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FireGL™ V3200
FireGL™ V3100
User's Guide

137-50049-20

ATI™ FIREGL™
WORKSTATION GRAPHICS ACCELERATORS

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Documentation Updates

ATI is constantly improving its product and associated documentation. To maximize the value of your ATI product, you should ensure that you have the latest documentation. ATI's documentation contains helpful installation/configuration tips and other valuable feature information.

IMPORTANT SAFETY INSTRUCTIONS

- **Read Instructions** - All the safety and operating instructions should be read before the product is operated.
- **Retain Instructions** - The safety and operating instructions should be retained for future reference.
- **Heed Warnings** - All warnings on the product and the operating instructions should be adhered to.
- **Compatibility** - This option card is for use only with IBM AT or compatible UL Listed personal computers that have Installation Instructions detailing user installation of card cage accessories.
- **Grounding** - For continued protection against risk of electric shock and fire, this accessory should be installed only in products equipped with a three-wire grounding plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace the obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.
- **Secure Attachment** - All card securement pins shall be completely tightened as to provide continuous bonding between the option card and the PC chassis.
- **Lightning** - For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet, and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.
- **Power Lines** - An outside antenna system should not be located in the vicinity of overhead power lines or other light or power circuits, or where it can fall into such power lines or circuits.
- **Antenna Installation** - When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits, as contact with them may be fatal.

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CHAPTER 1:

Getting Started

Your ATI FireGL™ card is an advanced workstation 3D graphics card based on a high-bandwidth, parallel pipeline geometry and rendering architecture. The card delivers workstation-class performance to designers, engineers, and animators, and runs the latest OpenGL® and Microsoft® DirectX® applications.

Features of your FireGL™ workstation graphics card include:

- Real-time photo-realistic rendering and animation.
- Stable and reliable software support for Windows® and Linux® platforms.
- Optimized and certified for professional workstation applications.
- SMARTSHADER™ technology for creating complex visual effects.
- SMOOTHVISION™ technology for advanced full-scene anti-aliasing.
- HYPER Z™ III technology to for efficient Z-buffer bandwidth consumption.

System Requirements

Make sure you meet the following system requirements before installing your FireGL™ card.

Hardware	• Intel® Pentium® 4/Xeon®; AMD Athlon® 64/K7/XP or compatible. • 128 MB of system memory; 256 MB or more for best performance. • Motherboard with available X16 lane PCI Express slot and correct chipset driver. • CD-ROM drive (required for installation software). • 350 watt or greater power supply (recommended).

Operating System	• Windows® 2000 with Service Pack 1 (or higher). • Windows® XP Home or Pro with Service Pack 1 (or higher). • Linux® XFree86 4.X.0.
Monitor	• High-resolution MultiSync or multi-frequency monitors or other VGA monitors. • Digital flat-panel (DFP) displays or digital CRT displays.

Before You Begin

Before you begin installing your FireGL™ product, please do the following.

Record Your Serial and Part Numbers

The serial number and 102 part number on the graphics card are required for registration. They are located on a sticker on the back of the card.

Write these numbers down before installing your new ATI product.



Serial and Part Numbers

❶	Serial number (S/N)
❷	102 part number (P/N)

Uninstall Previous Graphics Card Drivers

To ensure the successful installation of your new FireGL™ card, you must uninstall the drivers for the existing graphics card before removing it from your computer.

To uninstall previous drivers

With your current graphics card still in your computer:

1. Close all applications that are currently running.
2. Navigate to the **Control Panel** and select **Add/Remove Programs.**
3. Select your current graphics card drivers and select **Add/Remove.** The wizard will help you remove your current display drivers.

   Note: If the previously installed graphics card has any additional software installed, it should also be removed at this point.

4. Restart your system after the drivers have been removed.

CHAPTER 2:

Installing Hardware

This chapter will guide you through the physical installation of your FireGL™ card.

Quick Installation

Experienced users and system administrators can follow these brief instructions for installing the FireGL™ card in the shortest possible time.

To perform a quick installation

1. Uninstall the drivers and software for your old graphics card if you have not already done so.

   Note: If you are using a motherboard containing an on-board graphics solution and do not intend to use it as part of a multiple monitor display, disable it.

2. Shut down and disconnect your computer system.
3. Remove any previously installed card.
4. Install your new FireGL™ card.
5. Reassemble and connect your computer system.
6. Install the FireGL™ drivers and configuration software from the ATI Installation CD-ROM by doing one of the following:
   - Run through the automatic **ATISETUP** utility; or
   - **Start > Run > X:\ATISETUP.EXE** (where **X** is the drive letter of your CD-ROM drive).

Detailed Installation

The following instructions will take you step by step through the installation of your new FireGL™.

Turn off the computer, monitor, and other peripheral devices.

7 Unplug the computer's power cord and disconnect all cables from the back of your computer.

> ⓘ **WARNING** - Wait approximately 20 seconds after unplugging the power cord before disconnecting a peripheral or removing a component from the motherboard to avoid possible damage to the motherboard.

8 Remove the computer cover.

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

> ⓘ **WARNING** - Remember to discharge your body's static electricity by touching the power supply or the metal surface of the computer chassis.

9 Unscrew or unfasten and remove any existing graphics card from your computer.

Note: If your computer has an on-board graphics capability, you may need to disable it on the motherboard. For more information, see your computer documentation.

10 Locate the appropriate slot and, if necessary, remove the metal back-plate cover.

11 Align your ATI graphics card with the slot and press it in firmly until the card is fully seated.

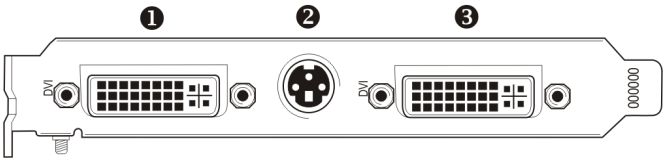
12 Screw in or fasten the graphics card securely and replace the computer cover.

