

# GV-RX19T512VB-RH

Radeon X1900XT Graphics Accelerator

## User's Manual

Rev. 101

12MD-RX19T5BR-101R



\* The WEEE marking on the product indicates this product must not be disposed of with user's other household waste and must be handed over to a designated collection point for the recycling of waste electrical and electronic equipment!!



\* The WEEE marking applies only in European Union's member states.

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### Trademarks

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

### Notice

Please do not remove any labels on VGA card, this may void the warranty of this VGA card

Due to rapid change in technology, some of the specifications might be out of date before publication of this booklet.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 that may appear in this document nor does the author make a commitment to update the information contained herein.

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# 1. Introduction

## 1.1. Features

- Powered by **ATI Radeon X1900XT** Visual Processing Unit (VPU)
- Supports the newest PCI Express x 16
- Integrated with 512MB GDDR3 memory
- Supports DirectX 9.0C
- Supports AV / S-Video and HDTV output
- Supports AV / S-Video input
- Supports TV-Out connector
- Supports 2 DVI-I connectors

## 1.2. Minimum System Requirement

- **Hardware**
  - Intel® Pentium® 4 or AMD Athlon® .
  - 512MB of system memory ; 1GB or more for best performance.
  - Optical drive for installation software (CD-ROM or DVD-ROM drive).
  - A 450watt power supply or above must be used.
- **Operating System**
  - Windows® XP with Service Pack 2(SP2).
  - Windows® XP Professional x64 Edition.
  - Windows® 2000.

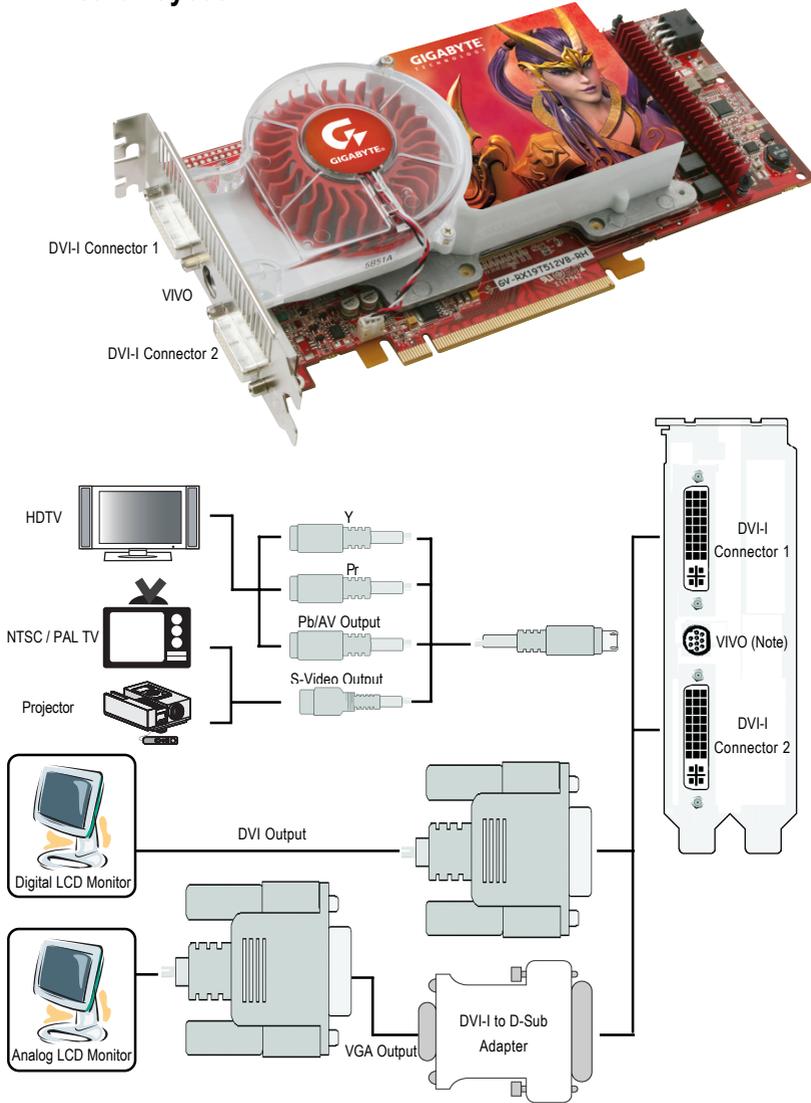
- **CrossFire™ Compatibility**

If you are planning on using this graphics card as part of a CrossFire™ system, the following is required:

- A CrossFire™ certified motherboard with two (2) PCI Express® X16 slots and correct PCIe chipset driver.
- Provides X1900 CrossFire™ edition master card.
- A 550watt power supply or above must be used.

## 2. Hardware Installation

### 2.1. Board Layout



(Note) Please refer to page 13 about Video In introduction.



