installation.

If you don't have the CD, you can press C:\Windows\System directory.

Step 4: System Setting Change

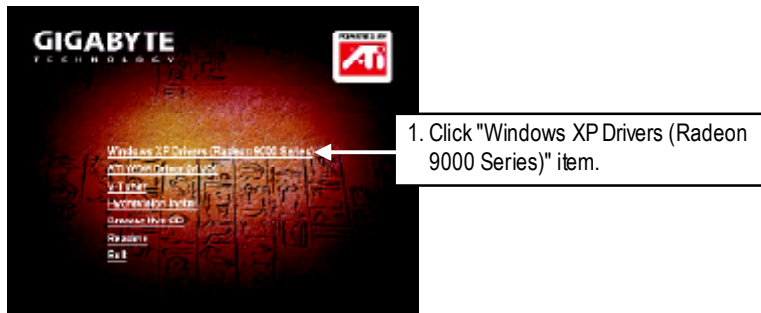




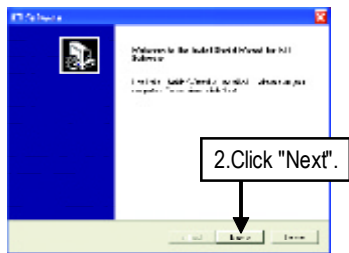
3..Click "No" icon.

After the system has finished loading, insert the GV-R9000 PRO II driver CD disk into your CD-ROM, and then you can see the AUTORUN window. If it does not show up, please run "D:\setup.exe".

Step 5: Driver Setup
(Pictures below are shown in Windows XP)



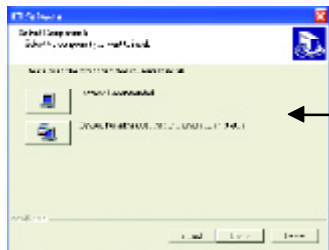
1. Click "Windows XP Drivers (Radeon 9000 Series)" item.



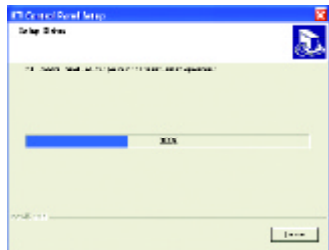
2.Click "Next".



3. Click "Yes".



4. Click "Express" or "Custom" icon.



5. Click "Finish" to restart computer.

3.1.4. UTILITIES ON DRIVER CD

The utilities include Display Driver and V-Tuner utilities. Please follow the steps.

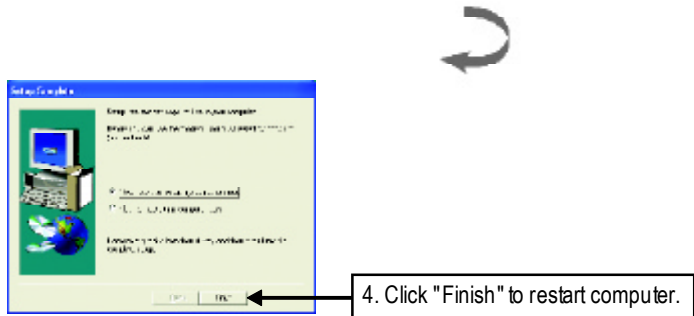
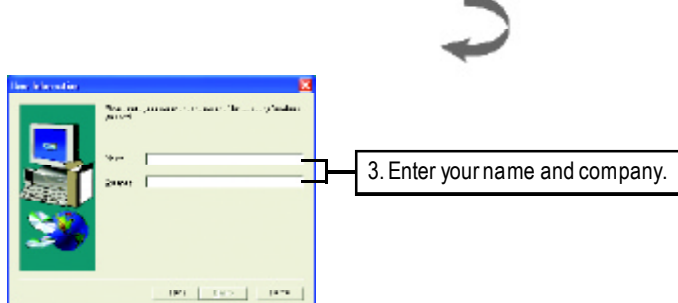
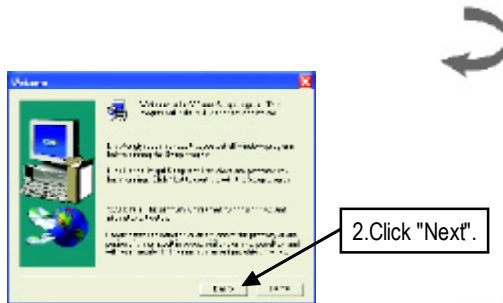
- Install ATIWDM Driver :

1. Click "WDM Driver (VIVO)" item.


2. Click "Next".

3. Click "Finish" to restart computer.

● Install V-Tuner :