13 Reconnect any cables you have disconnected and plug in the computer's power cord.

14 Turn on the monitor and then your computer.

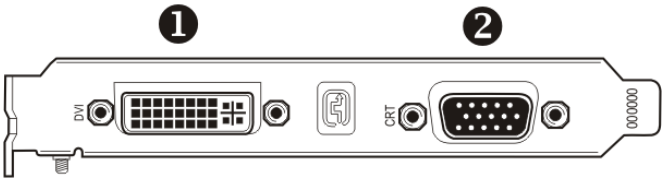
Connecting Display Devices

The following connections are available:



FireGL™ V3200 Baseplate

1	DVI-I Connection
2	Stereographics Connection
3	DVI-I Connection

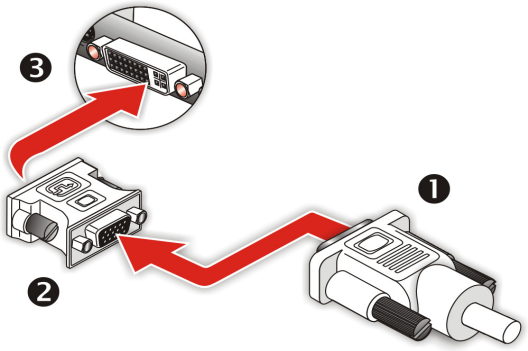


FireGL™ V3100 Baseplate

1	DVI-I Connection
2	VGA Connection

Your FireGL™ card can connect one or two monitors, either DFP/digital CRT or analog VGA. The V3200 can also connect a stereographics device.

You will need to use an adapter to connect analog VGA devices to the DVI-I connections.



Using a VGA-to-DVI-I Adaptor

1	VGA Monitor Connector
2	VGA-to-DVI-I Adaptor
3	DVI-I Connection

Make sure all cables are securely connected before turning on your system.

Display Configurations: V3200

The FireGL™ V3200 graphics card provides dual display functionality as well as stereographics. The following table lists the different ways you can connect displays to your card.

Display Configuration	Connector(s) Used	Comments
Single DFP display	DVI-I connector	DFP - digital flat panel display.
Single CRT display	VGA connector with VGA-to-DVI-I adapter	CRT- cathode ray tube analog display. The DVI-I connection can support a CRT display using the VGA-to-DVI-I adapter.
Stereographics device	Stereographics	One monitor must be connected for stereographics to function.
DFP display + Stereographics	DVI-I connector + Stereographics	

Display Configuration	Connector(s) Used	Comments
CRT display + Stereographics	VGA connector with VGA-to-DVI-I adapter + Stereographics	
DFP display + DFP display	DVI-I connector + DVI-I connector	
CRT display + DFP display	VGA connector with VGA-to-DVI-I adapter + DVI-I connector	
CRT display + CRT display	VGA connector with VGA-to-DVI-I adapter + VGA connector with VGA-to-DVI-I adapter	
DFP display + DFP display + Stereographics	DVI-I connector + DVI-I connector + Stereographics	**UNSUPPORTED** - Stereographics will not function correctly if two monitors are enabled. Disable one monitor before using stereographics.
CRT display + DFP display + Stereographics	VGA connector with VGA-to-DVI-I adapter + DVI-I connector + Stereographics	**UNSUPPORTED** - Stereographics will not function correctly if two monitors are enabled. Disable one monitor before using stereographics.
CRT display + CRT display + Stereographics	VGA connector with VGA-to-DVI-I adapter + VGA connector with VGA-to-DVI-I adapter + Stereographics	**UNSUPPORTED** - Stereographics will not function correctly if two monitors are enabled. Disable one monitor before using stereographics.

Display Configurations: V3100

The FireGL™ V3100 graphics card provides dual display functionality. The following table lists the different ways you can connect displays to your card.

Display Configuration	Connector(s) Used	Comments
Single CRT display	VGA connector	CRT- cathode ray tube analog display.
Single DFP display	DVI-I connector	DFP - digital flat panel display.
CRT display + DFP display	VGA connector + DVI-I connector	
CRT display + CRT display	VGA connector + VGA connector with VGA-to-DVI-I adapter	The DVI-I connection can support a CRT display using the VGA-to-DVI-I adapter.

Turning on the System

ⓘ **WARNING** - Turn on your monitor before you turn on your computer. Failure to do so could damage your monitor.

If you have properly installed your graphics card, operating system messages will appear once the boot procedure is finished.

Your monitor will be running in a basic video mode. Higher refresh rates are not available at this stage of the installation. Once you have installed the FireGL™ drivers and software, you can use the Display Properties control panel to adjust the video settings and configure multiple monitors.

CHAPTER 3:

Installing Software

This chapter will guide you through the installation of the drivers and software associated with your FireGL™ card.

HYDRAVISION™ Multi-monitor Management

The HYDRAVISION™ multi-monitor and desktop management software will install automatically with the Express driver installation of the ATISETUP utility. If you do not want to install HYDRAVISION™ , select the **Custom** driver installation and clear the **HYDRAVISION™** check box.

For more information concerning HYDRAVISION™ , consult the user's guide included on the ATI Installation CD-ROM.

Installing Drivers and Software in Windows®

You will need to install the FireGL™ drivers and software in the following cases:

- After you have installed the card in your system.
- After you have reinstalled or upgraded your operating system.

This procedure applies to Windows® 2000 and Windows® XP.



Linux drivers and installation instructions are available from **ati.com/support**

Software Installation Prerequisites

To install or remove the drivers, you must have administrator rights or be logged on as a user with administrator rights.

Your operating system must be installed and running before you can install the FireGL™ drivers. You must also have Service Pack 1 (or higher) for Windows® 2000 or Windows® XP installed.

Make sure your monitor cable is properly attached before you begin.

> **Note:** The installation dialog will display in English if your operating system's language is not supported.