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. Hardware Installation

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

### To remove the existing graphics 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.



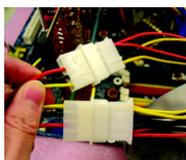
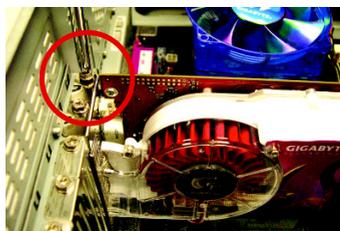
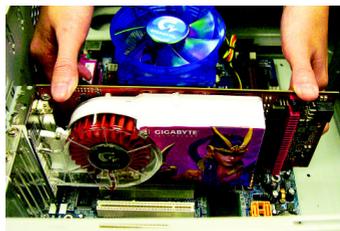
3. Remove any existing graphics card from your computer.

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.



**To install your new graphics card:**

1. Locate the PCI Express x 16 slot. If necessary, remove the metal cover from this slot; then align your graphics card with the PCI Express x 16 slot, and press it in firmly until the card is fully seated.
2. Replace the screw to fasten the card in place, and replace the computer cover.



CAUTION

After installation, please connect the power cable to your graphics card, or the system will not boot.

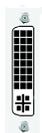
3. Plug the display cable into your graphics card; then turn on the computer and monitor. To connect a flat panel directly to your graphics card, use the DVI-I connector. To connect a VGA monitor to the DVI-I connector, plug the DVI-I to D-sub adapter into the DVI-I connector, then plug the monitor cable into the adapter.



Connect a flat panel



Connect a VGA monitor via DVI-I to D-sub adapter



To Flat Panel Display



9-Pin for VIVO

You are now ready to proceed with the installation of the graphics card drivers. Please refer to next chapter for detailed instructions.

## **3. Software Installation**

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

The installation of Windows® 2000 / Windows® 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 the guides to setup your graphics card driver. (Please follow the subsection 3.1.3 "Driver installation" to install the driver for your graphics accelerator.)

### **3.1. Windows® XP Driver and Utilities Installation**

#### **3.1.1. Operating System Requirement**

- When loading the graphics card drivers for the system, please make sure your system has installed DirectX 9 or later version.
- If you install the graphics card drivers for the motherboard, which consist of SIS, or VIA chipsets, please install the appropriate driver program for that motherboard. Or please contact your motherboard nearest dealer for motherboard driver.

### 3.1.2. DirectX Installation

Install Microsoft DirectX to enable 3D hardware acceleration support for Windows® 2000 or Windows® XP to achieve better 3D performance.

- Note: For software MPEG support in Windows® 2000 or Windows® XP, you must install DirectX first. Users who run Windows XP with Service Pack 2 or above do not need to install DirectX separately.

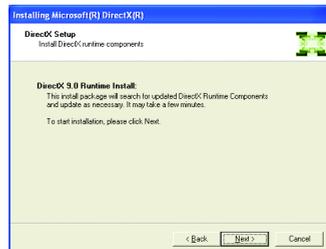


Step 1. When autorun window show up, click the **Install DirectX 9** item.

Click the **Install DirectX 9** item.



Step 2. Choose **I accept the agreement** and click the **Next** button.



Step 3. Click the **Next** button.



Installing the components.



Step 4. Click **Finish** to restart computer.

Then the DirectX 9 installation is completed.

### 3.1.3. Driver Installation

#### A. New hardware found

After the graphics card 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. The following is the step-by-step installation guide.

#### Step 1: Found new hardware wizard: Video controller (VGA Compatible)

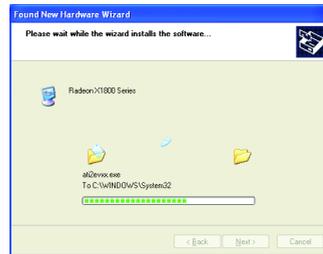


Click the **Next** button to install the driver. (There is a driver CD disk that came with your graphics accelerator, please insert it now.)

Or click the **Cancel** button to install the driver from AUTORUN window.

#### Step 2: Found new hardware wizard: Searching and installing

The wizard will search for the driver and install it automatically.



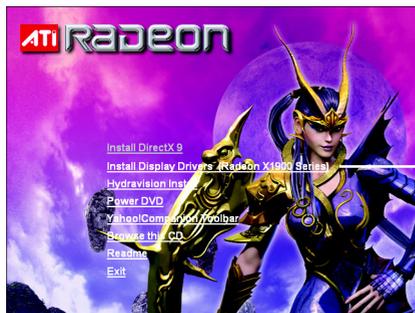
#### Step 3: Found new hardware wizard: Finish

Click the **Finish** button to finish the installation.



## B. Driver installation (Autorun Window)

Insert the 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".

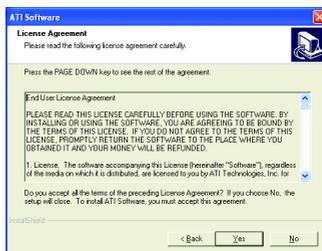


Step 1. When autorun window show up, click the **Install Display Drivers (Radeon X1900 Series)** item.