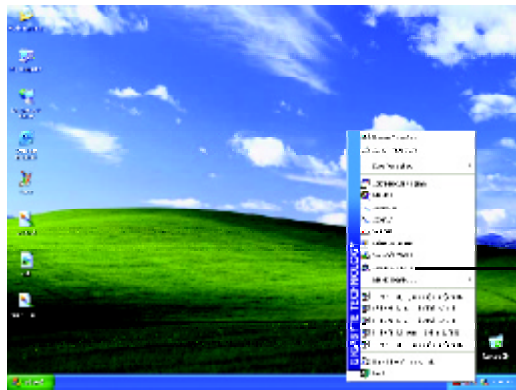
3.1.5. TASKBAR ICON

After installation of the display drivers, you will find an GBT icon  on the taskbar's status area. Right-clicking this icon opens the GBT control panel, showing a menu composed of shortcuts of the graphics card's enhanced and other functions.

You may click the "Display Properties" item, and then click Settings. Click "Advanced" after clicking Settings. Click the appropriate tab to change your display settings.



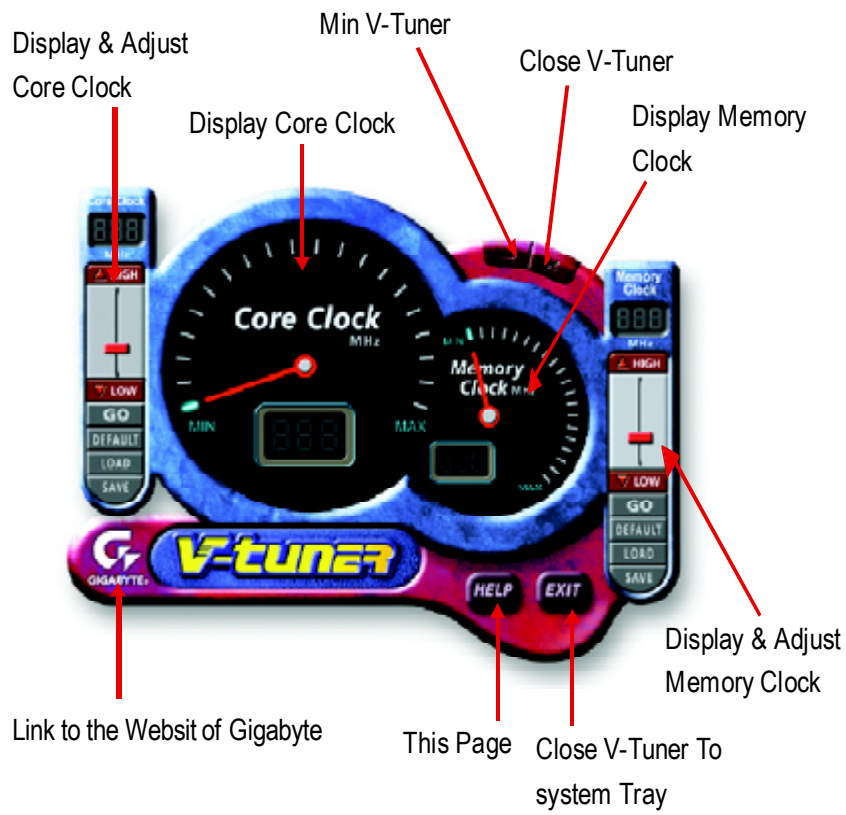
Right click the icon.



You can link to GBT website for updated information about the graphics card, latest drivers, and other information.

V-Tuner (Overclock Utility)

V-Tuner lets you adjust the working frequency of the graphic engine and video memory (Core Clock and Memory Clock)



VGA Information


VGA Info lists the relevant information about your card.



Color Adjust

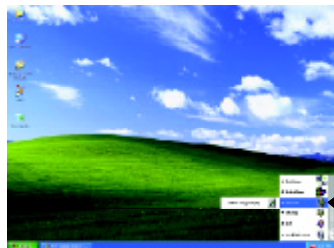
Color Adjust allows you to make color adjustments, such as brightness, contrast and gamma values for each or all of RGB colors.



After installation of the display drivers, you will find an ATI icon  on the taskbar's status area. Clicking this icon opens the ATI control panel.



1. Rotate Screen



2. Using Single Display

HYDRAVISION™

HYDRAVISION™ and the Desktop Manager are activated whenever Windows® starts. Installing HYDRAVISION™ adds menu options to the ATI icon.

Click on the ATI icon to access the application's features and help, or to unload the HYDRAVISION™ Desktop Manager.