To install ATI drivers and software

1. Start your system. When the **Found New Hardware Wizard** comes up, click **Cancel**. When the **System Settings Change** window asks you to restart your computer, click **No**.
2. Run the **ATISETUP** utility. The **ATISETUP** utility will start automatically if you insert the ATI Installation CD-ROM into your CD-ROM drive after the operating system has started. If your CD-ROM auto-run is not enabled or the **ATISETUP** utility does not start automatically:
    a) Click the **Start** button in the task bar.
    b) Click **Run**.
    c) Select **ATISETUP.EXE** from the root directory of the ATI Installation CD-ROM.
    d) Click **OK**.
3. Click **Install** under Software Install.
4. Click **Next**.
5. Click **Yes** to the license agreement. ATI Easy Install will start the Installation Wizard.
6. Follow the wizard's on-screen instructions to complete the installation.

    Note: The **Express** installation option is recommended. The HYDRAVISION™ multi-monitor and desktop management software will automatically be installed, along with the ATI driver, by selecting this option. Not all software components are installed using the **Express** installation. **Custom** installation allows you to select individual software components for installation.

7. When the **Setup complete** message appears, select **Yes, I want to restart my computer now** and click **Finish**.

8 After the system reboots, the **Found New Hardware** message may display the **Digital Signature Not Found** message. Click **Yes** or **Continue** to complete the driver installation.

Monitor Configuration

Once the drivers and software have been installed, you can configure your monitor.

To configure your primary display

1 Navigate to the Control Panel and choose **Display** or right-click on the desktop and choose **Properties**.

2 Choose the **Settings** tab and select a screen resolution and color depth that best suit your requirements and your monitor's performance.

3 Click the **Advanced** button and select the **Monitor** tab.

4 Choose a refresh rate from the drop-down list.

> **WARNING** - Choosing a refresh rate unsupported by your monitor may damage your monitor. Consult your monitor's documentation if necessary.

5 Click **OK** until you return to the desktop.

To set up a multi-monitor display

1 From the **Start menu** click **Control Panel**, then **Display**. Click the **Settings** tab to access the basic multi-monitor configuration settings.

Note: ATI software provides many additional configuration features that can be accessed by clicking the **Advanced** button from the **Display Properties > Settings** tab.

2 Select the **Monitor** icon identified by the number **2**.

3 Click **Extend my Windows desktop onto this monitor**.

4 Set the **Screen Resolution** and **Color Quality** as appropriate for the second monitor. Click **Apply** or **OK** to apply these new values.

- Refer to your Windows online help and documentation for further information on using the **Settings** tab.

Note: When you use multiple monitors with your FireGL™ card, one monitor will always be **Primary**. Any additional monitors will be designated as **Secondary**.

Reinstalling Drivers

The software installation procedure detailed in this chapter describes how to install the drivers for your graphics card after you have installed a new card for the first time and have rebooted your computer.

If you are installing the graphics card drivers in a special working scenario, such as if you have reinstalled your operating system or want to perform a manual reinstallation.

To reinstall drivers using the ATISETUP utility

You can always install the drivers using the **ATISETUP** utility on the ATI Installation CD-ROM. The **ATISETUP** utility will start automatically if you insert the ATI Installation CD-ROM into your CD-ROM drive after the operating system has started. If your CD-ROM auto-run is not enabled or the **ATISETUP** utility does not start automatically, perform the following actions:

1. Click the **Start** button in the task bar.
2. Select **Run.**
3. **Browse** to `ATISETUP.EXE` on the root directory of the ATI Installation CD-ROM and click **OK.**

To manually reinstall drivers

To manually reinstall drivers, when prompted for a driver installation CD, insert the ATI Installation CD-ROM and browse to the **drivers** subdirectory**.**

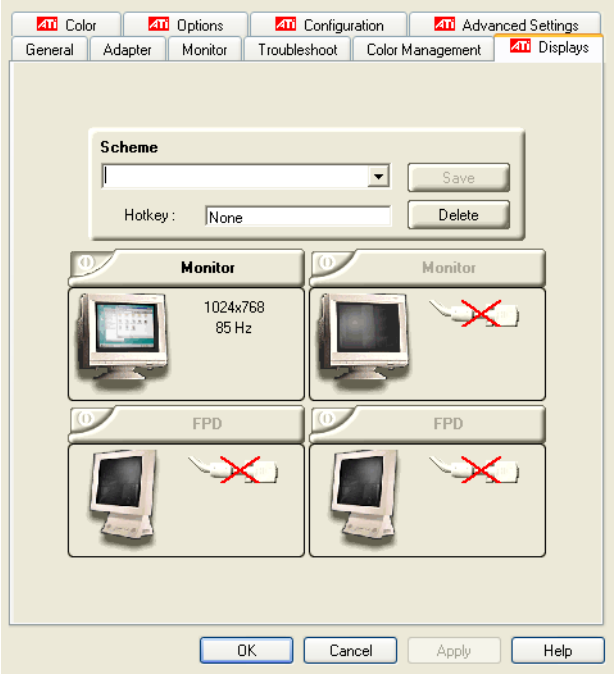
CHAPTER 4:

Display Properties

This chapter describes how to use the advanced display, multiple-monitor, and 3D graphics features in ATI's Display Properties options.

ATI Displays Tab

The ATI Displays tab provides control over multiple-monitor features. Here you can enable/disable display devices and swap the assignment of **Primary** and **Secondary** displays.



The Displays Tab

ATI Displays Tab	
Scheme	Displays the drop-down list of available display-device configurations that have previously been created. New configurations can be entered here and then saved using the **Save** button.
Hotkey	Associates a hotkey with a scheme. To input the hotkey, highlight the field and press the appropriate key combination on your keyboard.
Display Configuration button	These are the buttons that contain the name of the devices that can be connected to your graphics card, such as **Monitor**, **Panel**, **FPD**, **TV** or **YPrBr**. Clicking on any of these buttons opens further options to refine your display on that device. Only the type of devices supported by your graphic card will be displayed as valid options. If the text on the button is greyed out, that device is not currently connected to your graphics card.
Save button	Saves display-device configuration schemes.
Delete button	Deletes display-device configuration schemes.
Display buttons	Enables or disables a display device; they also indicate whether a device is enabled or disabled.