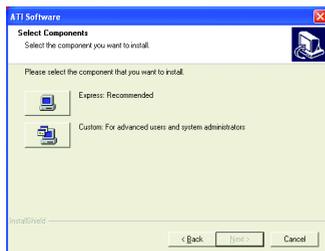
Click the **Install Display Drivers (Radeon X1900 Series)** item.



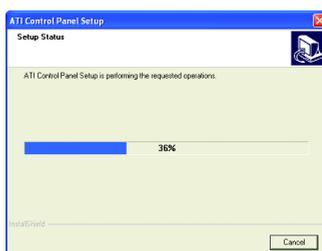
Step 2. Click the **Next** button.



Step 3. Click the **Yes** button.



Step 4. Click the **Express** or **Custom** icon.



Windows installing the components.



Step 5. Click the **Finish** button to restart computer.

Then the driver installation is completed.

### 3.1.4. Utilities on Driver CD

Insert the 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".

- Install Hydravision :



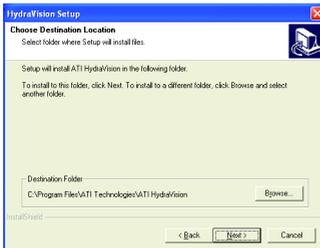
Click the **Hydravision Install** item.



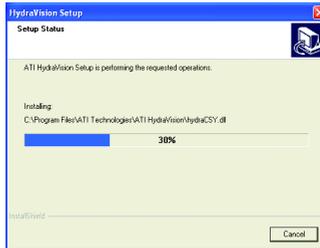
Step 2. Click the **Next** button.



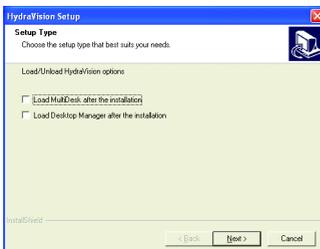
Step 3. Click the **Yes** button.



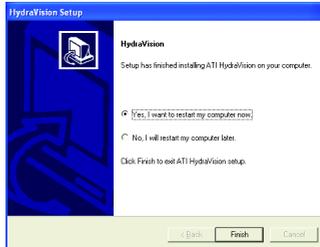
Step 4. Click the **Next** button.



Windows installs the components.



Step 5. Click the **Next** button.

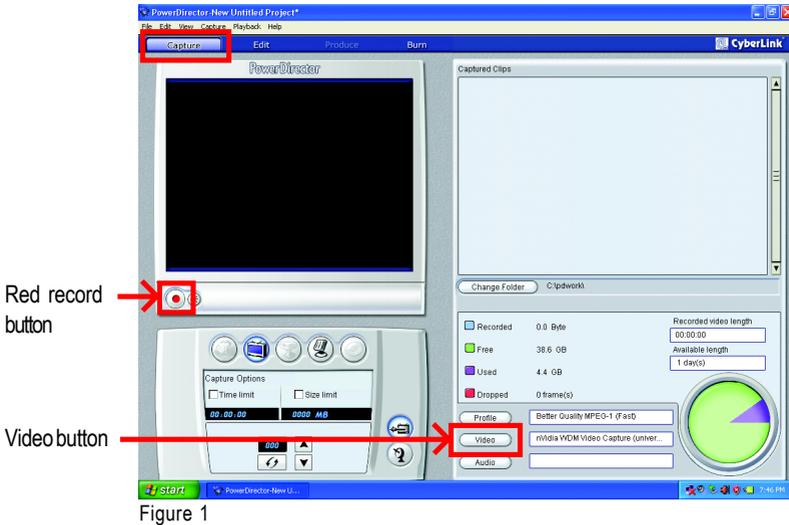


Step 6. Click the **Finish** button to restart computer.  
Then the Hydravision Install is completed.

### 3.1.5. Video In Introduction

- Cyberlink Power Director 3.X Installation <sup>(Note)</sup>

Please install the Cyberlink Power Director 3.X (or above) version with your graphics card. Press the "Capture" button, PowerDirector enter Capture mode, in which you can capture media from a variety of device. (Figure 1)



(Note) Power Director 3.X only supported on the Windows XP operating systems.

## ● Introduction of the capture sources device

Please check out your capture source. In general, the media sources comprise the following item:

### 1. Video Tape Recorder (VCR), V8 :

Connect the AV connector or video cable of the VCR to the Video In of the video capture card. And if your VCR, V8 supports S-Video output, connect S-Video connector to the S-Video In port of the graphics card.

Connect the audio cable of the VCR, V8 to the Line In of the sound card.

If your sound card has no Line In port, try the Microphone port.

### 2. DV (recommend to use IEEE1394 card)

DV (Check out if the power of DV is turned on, and enter VCR mode; moreover, make sure FireWire cable connect well.

Furthermore, when capturing media by VIVO-based graphics card, you could chose two ways<sup>(Note)</sup>, including Composite (COMP-IN) and SVideo(SVID-IN). Afterward please click the play button of captured devices, and click the red REC  button between Capture preview window and Capture device selection area.