3. Hydrevision

HYDRAVISION™ is primarily software designed for multiple monitor settings. RADEON 7500 graphic cards that have more than one display output can benefit fully from this software. A RADEON 7500 with only one display output can still take advantage of the many features of HYDRAVISION™. HYDRAVISION™ installation enables the Desktop Manager and creates a Windows® program group for HYDRAVISION™ display management software.

Desktop Management Controls :

The Desktop Management dialog lets you configure the behavior of windows and dialog boxes in a multiple monitor environment.



Dialog Control

Enable dialog repositioning - Toggles dialog control on and off. When this box is checked, you can choose to have dialog boxes appear on the parent application's monitor. If the parent application or associated monitor cannot be located, the dialog box defaults to monitor 1.
 Show on app's monitor - This forces all open dialog boxes to the monitor that originated the applications.
 Show at cursor - You can choose to have dialog boxes appear on the monitor in which the cursor is located.
 Show on monitor - You can choose to have dialog boxes always appear on a specific monitor in the array

Window Control

Single monitor windows - When this box is checked, windows are sized no larger than a single monitor. Windows that are placed on monitor splits are automatically relocated to the monitor on which most of the window appears.

HydraVision Max button management - Allows you to control the behavior of the Windows Maximize button. When HydraVision is running, a HydraVision Max/Restore button appears in the upper-right corner of an application title bar. Clicking this button makes the active window maximize in one of two ways:

Max to window corners causes windows to maximize to the monitor(s) that contain the window's upper-left and lower-right corners.

Max to full desktop causes windows to maximize to the entire monitor array.

Max child windows - Keeps windows generated by parent applications from splitting across monitors. The ability to keep child windows on a single monitor when maximized is extremely useful for editing multiple documents side-by-side in a parent application.

The HydraVision application title bar button changes from a single square to two smaller squares when a window is in a HydraVision maximized state. Clicking the button again restores the active window to its default state as a single square.

General

Application position memory - Check this box to "remember" the size and location of application windows when they are closed and re-apply those settings when the application is re-opened.

Automatically align monitors - You can manually define monitor placement from the Settings dialog in the Display Properties dialog box. When this box is checked, HydraVision will override user-defined monitor placement if the monitors are not evenly aligned.

This control will work only if all monitors are running at the same resolution and your desktop is configured as a rectangle.

Remove HydraVision title bar buttons - This box removes or restores the ATI title bar buttons from all applications.

Remove MultiDesk system tray icon - This box removes or restores the MultiDesk system tray icon.

ATI Logo - Click here to access the About dialog which provides software version information and a link to the ATI Technologies website.

Load/Unload Desktop Manager - This button restores or removes the HydraVision Desktop Manager tracking program. Unloading the Desktop Manager returns display settings to Windows defaults. You should only select this option if you do not want to use any multiple monitor dialog box controls and window controls or hot keys.

Desktop Manager will not reload automatically when Windows restarts. You will need to reload Desktop Manager from the Desktop Management dialog box.

Load/Unload MultiDesk - This button restores or removes multiple desktop functionality.

Individual Application Settings - This button allows you to specify, enable and disable desktop management settings for individual applications.

To enable Individual Application Settings:

Individual Application Settings override the global settings defined in the Desktop Management dialog box.

MultiDesk Properties - This button gives access to all the MultiDesk Properties. Here you can enable, disable, and name active desktops.

MultiDesk will not reload automatically when Windows restarts. You will need to reload MultiDesk from the Desktop Management dialog box.

Hot Keys Controls

HydraVision allows you to specify hotkey shortcuts for common operations such as starting applications and snapping applications to designated monitors.

You can also disable all hot keys by checking the Disable hot keys box near the bottom of the Hot Keys dialog.

Hot Keys only work if HydraVision is installed and loaded.



Create/Remove Hot Keys

To create custom hotkey sequences:

Select a Modifier key (Shift, Alt, etc.).

Select a Hot key, and the Hot key function you want this key combination to perform.

Click Add to enter your new combination in the Assigned hot keys list box.

Click Apply to activate assigned hot keys.

ATI recommends that a modifier key be used with any function key (F1, F2, etc.) assigned as a hot key. This will prevent interference with the function of these keys in individual applications.

To delete a hot key from the Assigned hot keys list box:

Highlight the hot key you want removed.

Click Remove.

Click Apply.

Available Hot Keys

You can use any assigned hot key at any time, from within any application, to change your display.

SnapApp to Monitor allows you to move or "snap" active windows or dialogs from monitor to monitor for quick placement and viewing of desktop contents.

HydraVision Popup Menu opens the HydraVision Desktop Management dialog.