To enable or disable a display

If the enable/disable button is green, it indicates the device is enabled. If it is red, it indicates the device is disabled. If the button is greyed out, the device is not an option. For example, if there is only one monitor connected, all buttons will be grey.

1. Click the enable/disable button  for the display device you want to enable/disable.
2. Click **OK** or **Apply** to save the changes.

Note: Due to power restrictions, you can normally only have two devices active at the same time; for example, two monitors or a monitor and a TV.

To save a display-device scheme

Display-device selections can be saved as a scheme for quick recall.

1 Click the enable/disable button  for the display devices you want to have active.

2 Type a name into the **Scheme** drop-down list field.

3 Click **Save** to save the scheme.

Dynamic Display Reassignment

You can change the assignment of your Primary and Secondary display on the fly, without rebooting. If you have more than one display device available and have the proper adapters or connectors, you can plug it in to your FireGL™ graphics card in order to view or extend your desktop display to that device.

> **Note:** Before you can change the assignment of the Primary display, at least one Secondary display and the Extended Desktop mode must be enabled. Extended Desktop mode is enabled through the Windows® **Display Property** dialog, under **Settings**. For more information, consult your Windows® documentation.

To assign your Primary monitor

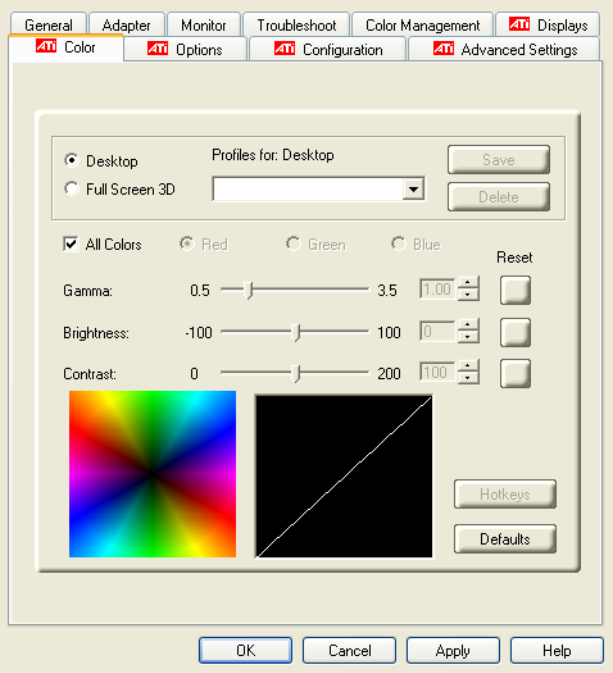
1 Click the buttons to assign the Primary monitor:

- Clicking the  button will reassign the Primary and Secondary monitors. Clicking the  button creates a clone or mirror image of the Primary display onto the Secondary display.

2 Click **OK** or **Apply** to save the changes.

ATI Color Tab

The ATI Color tab allows you to configure Gamma, Brightness, and Contrast color settings for both your desktop and full screen 3D environments. You can also save settings to a color profile for easy recall. In addition, you can assign unique hotkey combinations that allow you to adjust Gamma, Brightness, and Contrast color settings within your full-screen 3D applications.



The Color Tab

ATI Color Tab	
Desktop radio button	Select **Desktop** to configure your desktop color settings.
Full Screen 3D radio button	Select **Full Screen 3D** to configure the color settings for your 3D applications. Note that the configured settings will only be apparent within a full-screen 3D application environment.
Profiles for	Indicates whether the profiles in the drop-down list are for your Desktop or a full-screen 3D environment.
Profiles drop-down list	Lists all of the Desktop or Full Screen 3D profiles that you have saved. Selecting a profile from the list loads those custom color settings for the relevant environment. To create a new profile, simply type in a name and click **Save**.

ATI Color Tab	
Save button	Saves your current color settings to a Desktop or Full Screen 3D profile, using the name you specified in the list box. To restore these settings later, simply select the Profile name from the list and click **Apply** or **OK**.
Delete button	Deletes the profile that is selected in the Profiles list box.
All Colors checkbox	Adjusts the Gamma, Brightness or Contrast for Red, Green, and Blue simultaneously. Note that any individual color settings in effect are lost if **All Colors** is selected; the color settings revert back to the last-known All Colors settings.
Red, Green, and Blue radio buttons	Selects the active color component (Red, Green, or Blue) whose values will be adjusted by the Gamma, Brightness, and Contrast sliders. Note that any individual color settings made are lost if you subsequently select **All Colors**.
Gamma slider	Increases or decreases the gamma correction of your Desktop or full-screen 3D application. Changing the gamma alters the curvature of the color curve.
Brightness slider	Increases or decreases the color brightness of your Desktop or full-screen 3D application. Changing the brightness adjusts the vertical position of the color curve.
Contrast slide	Increases or decreases the color contrast of your Desktop or full-screen 3D application. Changing the contrast adjusts the slope of the color curve.
Reset buttons	Restores an individual slider setting to its default value. Click **Apply** or **OK** to save.
Color preview box	The color image indicates visually how the Gamma, Brightness and Contrast sliders affect the final color settings of your display device. In Desktop mode, clicking on this with your mouse pointer will change the image.
Hotkeys button	Opens the **Color Hotkeys Settings** dialog. There you can assign hotkeys for adjusting your color settings within a full-screen 3D application environment. To activate this button, you must select the **Full Screen 3D** radio button.
Defaults button	Restores all of the color settings to the default values. Click **Apply** or **OK** to save.
Color Curve box	The color curve indicates mathematically how the **Gamma**, **Brightness** and **Contrast** sliders affect the final color settings of your display device.