NOTE

Please verify how your cable connects. If the cable connects to SVID-IN port on HDTV/VIVO cable, please press the "Video" button (Figure 2), and please select the "Video SVideo" item (Figure 2); if it connects to COMP-IN port on HDTV/VIVO cable, please select the "Video Composite" item (Figure 3).



Figure 2

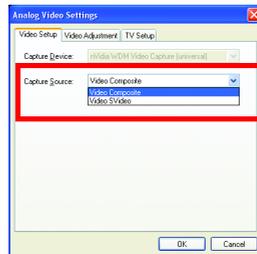


Figure 3

When you got the media you need, click the red REC button again to stop capturing. And then the media clips will be loaded into Capture clips area automatically. (Figure 4)

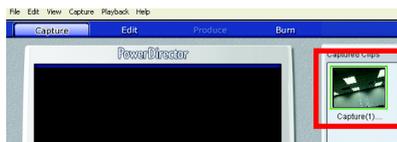
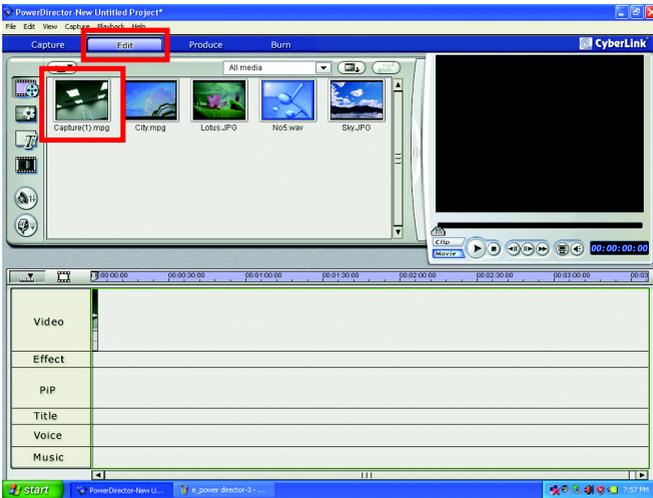


Figure 4

Once you click the "Edit" button to return Edit mode, the media clips will be loaded into Library immediately.



(Figure. 4)

At this moment in time, you can expand a series of outstanding editing experience to fill you life with boundless possibility.

(For more details about movie editing function of PowerDirector, please refer to user's guide, or visit Cyberlink website for official technical support.)

### 3.1.6. Taskbar Icon

#### ATI CATALYST™ Control Center:

After installation of the display drivers, you will find an **ATI CATALYST™ Control Center** icon  on the taskbar's status area. The **ATI CATALYST™ Control Center** is used to configure all your graphics card settings. Right-click the icon to enter the **ATI CATALYST™ Control Center** (refer to Fig. 1). Or you can right-click on the desktop to select Properties>Settings>Advanced>ATI CATALYST Control Center tab and press **ATI CATALYST(tm) Control Center** button (refer to Fig. 2).

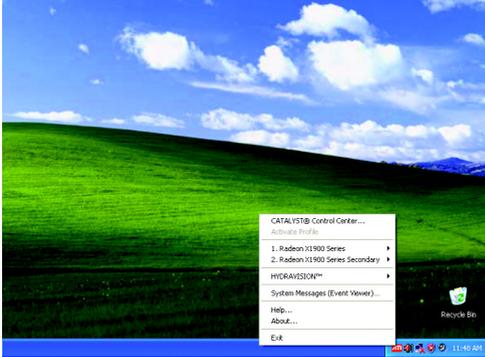


Fig. 1



Fig. 2

#### HYDRAVISION™ :

HYDRAVISION has everything you need to manage increased amounts of information across your computer desktop. It allows you to quickly and easily tailor your computer desktop to the way you work. You can:

- arrange and rearrange monitors.
- create up to 9 virtual desktops.
- assign Hot Key shortcuts.
- add special effects to windows and menus.

You can right-click on **ATI CATALYST™ Control Center** icon  to select HYDRAVISION™>HYDRAVISION™ Properties to set the HYDRAVISION (refer to Fig. 3).