Run Application lets you start any application with a hot key.

GatherAll Windows to Monitor 1 allows you to find applications that are hidden or are open and lost on disabled monitors.

Find Cursor locates the cursor on a busy or crowded desktop.

Switch to desktop scheme (X) switches from one desktop scheme to another.

Next Desktop allows you to move up to the next active desktop.

Previous Desktop allows you to move down to the next active desktop.

Jump to Desktop allows you to configure a specific desktop to jump to.

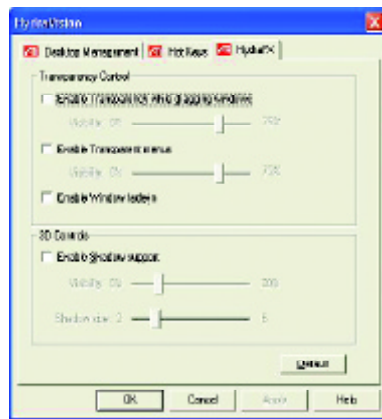
Move Application to Desktop allows you to move an active application to a predetermined desktop.

Restore and Tile Windows files all open applications on one display.

Minimize all apps on current monitor minimizes all open applications on the current monitor.

Maximize app to Monitor maximizes minimized applications to a predetermined monitor.

HydraFX



HydraFX is only available in Windows 2000 and Windows XP.

HydraVision HydraFX adds visual effects to your desktop.

Configure the visibility of dialogs and drop down menus.

Configure dialogs for fade in when opened.

Add a shadow effect to dialogs.

Visibility of windows and application menus can be independently configured. A window can be given added depth by enabling Shadow support.

TransparencyControl:

3D Controls:

TransparencyControl

Enable Transparency while dragging windows - Check this box to enable the Visibility slider. Use the slider to set the degree of visibility a window has when being dragged across the display.

Enable Transparent menus - Check this box to enable the Visibility slider. Use the slider to set the degree of visibility application drop-down menus have.

Enable Window fade-in - Check this box to cause an application window to slowly open or 'fade-in' to your desktop.

3D Controls

Enable Shadow support - Check this box to enable the Shadow support sliders.

The Visibility slider sets the degree of visibility of the shadow.

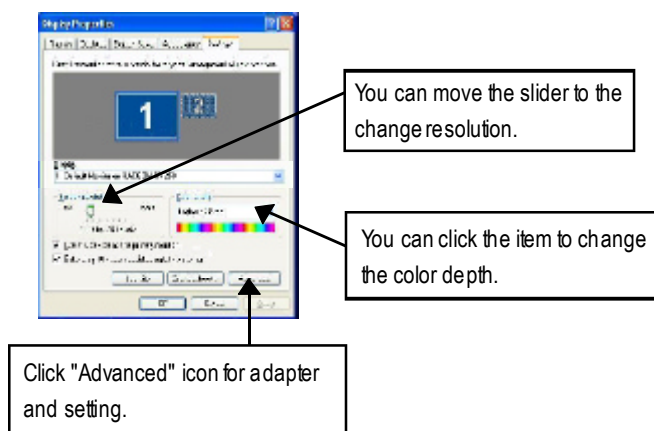
The Shadow slider sets how big a shadow is added to an application window or dialog.

3.1.6. DISPLAY PROPERTIES PAGES

The screen shows the information of display adapter, color, the range of display area and the refresh rate.

Settings (Resolutions and Color depth for windows)

The Setting properties page allows you to adjust the Direct 3D settings.



Click "Advanced", into details settings:

Options Properties



- **Version Information** provides the Catalyst version number, 2D version number and the driver build information.
- **Details button** access to the Details tab which lists the card's hardware details and driver information.
- **Re-activate all warning messages** allows you to reactivate any disabled graphics warning messages.
- **Enable ATI taskbar icon application** enables or disables the ATI taskbar icon. However, this feature must be enabled for ATI hotkey support.
- **Show ATI icon on taskbar** adds or removes the ATI icon from the taskbar.
- **Disable quick resolution feature** is accessible by left-clicking the ATI icon in the taskbar.
- **Reduce DVI frequency on high-resolution displays** enables or disables to reduce the DVI frequency when using high-resolution.

OpenGL Properties:

The OpenGL properties page gives you complete control of the OpenGL settings.



■ Main Settings slider

Moving the slider to the left will maximize application performance, while moving the slider to the right will provide excellent 3D image quality. Moving this slider from one position to the next changes the individual Custom Settings sliders found below.