To create a Desktop or Full Screen 3D profile

1. Choose either the **Desktop** or **Full Screen 3D** radio button, as desired.
2. Adjust the **Gamma**, **Brightness**, and **Contrast** sliders to the desired settings, either individually or using the **All Colors** checkbox.
3. Type a profile name in the Profile list box.
4. Click **Save**.

To apply the settings for a specific Desktop profile

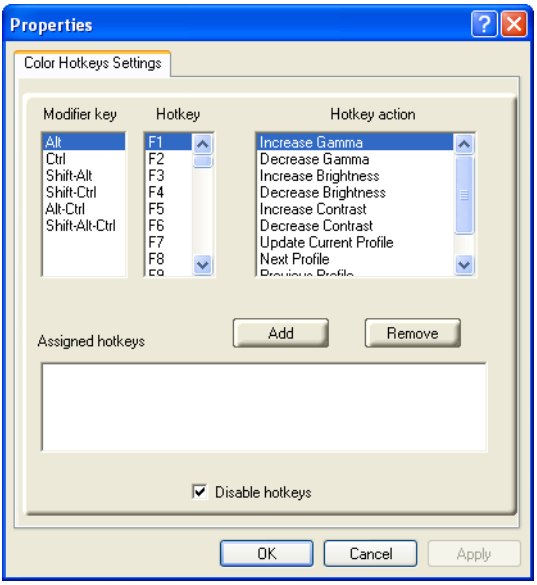
1. Choose the **Desktop** radio button.
2. Select the profile name from the drop-down list box.
3. Click **Apply** or **OK**.

To apply the settings for a Full Screen 3D profile

1. Choose the **Full Screen 3D** radio button.
2. Select the profile name from the drop-down list box.
3. Click **Apply** or **OK**.
4. Start your 3D application in full-screen mode.

Hotkeys

Some 3D applications automatically load their own color settings rather than those set through the ATI Color tab. To use custom settings, you can preconfigure hotkey combinations to either adjust the individual color properties or apply profiles you have created, once the 3D application is running.



The Color Hotkeys Settings dialog

To access the Color Hotkeys Settings dialog

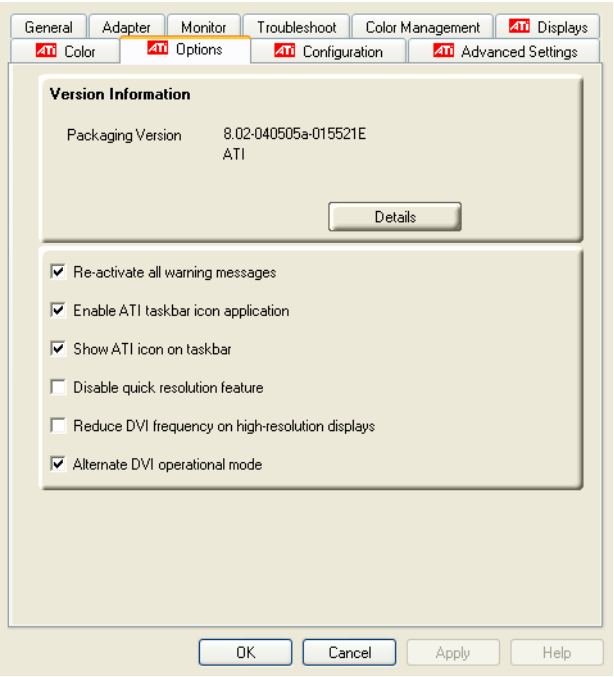
1. Select the **Full Screen 3D** radio button.
2. Click the **Hotkeys** button to access the Color Hotkeys Settings dialog.

The easiest way to apply your own color settings from within a full screen 3D application is to create a Full Screen 3D profile and save it, assign hotkeys for the “Load Current Profile” action through the Hotkeys dialog, make sure that the profile you prefer is selected from the drop-down list box, and click **OK**. Once inside the 3D application, use the hotkeys to trigger the profile.

Some 3D applications allow you to switch easily between full-screen mode and windowed mode and do not load their own color settings. In windowed mode, you can make slider adjustments or select a different profile on the Color tab, then switch back to full-screen mode to see the effects immediately.

ATI Options Tab

The ATI Options tab provides detailed driver information and access to your graphics card's versioning and specifications. You can also enable or disable the ATI taskbar icon from this dialog.



The Options Tab

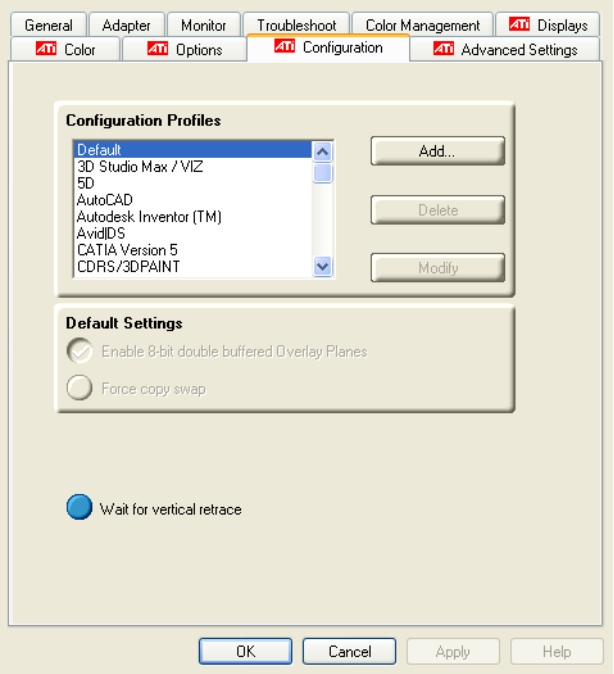
ATI Options Tab	
Version Information	Shows the driver build version.
Details button	Gives access to the Details tab, which lists the card's hardware details and driver information.
Reactivate all warning messages	Reactivates any disabled graphics warning messages.