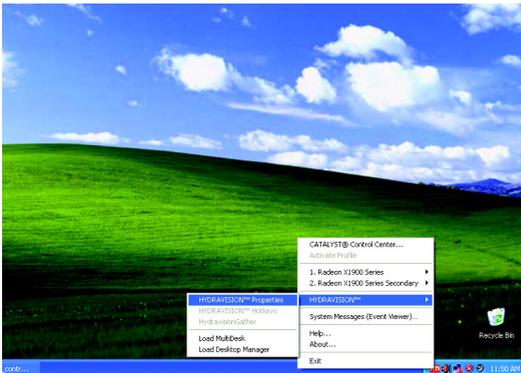


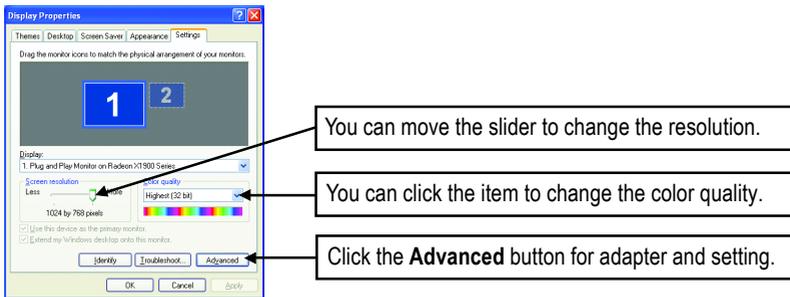
Fig. 3

### 3.1.7. Display Properties pages

To access Display Properties pages, right-click the GIGABYTE icon on the taskbar and select **Display Properties** or right-click on Desktop and then select **Properties**. The **Display Properties** dialog box shows the information of display adapter, color, the range of display area, and the refresh rate.

#### Settings (Resolutions and Color depth for Windows)

You may adjust the screen resolution and color quality settings in this dialog box.



Display Matrix	Model	GV-RX19T512VB-RH
	CRT+TV <sup>(Note)</sup>	Yes
	CRT+DVI	Yes
	DVI+TV	Yes
	DVI+TV+CRT	No
	DVI +DVI	Yes

(Note)The CRT+TV configuration requires that you connect your CRT display to the DVI connector 2 on the card using the DVI-I to VGA adapter to ensure normal operation.

This configuration is not supported if the CRT monitor is directly attached to the DVI connector 1 on the card.

## View Properties:

The CATALYST Control Center dashboard supports three types of views: Standard View/ Advanced View/ Custom View.



### ■ Standard View

The Standard view is the default view when CATALYST Control Center is launched for the first time. It provides a single button in the left navigation pane for each main page. The Standard view is recommended for novice users.

### ■ Advanced View

The Advanced view provides access to the advanced features on each page. The left navigation pane displays a tree view that lists all the advanced features. The Advanced view is recommended for experienced users.

### ■ Custom View

The Custom view allows you to display only the features you choose in the left navigation pane. The Custom view is recommended for experienced users who want to expose only the features they adjust most often or that their 3D application supports.

## Hotkeys Properties:

The Hotkeys Manager allows you to create shortcut key combinations to quickly perform tasks such as changing a graphics setting or opening an application. A Hotkey is a combination of a modifier key or keys, such as Ctrl, Alt, or Shift, and any letter from the alphabet.



## Profiles Properties:

You can use profiles to create customized environments for your desktop, video, and 3D applications. Define and save your own personal video settings that can be quickly activated manually, through a Hotkey, or by file association.



Note:

A profile applies to a specific graphics card. If there is more than one graphics card installed in your computer, you need to select the appropriate card before creating, loading, or activating a Profile.

## Preferences Properties:

The Preferences page helps to restore defaults, change skins, and update the CATALYST Control Center. The CATALYST Control Center Preferences page contains the following options:



- Always on Top
- Hide Tooltips
- Hide Toolbar Text
- Hide Splash Screen
- Enable System Tray menu
- Select a Language ...
- Select a Skin ...
- Restore Factory Defaults ...

## Help Properties:

The CATALYST Control Center Help feature allows you to access the comprehensive online help, register your product, or generate a problem report should you require technical support. The CATALYST Control Center Help feature offers the following options:



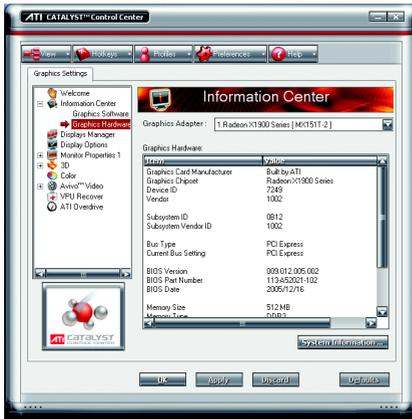
- Help for this Page
- Help Contents ...
- Search Help ...
- Go to ATI.com
- About CATALYST Control Center ...

## Information Properties:

The Information Center provides detailed information about the installed graphics hardware and associated software.



- Graphics Software
  - Graphics Software includes information such as installed 2D and 3D driver versions, OpenGL® version, and Catalyst® Control Center version.



## ■ Graphics Hardware

Graphics Hardware includes information about each installed graphics card, such as the installed, graphics chipset, device ID, bus type, memory size, and BIOS version.

## Displays Manager :



## ■ Displays Manager Standard View

Use Displays Manager Standard View to set your desktop resolution, arrange your displays, enable secondary devices such as a TV, or use the Wizard to help you configure your display(s).



- Displays Manager Advanced View  
Use Display Manager Advanced View to set your desktop resolution, the display refresh rate, and arrange your displays.