● Custom Settings checkbox

When **Custom Settings** is checked, the Main Settings slider is disabled, allowing you to move each individual slider in the Custom Settings section below. Setting the

individual sliders gives you complete control over your application experience. Using Custom Settings is recommended for advanced users only.

■ SMOOTH THVISION II

- **Anti-Aliasing checkbox** improves image quality by removing jagged edges from 3D images, resulting in smoother, more natural looking objects.
- **Anti-Aliasing slider** can be applied using different sample patterns and sample points such as 2X, 4X, or 6X. Moving this slider to the right increases sampling to provide the most realistic 3D image.
- **Anisotropic Filtering checkbox** uses a texture filtering technique that blends multiple texture samples together. Selecting **Application Preference** will result in high quality textures, with a negligible reduction in the application's performance.
- **Anisotropic Filtering slider** By moving this slider to the right, as the number of samples taken increases, the quality of the final image increases significantly. 16X provides extremely detailed, crisp-looking images as a result of the largest number of texture samples possible.

■ Texture Preference slider

Selecting this decides whether your application should use high quality or high performance textures. Moving the slider to the right delivers the highest quality experience. Moving the slider to the left emphasizes a high performance solution while still providing good visuals.

■ Mipmap Detail Level slider

This will allow you to choose the texture quality of the mipmaps the application will use. Mipmaps are a collection of different sized textures of the same image. As the user moves closer to a 3D object the image quality should increase, requiring a higher quality texture of the same image. The base mipmap is the highest quality texture, and all subsequent mipmaps are smaller sized

textures of the same image. Moving the slider to the right selects a higher quality base mipmap, delivering the highest quality application experience. Moving the slider to the left selects a lower quality mipmap, delivering the highest application performance.

■ Wait for Vertical Sync

This will lower the frame rate of full screen games but reduce the image tearing that can occur with the higher frame rate. Selecting **Application Preference** allows the application to decide whether or not it should display its frames at the refresh rate of the monitor. Selecting **Always Off** allows the application to run at its highest possible frame rate, regardless of the monitor's refresh rate which is typically less than the frame rate at which the application will run.

■ Compatibility Settings button

This button allows you to access advanced settings that can solve compatibility issues for a few specific OpenGL applications.



- **Force Z-buffer depth** allows you to explicitly set the Z-Buffer depth. Most applications will work best when **Disabled** is selected.

- **Alpha dithering method**

- **Support KTX buffer region extension** Enabling this feature allows rapid updates of those portions of your screen that have changed. Note that most applications will not be affected by activating this feature.

- **Defaults button** allows you to reset the OpenGL Compatibility

Settings to default values.

■ Defaults button

This button allows you to reset the OpenGL Settings to default values.

DIRECT 3D PROPERTIES:

The Direct 3D properties page allows you to adjust the Direct 3D settings.



■ **Main Settings slider**

Moving the slider to the left will maximize application performance, while moving the slider to the right will provide excellent 3D image quality. Moving this slider from one position to the next changes the individual Custom Settings sliders found below.

● **Custom Settings checkbox**

When **Custom Settings** is checked, the Main Settings slider is disabled, allowing you to move each individual slider in the Custom Settings section below. Setting the individual sliders gives you complete control over your application experience. Using Custom Settings is recommended for advanced users only.

■ **Anisotropic Filtering**

- **Anti-Aliasing checkbox** improves image quality by removing jagged edges from 3D images, resulting in smoother, more natural looking objects. Selecting **Application Preference** will result in high quality images, with negligible reduction in the application's performance.
- **Anti-Aliasing slider** can be applied using different sample patterns and sample points such as 2X, 4X, or 6X. Moving this slider to the right increases sampling to provide the most realistic 3D image.
- **Anisotropic Filtering checkbox** uses a texture filtering technique that blends multiple texture samples together. Selecting **Application Preference** will result in high quality textures, with a negligible reduction in the application's performance.
- **Anisotropic Filtering slider** By moving this slider to the right, as the number of samples taken increases, the quality of the final image increases significantly. 16X provides extremely detailed, crisp-looking images as a result of the largest number of texture samples possible.

■ **Texture Preference slider**

Selecting this decides whether your application should use high quality or high performance textures. Moving the slider to the right delivers the highest quality experience. Moving the slider to the left emphasizes a high performance solution while still providing good visuals.

■ **Mipmap Detail Level slider**

This will allow you to choose the texture quality of the mipmaps the application will use. Mipmaps are a collection of different sized textures of the same image. As the user moves closer to a 3D object the image quality should increase, requiring a higher quality texture of the same image.