ATI Options Tab	
Enable ATI taskbar icon application	Enables/disables the ATI taskbar applications and removes the ATI icon from your system tray.
Show ATI icon on taskbar	Removes/replaces the ATI icon from the system tray without disabling the ATI icon applications.
Disable quick resolution feature	The quick resolution feature is accessible by left-clicking the ATI icon in the system tray. Checking this option disables this feature.
Reduce DVI frequency on high-resolution	Resolves display corruption or no image at high resolutions (for example 1280x1024 @75Hz) using a digital DVI display. This setting has no effect when using a DVI-I-to-VGA adapter.
Alternate DVI operational mode	Use this option if you are experiencing display corruption on your DVI flat panel display.

ATI Configuration Tab

The Configuration Tab enables you to customize display profiles for individual applications. Typically, you would change these settings for one or more of the following reasons:

- Diagnostic purposes.
- Fine-tuning a specific application/system configuration.
- Specific settings recommended by your hardware or software documentation.
- Tuning your application/system environment for best performance and memory usage.



The Configuration Tab

Activating a configuration profile

The **Configuration Profiles** listbox displays a number of common applications whose optimal configuration profile are factory-set by default.

To activate a particular profile, select the application name from the list and click **Apply**. This will add the information to the necessary Windows registry settings. If prompted, restart Windows.

If you subsequently experience problems with your application, or if you want to try to optimize the performance of your system on specific applications, modify your configuration settings accordingly.

Adding a new application profile

Click the **Add** button in the Configuration Profiles section and enter the name of the new application for which you want to set the configuration parameters.

Modifying the configuration parameters

To change the configuration settings of a specific application, select the name of that application from the **Configuration Profiles** listbox. Click the **Modify** button. Now select or clear the rest of the configuration controls on this tabbed dialog to obtain the desired display parameters for the selected application.

To remove the selected configuration profile completely, select the name of the application from the **Configuration Profiles** listbox click **Delete**.

Note: You cannot delete the factory-set configuration profiles.

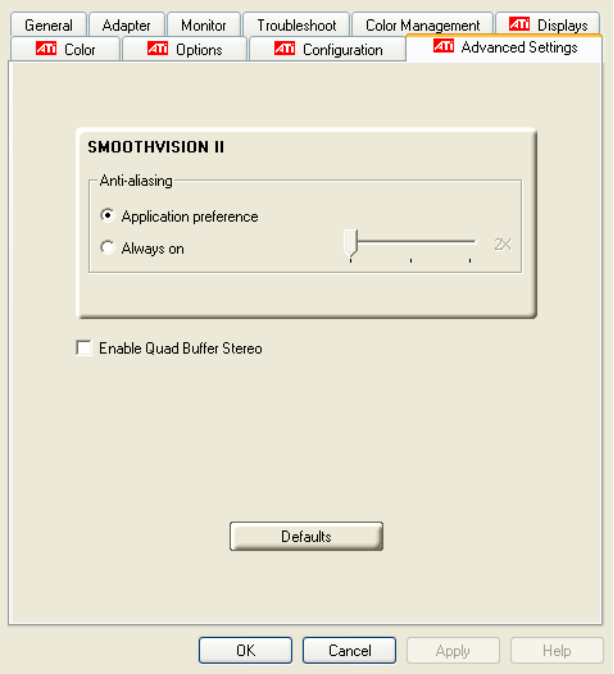
Click the **Apply** or **OK** button to enable your **Configuration** settings.

Configuration Settings	
Enable 8-Bit double-buffered Overlay Planes	A default setting that uses 8 bits of each 32-bit frame buffer pixel as double-buffered overlay planes.
Force copy swap	A default setting that forces blit copy from the back-to-front buffer. This copies pixels quickly from memory to the screen, reducing flicker and increasing the frame rate. Note that OpenGL® buffer swaps are implemented using a back-to-front buffer instead of a screen flip.
Wait for vertical retrace	The buffer swap is 'synched' to the refresh rate of the monitor. Enabling this will lower the frame rate but reduce visual artifacts such as tearing. Disabling allows your application to run at the 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.

ATI Advanced Settings Tab

The Advanced Settings tab enables you to apply ATI's SMOOTHVISION™ technology for full-scene anti-aliasing, and to utilize stereo shutter glasses for visualizing immersive 3D-stereo display (only available for those FireGL™ cards equipped with a stereo video connector).

SMOOTHVISION™ improves image quality by removing jagged edges (anti-aliasing) from 3D images, resulting in smoother, more natural looking objects.



The Advanced Settings Tabs

How to Use SMOOTHVISION™

The **Application preference** setting provides OpenGL® and Direct 3D® applications with the ability to enable anti-aliasing automatically. If an application does utilize an anti-aliasing setting, it is disabled. This option results in high-quality images at the price of a negligible reduction in the application's performance.

When **Always on** is enabled, you can apply anti-aliasing using different sample patterns and sample points such as 2X or 4X. Moving the slider to the right increases sampling to provide the most realistic 3D image, at the cost of overall 3D performance.

> **Note:** The **Always on** setting overrides an application's anti-aliasing setting.

How to Use Stereo Glasses with Your FireGL™ Card

The **Enable Quad Buffer Stereo** option requires a stereographics connection on your FireGL™ card. Enabling this feature while using compatible stereo glasses and applicable software provides an immersive 3D-stereo display.

> The **Enable Quad Buffer Stereo** option is only available for graphics cards that come with a stereographics connection.

CHAPTER 5:

Reference

This chapter offers troubleshooting tips and provides customer-care, warranty, and compliance information.

Troubleshooting

The following troubleshooting tips may help if you experience problems. ATI's documentation contains helpful installation/configuration tips and other valuable feature information. Please contact your dealer for more advanced troubleshooting information.