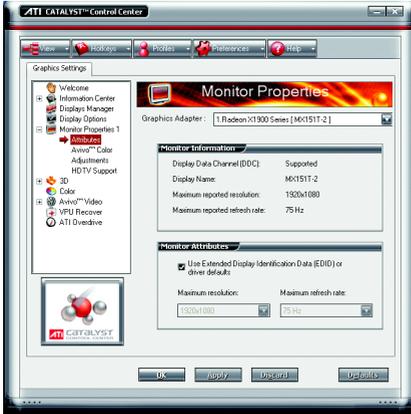
## Display Options :

The Display Options aspect gives you additional control to optimize performance of OpenGL® and Direct 3D® applications.



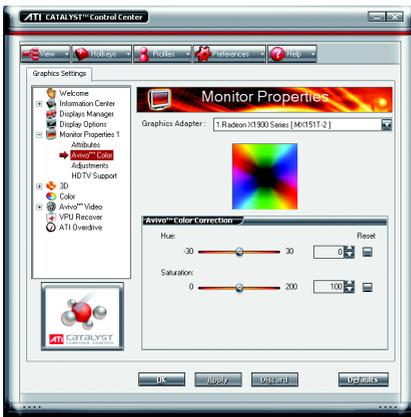
- Use 3D Refresh Rate Override to set a refresh rate of your choice when a full-screen application or game has a default refresh rate that is lower than optimal.
- Choose one of the Display Detection Options to prevent screen flicker when detecting a display.
- If you are using an older TV or one that has non-standard inputs that may not be automatically detected, use Force TV Detection. When a TV is detected using this method, it appears in the Displays Manager aspect and can be configured as required. However, some features that rely on automatic detection, such as extended desktop, will not be supported.

## Monitor Properties 1 :



### ■ Attributes

Monitor Attributes provides information about the attached monitor. You can also enable Extended Display Identification Data. Extended Display Identification Data (EDID) uses the information provided by the attached monitor to determine the limits for the resolution and refresh rate.



### ■ Avivo™ Color

Use Avivo™ Color for ATI graphics cards that supports per-display color settings. Independently set the hue, saturation, and temperature for each attached and enabled display.



## ■ Adjustments

Use Monitor Adjustments to resize and reposition the computer desktop on your monitor's display screen. You can also adjust the horizontal and vertical sync or enable composite sync.



## ■ HDTV Support

Use HDTV Support when your CRT or DFP device supports one or more HDTV modes that are not initially listed in the Displays Manager due to an incomplete EDID. Selecting one or both of the HDTV modes adds them to the Force button located in the Displays Manager when the associated display is selected.

If you have a CRT and DFP device and want both to support HDTV, you must go to both HDTV Support pages and select both Add 720p and Add 1080i check boxes.

Note: Forcing a display mode that exceeds its EDID limits may result in permanent damage to your display!

## 3D :



- 3D Standard View

You can use 3D settings to adjust features found in such 3D applications as graphic-design and CAD programs and games.

This page is useful when you are not aware of which type of 3D settings your application uses, or when you want to use an overall adjustment control that rapidly configures your application.



- Standard Settings

The Standard settings page provides access to a universal slider control where you can simultaneously adjust all of the standard 3D settings for any type of 3D application. The slider enables you to adjust for overall system performance, overall 3D image quality, or a balance between the two.



- Anti-Aliasing

Anti-Aliasing is a technique used to smooth out the jagged edges of three-dimensional curved objects or objects with diagonal edges.

Anti-aliasing can be set to favor either an increase in system processing performance or improved image quality:

Setting for performance is best used when the 3D image is animated and smoothness of motion is the most important consideration.

Setting for quality is best used when having highly detailed and realistic 3D objects is the primary concern.

If you are unsure of how to configure anti-aliasing, use the Let the Application Decide option. Your display will automatically adjust to the application's requirements.



## ■ Adaptive Anti-Aliasing

Adaptive anti-aliasing is a technique that applies a combination of multi-sampling (MSAA) and super-sampling (SSAA) on 3D objects to improve edge smoothness and fine detail. This feature renders 3D objects containing transparencies more realistic, providing exceptional levels of image quality while maintaining performance.



## ■ Anisotropic Filtering

Anisotropic filtering is a technique that preserves detail on surfaces that have three-dimensional perspective and fade away into the background. It works best when used in conjunction with Mipmapping.

Anisotropic filtering can be set to favor either an increase in system processing performance or improved image quality:

Setting for performance is best used with applications that display objects with smooth, simple surfaces, like those seen in CAD applications.

Setting for quality is best used with applications that display highly detailed scenes, backgrounds, and textured objects, like those seen in 3D games. If you are unsure how to configure anisotropic filtering, use the Let the Application Decide option. Your display will automatically adjust to the application's requirements.



## ■ CATALYST™ A.I.

The CATALYST™ A.I. helps to enable or disable application specific optimization of the video driver. You can set the level of optimization by moving the slider from low to high.



## ■ Mipmap Detail Level

Mipmapping is a texturing technique that preserves the detail on a 3D object's surface as it moves into the background. A series of low- and high-resolution texture maps are stored in memory and selectively used to create the object's surface, depending on what level of detail is needed.

Mipmap detail level can be set to favor either an increase in system processing performance or improved image quality:

Setting for performance is best used when the 3D image is animated and smoothness of motion is the most important consideration.