The base mipmap is the highest quality texture, and all subsequent mipmaps are smaller sized textures of the same image. Moving the slider to the right selects a higher quality base mipmap, delivering the highest quality application experience. Moving the slider to the left selects a lower quality mipmap, delivering the highest application performance.

■ Wait for Vertical Sync

This will lower the frame rate of full screen games but reduce the image tearing that can occur with the higher frame rate. Selecting **Application Preference** allows the application to decide whether or not it should display its frames at the refresh rate of the monitor. Selecting **Always Off** allows the application to run at its highest possible frame rate, regardless of the monitor's refresh rate which is typically less than the frame rate at which the application will run.

■ Compatibility Settings button

This button allows you to access advanced settings that can solve compatibility issues for a few specific Direct3D applications.



- **Support W-buffer**
- **Support 32bit Z-buffer depth**
- **Alphe dithering method**
- **Support DTX texture formats** allows applications to use this kind of texture format. There are a few applications that can only support a limited number of texture formats. By selecting **Disabled**, the driver will not support DTX texture formats, thus reducing the number of texture formats supported.
- **Alternate pixel center** This may eliminate problems with some

Direct3D games which display vertical and horizontal lines around textures, or text that appears incorrect. However, this setting should only be used if you are experiencing the symptoms mentioned, as it may cause problems with other games.

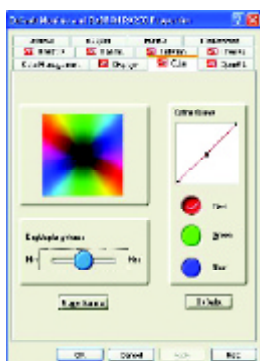
- **Defaults button** allows you to reset the Direct 3D Compatibility Settings to default values.

■ Defaults button

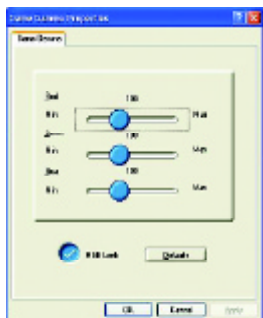
This button allows you to reset the Direct 3D Settings to default values.

COLOR PROPERTIES:

The **Color Properties** is used to adjust the color settings. It also allows gamma control for video playing of the Video Overlay. The color settings affect all display devices mapped to the view. You can change red, green, and blue display colors. Set Desktop and Video Overlay brightness (gamma) levels can also be changed.



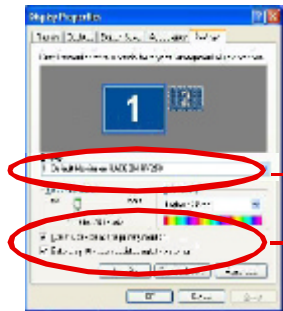
- **Desktop brightness** increases or decreases the color brightness of your desktop. The higher the gamma value, the higher the brightness and contrast of your display.
- **Color Curve** adjusts the selected color (red, green or blue) by moving the color curve with your mouse.
- **Game Gamma button** accesses Game Gamma properties.
- **Default** resets the desktop brightness and color settings to the default values.



- **Red / Green / Blue sliders** These controls allow you to increase or decrease the color brightness of Direct3D and OpenGL games played in fullscreen mode.
(NOTE: Game Gamma is NOT supported in Windows NT4.0)
- **RGB Lock** adjust the RGB sliders individually or adjust all three sliders at the same time.
- **Default** resets the Game Gamma settings to the default values.

DISPLAY PROPERTIES:

If your VGA card is equipped with a S-Video connector, you can use a second output device (e.g. a TV or a computer monitor) as part of your operating desktop extending your desktop to second device or copying your desktop on the second device.



SELECT DISPLAY TYPE

ENABLE /DISABLE "EXTEND MY WINDOWS DESKTOP ONTO THIS MONITOR



The Display tab provides the multi monitor features. Here you can enable/disable display devices and swap the assignment of **Primary** and **Secondary** displays.

Connecting your graphics card to a TV or VCR

Turn off your computer and your television (or VCR).

Ensure your graphics card is installed correctly.

For information about placing the card in your computer and installing the enhanced graphics driver, see the user's manual.

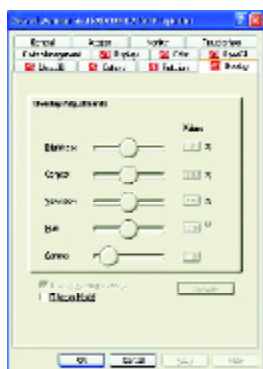
Determine if your television (or VCR) has an S-Video or Composite video connection.