More troubleshooting information can be found on the ATI Web site. Please visit **ati.com** and select Customer Care.

General Problems

Problem	Possible Solution
Computer Does Not Boot-Up Properly	• Verify that the installation instructions were properly followed. • Check that the card is properly installed in your system and connected to your monitor. • If you have problems during start-up, restart your computer in **Safe Mode**. While starting Windows® 2000 and Windows® XP, press and hold **F8** until you see the Windows® Advanced Options Menu. Use the arrow keys to select **Safe Mode**, and press **Enter**. • Check the system configuration utility of your operating system for the interrupt assignments. • Contact ATI's Customer Care or your local technical support.
No Display	• Check that the card is seated properly in its expansion slot. • Ensure that the monitor cable is securely fastened to the card. • Make sure that the monitor and computer are plugged in and receiving power. • If necessary, disable any built-in graphics capabilities on your mother board. 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 that you selected the appropriate monitor when you installed your enhanced driver.
Screen Defects Appear	• Check if your monitor supports the resolution, horizontal (kHz) and vertical (Hz) refresh rates as required by the graphics card. • Check your current resolution, refresh rate, and color depth settings in the **Settings** and **Monitor** tabs in your **Display Properties** dialog. **Warning!** Ensure that both video card and monitor support resolution and refresh rates you select. Incompatible resolution/refresh rate selection may result in monitor damage. Refer to your monitor's documentation for recommended resolutions and refresh rates.

Problem	Possible Solution
Off-Center Screen Image, Odd Colors or No Picture	• Try adjusting the brightness, sharpness, contrast, and color balance controls of your monitor. • Try adjusting the centering and positioning controls of your monitor to position the picture on the screen. **Note:** The **Screen Position** settings in **Display Properties > Advanced > Displays > Adjustments** tune the position of the picture on the screen via the video signal. • Set the monitor's RGB inputs (and sync switches, if this option is available) to 75 Ohms, with the sync set to external. • DFP monitor users: Make sure that the DVI plug of your monitor data cable is digital-only (DVI-D) - but not integrated analog/digital (DVI-I). Refer to your monitor's documentation and contact your supplier or the manufacturer of the DFP monitor for information on how to obtain a suitable data cable plug.
Operating System Warns that Video Card Isn't Properly Configured	• Check the driver installation and make sure that all software is correctly loaded corresponding to your operating system and applications. • Reinstall the ATI drivers for your FireGL™ card.
Stereo Glasses Not Working	• Your stereo glasses must be connected to the card when you start your computer. • Select a refresh rate of 120 Hz in the **Monitor** tab available from **Display Properties** > **Advanced**. • Enable the **Quad Buffer Stereo** option in the **Advanced Settings** tab of the **Display Properties**.

Problem	Possible Solution
Bus Address or Interupt Conflicts	• It is necessary to ensure that the I/O and memory addresses reserved for the graphics board are not used by other hardware devices. • The integrated on-board VGA controller of your FireGL™ card uses the following addresses (hex): **I/O Address:** Standard VGA I/O: 3B0-3DF **Memory Addresses**: Video RAM: A000-BFFF Video ROM: C000-C7FF **Note:** You cannot change the addresses of your FireGL™ card. In case of an address conflict, try to modify the I/O address of the add-on card that causes the conflict. • To support the special graphics processor on the FireGL™ card, the system BIOS should automatically assign a system interrupt to the slot where the card is installed. However, there may be problems if your graphics card does not receive an interrupt or a system interrupt is used for more than one device. In case of problems check the system configuration utility of your operating system for the interrupt assignments.

Customer Care

If you require further assistance with your product, the following Customer Care options are available to you:

Service	Access	Additional Info
Online	ati.com/online/customercare	• Always available. • Complimentary.
Telephone US & Canada	1-866-284-2093	• 9:00AM - 7:00PM EST. Monday to Friday. • Complimentary for registered users. • Toll-free.

Service	Access	Additional Info
Telephone Europe	+49-1803-347345	• 10:30AM - 7:00PM GMT. Monday to Friday. • Complimentary for registered users. • International and local toll charges to Germany will apply. • Support available in English, German, and French.
Telephone Argentina	+0800-333-5277	• 9:00AM - 5:30PM EST. Monday to Friday. • Toll-free • Support available in English, Spanish, and Portuguese.
Telephone Brazil	+0800-891-9068	• 9:00AM - 5:30PM EST. Monday to Friday. • Toll-free • Support available in English, Spanish, and Portuguese.
Telephone Mexico	+001800-514-3276	• 9:00AM - 5:30PM EST. Monday to Friday. • Toll-free • Support available in English, Spanish, and Portuguese.
Telephone Other Latin American Countries	+1-905-882-3277	• 9:00AM - 5:30PM EST. Monday to Friday. • Complimentary • International and local toll charges to Canada will apply. • Support available in English, Spanish, and Portuguese.
Mail	ATI TECHNOLOGIES INC. Attention: Customer Care 1 Commerce Valley Drive East Markham, Ontario Canada L3T 7X6	• Complimentary.

Disclaimer

ATI Customer Care will work to resolve your issue and help you to get your product up and running. If your issue is not resolved, our technicians will determine whether the difficulty you are experiencing is the result of the product, whether your product contains a defect, and whether your product should be returned to ATI for warranty service.

- ATI Customer Care is unable to assist with refunds, returns, or exchange-specific inquiries. If resolving the problem being experienced is critical to your decision to keep the product, it is your responsibility to ensure that you know and are within the period of time your reseller will allow for refunds, returns, or exchange.
- ATI is not responsible for any expense incurred accessing Customer Care. It is expected that customers will review the expense associated with the available support options and will choose the method that best meets their needs and budget.
- ATI Customer Care reserves the right to limit support options for products that are not registered or are at End of Life.