Setting for quality is best used when high surface detail is required, especially if the animated object rotates or moves into the background.



## ■ SMARTSHADER™

SMARTSHADER technology incorporates major advances in the area of Pixel Shaders, which are small programs that execute on every pixel rendered to the display device. With support for up to six textures in a single rendering pass, the memory bandwidth constraints associated with multi-pass rendering can be greatly reduced, which translates into better rendering performance. By doubling the maximum allowable length of the shader programs, more complex effects can be created to accurately model the visual properties of materials and surfaces, including hair, skin, wood, and water.



## ■ All settings

The All Settings page combines all of the principal 3D features onto a single page, without any preview window, allowing for quick access and adjustment. You can change the settings for the following 3D features as you normally would on each feature's own page:

- Anti-aliasing
- Anisotropic filtering
- Texture preference
- Mipmap detail level
- Wait for display refresh
- SmartShader™ effects

This page is useful when it is not necessary to preview the adjusted settings because the effect is already known or understood.



## ■ API-Specific

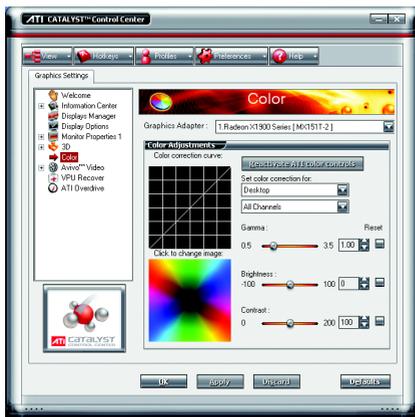
The 3D API-Specific dialog helps to select settings that are exclusively for the Direct3D® and OpenGL® Application Programmable Interfaces (API). These settings are provided for resolving certain incompatibilities within 3D applications that use one of these APIs.

Use this dialog when you are know which type of API (Direct3D® or OpenGL®) your 3D application uses, and you want to select a particular API-specific feature.

If you are not sure which API your 3D application uses, consult the documentation of your 3D application.

## Color :

The Color page helps to adjust the color properties of your Desktop and Full Screen 3D applications and games. Use the Color Correction Images to preview the changes before applying them. The Color curve is a graphical representation of all the values of gamma, brightness, or contrast. The color curve line will reflect any changes made to these elements.



Set color correction for:

## ■ Desktop

Adjust the overall richness of color by using the Gamma control. To adjust the overall brightness use the Brightness control, and the overall contrast use the Contrast control.

## ■ Full Screen 3D

Adjusting the Gamma control alters the overall richness of color. Adjusting the Brightness control alters the overall brightness. Adjusting the Contrast control alters the overall contrast. Adjusting the Gamma can be useful for CAD applications that rely heavily on color coding or applications that require realistic color.

Adjusting the Brightness and Contrast can be useful for 3D games that display dimly lit scenes.

## Avivo™ Video :



### ■ Avivo Video Standard View

Use the Avivo™ Video aspect to apply standard video settings with a Wizard or selecting a video preset. Use Adjustments to configure gamma, brightness, and hue. Use Theater Mode to set aspect ratio and overlay display mode. Preview your changes before applying them.



### ■ Standard Settings

To quickly adjust your video settings choose one of the video presets or use the Video Wizard to configure your display devices.



## ■ Adjustments

Use Avivo™ Video Adjustments to manually set Gamma, Brightness, Contrast, Saturation, and Hue.



## ■ Theater Mode

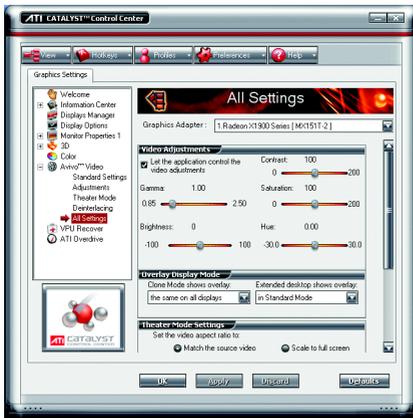
Use Theater Mode to change the way you view streaming video.



## ■ Deinterlacing

Deinterlacing creates a sharp image from the two video fields of interlaced video. Select one of five options for deinterlacing video for better viewing.

- Auto Detect lets the multimedia driver to select the best deinterlacing scheme for different video sources and sizes.
- Bob deinterlacing, when selected, removes every other line of the video image and is recommended for motion video.
- Adaptive deinterlacing, when selected, reacts to the amount of motion in the video and apply a media filter on a motion block and apply weave on the remaining blocks.
- Motion Adaptive deinterlacing, when selected, applies the advanced motion detection to deinterlace the video.
- Weave does not apply any deinterlacing.



## ■ All Settings

The All Settings page combines all of the principal Video features onto a single page, without any preview window, allowing quick access and adjustment.

This page is useful when it is not necessary to preview the adjusted settings because the effect is already known or understood.