Looking at the back of your computer, locate your graphics card. Using an S-Video cable or the supplied adapter cable, attach one end of the cable to your graphics card and the other to your television (or VCR). See "Connecting your graphics card to a TV (or VCR)" on the following page.

Overlay Properties

The **Overlay Properties** is used to adjust the Brightness / Contrast / Saturation / Hue / Gamma settings.

Overlay properties allows for the viewing of full-motion video on your PC. However, there is only one video overlay, which is only available on the **Primary** display. The video overlay controls are automatically activated during playback of any video file type that supports overlay adjustments.



■ Overlay Adjustments

- **Brightness** allows you to adjust the brightness of the video image.
- **Contrast** allows you to adjust the contrast in the video image.
- **Saturation** allows you to adjust the vividness of the color. Sliding it all the way to the left removes all color and produces a black and white picture.
- **Hue** allows you to adjust the pureness or tint of the red, green and blue components of the color.
- **Gamma** allows you to adjust the overall intensity of the video image.

- **Defaults button** allows you to reset the Overlay settings to default values.
- **Theater Mode checkbox** allows you to display video playback in full screen on a secondary monitor, if available and enabled.

ROTATION PROPERTIES:

The **Rotation Properties** is used to rotate the screen. If your monitor is capable of operating in either Landscape or Portrait mode, you can adjust the screen by this properties.



■ Rotation

- **Standard Landscape** allows you to set the screen at standard landscape.
- **Rotate 90° Right** allows you to rotate the screen clockwise 90°.
- **Rotate 180°** allows you to rotate the screen 180°.
- **Rotate 90° Left** allows you to rotate the screen counter-clockwise 90°.

- **Configure Hotkeys** allows you to set the screen rotation by Hotkeys.
- **Defaults button** allows you to reset the hotkey.

3.2. WINDOWS® 2000 DRIVER INSTALLATION

Please make sure the Windows® 2000 have installed Windows® 2000 Service Pack version 2 (or later) before installing the graphics accelerator driver.

With Windows® 2000 running on your computer, you need to install the GV-R9000 PRO II driver to take advantage of the higher performance, resolutions, and special graphic features of the Graphics card. To ensure you install the latest driver, use the Installation CD that shipped with your GV-R9000 PRO II Graphics card.

To install the GV-R9000 PRO II driver for Windows® 2000

1. Insert the INSTALLATION CD into your CD-ROM drive. If Windows® runs the CD automatically.
2. Click Start.
3. Select Run.
4. Type the following:
D:\SETUP
(If D is not your CD-ROM drive, substitute D with the correct drive letter.)
5. Click "OK".
6. Click on "Install Display Drivers(Radeon 9000 Series)" to begin the Installation Wizard.
7. Click "Next".
8. Click "Yes" to the license agreement.
9. Follow the Wizard's on-screen instructions to complete the installation.

3.3. BIOS FLASH UTILITY

GV-R9000 PRO II BIOS update procedure:

- Note: Please download the newest BIOS from our website (www.gigabyte.com.tw) or contact your local dealer for the file.
- If you want to realize the BIOS flash information, please refer to detail on P.34

4. Troubleshooting Tips

The following troubleshooting tips may help if you experience problems. Contact your dealer or GBT for more advanced troubleshooting information.

- Check that the card is seated properly in the AGP slot.
- Ensure that the display cable is securely fastened to the card's display connector.
- Make sure that the monitor and computer are plugged in and receiving power.
- If necessary, disable any built-in graphics capabilities on your motherboard. For more information, consult your computer's manual or manufacturer.

(NOTE: Some manufacturers do not allow the built-in graphics to be disabled or to become the secondary display.)

- Make sure you selected the appropriate display device and graphics card when you installed the graphics driver.
- If you have problems during bootup, start your computer in Safe Mode. In Windows® 98 SE and Windows® Me, press and hold the CTRL key until the Microsoft® Windows® Startup Menu appears on the screen. Then select the number for Safe Mode, and press Enter. (You can also use F8 to bring up the Microsoft Windows® Startup Menu.) In Safe Mode, bring up the Device Manager and check for duplicate display adapter and monitor entries if you are only using one graphics card.
- For more assistance, use the Troubleshooting Guide located in the Windows® Help or contact your computer manufacturer.



If necessary, adjust your monitor's setting by monitor's adjust panel to make the screen looks focused, crisp, and sharp. (Please refer to the monitor's manual.)