Warranty Information

Hardware Warranty Service Statement

ATI Technologies Inc. warrants to the original purchaser of the hardware that the product is in good working condition, according to its specifications at the time of shipment, for a period of three years from the date of original purchase.

Should the product, in ATI's opinion, malfunction within the warranty period, ATI will, at its discretion, repair or replace the product upon receipt with an equivalent. Any replaced parts become the property of ATI. This warranty does not apply to the software component of the installation, usage not in accordance with product specifications and instructions, natural or personal disaster, or unauthorized alterations, repairs, or modifications.

Proof of purchase may be required, if doubt exists regarding warranty eligibility. Late model products are assumed to be under warranty. ATI accepts ordinals, photocopies and faxes as proof of purchase when required

Warranty Service

For warranty service instructions visit:

ati.com/online/warranty or contact one of our Customer Service Representatives using one of the aforementioned means.

- Before shipping any unit for repair, obtain an RMA number for warranty service.
- When shipping your product, pack it securely, show the RMA and serial number of the product on the outside, and ship prepaid and insured.
- ATI will not be held liable for damage or loss to the product in shipment.

- Standard warranty service consists of repair upon receipt.
- ATI reserves the right to replace the product with a serviced product at their sole discretion at any time.
- You are responsible for the cost of shipping the product to ATI. ATI plays the cost of returning the product to you.

Products which are repaired under warranty are guaranteed for the remainder of the original warranty period. Repairing or exchanging a product does not start a new warranty period. If, at the time of repair, a product is already “out of warranty” or within the last 90 days of the warranty period, ATI will guarantee the repair for the full 90 days. All other terms and conditions of the original warranty apply.

Limitations

- This warranty is valid only if the online Product Warranty Registration form at:
  ati.com/online/registration
  is successfully submitted within 30 days of purchase of said product.
- All warranties for this product, expressed or implied, will expire three (3) years* from date of original purchase.
- All accompanying cables and accessories are warranted for 90 days.
- No warranties for this product, expressed or implied, shall extend to any person who purchases the product in a used condition.
- The liability of ATI in respect of any defective product will be limited to the repair or replacement of such product. ATI may use new or equivalent-to-new replacement parts. Defective product will be sent in for repair or replacement only. ATI makes no other representations or warranties as to fitness for a particular purpose, merchantability or otherwise in respect of the product. No other representations, warranties or conditions, shall be implied by statute or otherwise. In no event shall ATI be responsible or liable for any damages, including but not limited to the loss of revenue or profit, arising:
- From the use of the product, as a result of any event, circumstance, action or abuse beyond the control of ATI; whether such damages be direct, indirect, consequential, special or otherwise and whether such damages are incurred by the person to whom this warranty extends or a third party
- From the loss of use of the product, as a result of any event, circumstance, action or abuse beyond the control of ATI; whether such damages be direct, indirect, consequential, special or otherwise and whether such damages are incurred by the person to whom this warranty extends or a third party.
- Unauthorized repairs to an ATI board level product will void the warranty offered by ATI Technologies. ATI reserves the rightto refuse to service any product which has been altered, modified, or repaired by non-ATI service presonnel.

Getting Additional Accessories

Additional and replacement cables, installation CD-ROMs, manuals, and other accessories for ATI products can be purchased from the online ATI store at:

ati.com/online/accessories.

Compliance Information

This section details the compliance information for this product.

FCC Compliance Information

This FireGL™ product complies with FCC Rules part 15. Operation is subject to the following two conditions

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

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 against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with manufacturer's 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:

- Re-orient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to 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.

The use of shielded cables for connection of the monitor to the graphics card is required to ensure compliance with FCC regulations. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Industry Canada Compliance Statement

ICES-003 This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la Classe B est conforme à la norme NMB-003 du Canada.

For further compliance information:

ATI Research Inc.
4 Mount Royal Ave.
Marlborough, MA
01752-1976
USA
508-303-3900

CE Compliance Information

EMC Directive 89/336/EEC and amendments 91/263/EEC, 92/31/EEC and 93/68/EEC, Class B Digital Device EN 55022:2003/CISPR 22 Class B, Limits and Methods of Measurement of Radio Interference Characteristics Information Technology Equipment.

EN 55024:1998/CISPR 24:1997 +A1:2001 +A2:2003, Immunity of Information Technology Equipment (ITE), including EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6

Informations de conformité de la CE

Directive EMC 89/336/CEE et amendements 92/31/CEE et 93/68/CEE, pour dispositif numérique de Classe B.

EN 55022:2003/CISPR 22:1997, - Classe B - Limites et méthodes de mesure des caractéristiques d'interférences radiophoniques, Matériel des technologies de l'information.

EN 55024:1998/CISPR 24:1997 +A1:2001 +A2:2003, Norme sur l'immunité de matériel des technologies de l'information, et comprenant EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6

Electrical Safety

73/23/EEC - The Low Voltage Directive

IEC 60950-1:2001, IEC 60950:1999, 3rd Edition - Safety of Information Technology Equipment

BS EN60950-1:2002, BS EN60950:2000, 3rd Edition UL 60950-1:2003, UL 60950:2000, 3rd Edition CAN/CSA C22.2 No. 60950-1:2002, CAN/CSA C22.2 No. 60950-00, 3rd Edition (2000)

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VCCI Class B ITE Compliance Information

この装置は、情報処理装置等電波障害自主規制協議会（ＶＣＣＩ）の基準に基づくクラスＢ情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。
取扱説明書に従って正しい取り扱いをして下さい。

MIC Certification Information

B급 기기 (가정용 정보통신기기)

이 기기는 가정용으로 전자파적합등록을 한 기기로서
주거지역에서는 물론 모든지역에서 사용할 수 있습니다.

BSMI Certification Information

CNS 13438，C6357，B類 一資訊科技設備

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Addendum

Waste Electrical and Electronic Equipment (WEEE) Directive Compliance

This product was manufactured by ATI Technologies Inc.



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Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

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Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

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