## VPU Recover :

VPU Recover enables the ATI display driver to detect when the graphics processor stops responding to display-driver instructions. When this happens, the display driver attempts to reset the graphics hardware. In most cases, VPU Recover will be able to reset the graphics processor without requiring a system restart.

Should the computer be unable to recover from a crash, VPU Recover will switch the computer to software rendering mode, allowing you to save any work in progress before restarting the computer.



- Enable VPU Recover
- Prepare an error report if VPU Recover is activated, for submission to ATI Technologies. Allows the VPU Recover, once it is activated, to generate an error report that you can send to ATI via e-mail.

## ATI Overdrive :

Use the ATI Overdrive™ aspect to maximize the performance of the graphics processing unit (GPU) on your graphics card. An on-chip thermal sensor constantly monitors the temperature of the GPU allowing the maximum clock speed to be maintained while avoiding overheating. If the GPU gets too hot, the ATI Overdrive aspect will automatically decrease the clock speed until a safe temperature is reached. The ATI Overdrive aspect will never reduce the graphics processor speed below the default clock speed.



### CrossFire™ Setting:

Enter the CrossFire™ menu and assure to select the **Enable CrossFire** checkbox to complete the configuration.



Please refer to the actual CrossFire™ installation images.



## 3.2. Windows® 2000 Driver Installation

With Windows running on your computer, you need to install the graphics card driver to take advantage of the higher performance, resolutions, and special graphics features of the graphics card. To ensure you install the latest driver, insert the Installation CD that shipped with your graphics card.

To install the graphics card driver for Windows® 2000, please insert the Installation CD. Then the AUTORUN window will show up. Click **Install Display Driver** item, and follow the wizard to install the driver.

If Windows® does not show the CD automatically, please run following steps:

1. Click the **Start** button on the control bar.
2. Select **Run**.
3. Type the following: D:\SETUP.exe  
(If D is not your CD-ROM drive, substitute D with the correct drive letter.)
4. Click **OK**.
5. Click on **Install Display Drivers** to begin the Installation Wizard.
6. Click **Next**.
7. Click **Yes** to the license agreement.
8. Follow the Wizard's on-screen instructions to complete the installation.



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

## 4. Troubleshooting Tips

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

- Check that the card is seated properly in the PCI Express x 16 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.
- Restart your computer. Press the **F8** key on your keyboard after system starts up. When the Windows Advanced Options Menu appears, select Safe Mode and press Enter. After getting into Safe Mode, in Device Manager check whether the driver for the graphics card is correct.
- 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 in MS-DOS mode

1. Extract the downloaded Zip file to your hard disk(s) or floppy disk. This procedure assumes drive A.
2. Restart the computer in MS-DOS mode. (For Windows 2000/XP, you need a startup disk to restart the computer in MS-DOS mode.)
3. Change the command prompt to A:\>.
4. To back up the current BIOS, at the A:\> prompt, type [BIOS flash utility name] -s [BIOS file name] (**example: gvf13 -s rx85x8vb.f1**) and press **Enter**.
5. To flash BIOS, at the A:\> prompt, type [BIOS flash utility name] -p [BIOS file name] (**example: gvf13 -p rx85x8vb.f2**) and press **Enter**.
6. Wait until it's done, then restart your computer.

## 5.2. Resolutions and Color Depth Table (In Windows® XP)

### Radeon X1900XT 2D Single Display Modes

Display Screen Resolution	Maximum Refresh Rate (Hz)	Color Depth (bpp)		
		8bpp(256 color) Standard mode	16bpp(65K color) High mode	32bpp(16.7M) True mode
<b>640 x 480</b>	200	✓	✓	✓
<b>800 x 600</b>	200	✓	✓	✓
<b>1024 x 768</b>	200	✓	✓	✓
<b>1152 x 864</b>	100	✓	✓	✓
<b>1280 x 768</b>	85	✓	✓	✓
<b>1280 x 960</b>	160	✓	✓	✓
<b>1280 x 1024</b>	120	✓	✓	✓
<b>1600 x 1200</b>	100	✓	✓	✓
<b>1792 x 1344</b>	85	✓	✓	✓
<b>1800 x 1440</b>	70	✓	✓	✓
<b>1856 x 1392</b>	75	✓	✓	✓
<b>1920 x 1080</b>	75	✓	✓	✓
<b>1920 x 1200</b>	85	✓	✓	✓
<b>1920 x 1440</b>	75	✓	✓	✓
<b>2048 x 1536</b>	66	✓	✓	✓

### Radeon X1900XT HDTV Display Modes

Display Screen Resolution	Maximum Refresh Rate (Hz)
<b>480i</b>	30
<b>704 x 480</b>	30
<b>720 x 480</b>	30
<b>480p</b>	60
<b>704 x 480</b>	60
<b>720 x 480</b>	60
<b>856 x 480</b>	60
<b>720p</b>	60
<b>1280 x 720</b>	60
<b>1080i</b>	30
<b>1920 x 1080</b>	30

\* The table is for reference only. The actual resolutions supported depend on the monitor you use.