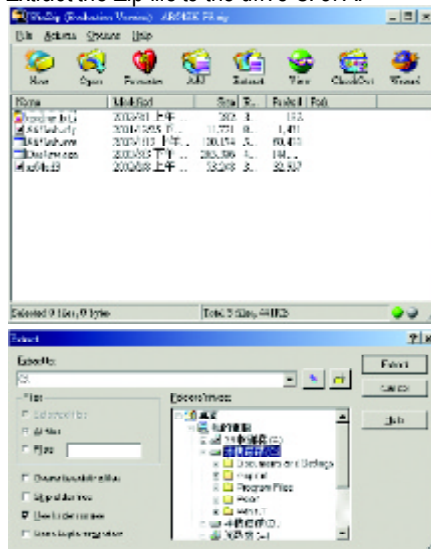
5. Appendix

5.1. How to reflash the BIOS

- ☛ We use GV-AR64SH VGA card and Atiflash BIOS flash utility as example.

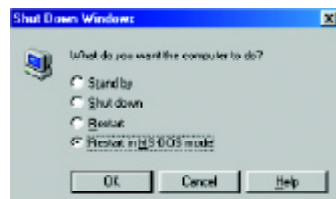
How to reflash the BIOS for your graphics card?

1. Extract the Zip file to the drive C: or A:



2. Restart your PC in MS-DOS mode

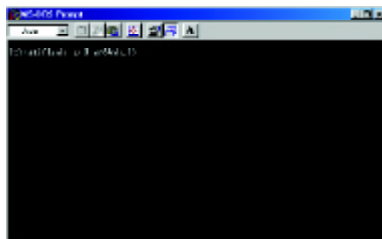
(This function only for Windows® 95 or Windows® 98. If your OS is Windows 2000 / Windows Me / Windows XP, please use the bootable disk to MS-DOS mode)



3. Change the command path to the file location C:\> or A:\>



4. Reflash BIOS command as below : C:\> atiflash -p 0 <filename>



5. Reboot your PC when it's done.

5.2. Resolutions and Color Depth Table

Radeon 9000 PRO II 2D Single Display Modes

Display Screen Resolution	Refresh Rate (Hz)	Color Depth (bpp)		
		8bpp(256 color) Standard mode	16bpp(65K color) High mode	32bpp(16.7M) True mode
640x480	60	✓	✓	✓
	72	✓	✓	✓
	75	✓	✓	✓
	85	✓	✓	✓
	90	✓	✓	✓
	100	✓	✓	✓
	120	✓	✓	✓
	160	✓	✓	✓
	200	✓	✓	✓
800x600	60	✓	✓	✓
	70	✓	✓	✓
	72	✓	✓	✓
	75	✓	✓	✓
	85	✓	✓	✓
	90	✓	✓	✓
	100	✓	✓	✓
	120	✓	✓	✓
	160	✓	✓	✓
200	✓	✓	✓	
1024x768	60	✓	✓	✓
	70	✓	✓	✓
	72	✓	✓	✓
	75	✓	✓	✓
	85	✓	✓	✓
	90	✓	✓	✓
	100	✓	✓	✓
	120	✓	✓	✓
	160	✓	✓	✓
200	✓	✓	✓	

To be continued...

* Lower maximum refresh rates at some resolutions when using lower bandwidth memory configuration.

Display Screen Resolution	Refresh Rate (Hz)	Color Depth (bpp)		
		8bpp(256 color) Standardmode	16bpp(65K color) High mode	32bpp(16.7M) True mode
1152x864	43	✓	✓	✓
	47	✓	✓	✓
	60	✓	✓	✓
	70	✓	✓	✓
	75	✓	✓	✓
	80	✓	✓	✓
	85	✓	✓	✓
	100	✓	✓	✓
	120	✓	✓	✓
	150	✓	✓	✓
	160	✓	✓	✓
	200	✓	✓	✓
1280x1024	60	✓	✓	✓
	70	✓	✓	✓
	74	✓	✓	✓
	75	✓	✓	✓
	85	✓	✓	✓
	90	✓	✓	✓
	100	✓	✓	✓
	120	✓	✓	✓
1600x1200	60	✓	✓	✓
	75	✓	✓	✓
	85	✓	✓	✓
	90	✓	✓	✓
	100	✓	✓	✓
120	✓	✓	✓	

To be continued..

Display Screen Resolution	Refresh Rate (Hz)	Color Depth (bpp)		
		8bpp(256 color) Standardmode	16bpp(65K color) Highmode	32bpp(16.7M) True mode
1920x1200	60	✓	✓	✓
	72	✓	✓	✓
	75	✓	✓	✓
	80	✓	✓	✓
	85	✓	✓	✓
	90	✓	✓	✓
2048x1536	60	✓	✓	✓
	70	✓	✓	✓
	75	✓	✓	✓
	85	✓	✓	✓

