AMD
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ATI™ FireMV™ 2260

User Guide

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Documentation Updates

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

Important Safety Instructions

Note: This product is for use only with compatible UL listed personal computers that have installation instructions detailing user installation of this class of product.

1. Read all the instructions.
   Read all the safety and operating instructions before the product is operated.
2. Retain the instructions.
   Retain the safety and operating instructions for future reference.
3. Heed all warnings.
   Obey all warnings on the product and in the instructions.
4. Ground appropriately.

Caution:

For continued protection against the risk of electric shock and fire, install this accessory only in products equipped with a three-wire grounding plug, a plug having a third (grounding) pin. A 3-pin 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 desired outlet, contact an electrician to replace the obsolete outlet. Do not remove the grounding pin of a three-pin plug.

5. Attach card securely.
   Completely tighten all product-securing pins to provide continuous bonding between the product and the computer chassis.
6. For cards with TV tuners:
   a. Ground outdoor antenna appropriately.

Caution:

Since an outdoor antenna or cable system may be connected to the product, be sure that the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the *National Electrical Code, ANSI/NFPA 70*, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to the antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection of grounding electrodes, and requirements for the grounding electrode.

   b. Unplug during storms and when unused for long periods of time.

Caution:

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 from power-line surges.

   c. Install outdoor antenna system away from power lines.

Warning:

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.

Caution:

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.

Note to CATV system installer:
This reminder is provided to call the CATV systems installer's attention to Section 820-40 of the NEC, which provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building as close to the point of cable entry as is practical.

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Chapter 1

Getting Started

Before you begin installing your new ATI FireMV 2260 graphics accelerator, please make sure you have the proper system requirements and have completed the required preinstallation tasks as outlined in this chapter.

System Requirements

Table 1–1 ATI FireMV 2260 System Requirements

Hardware	• Intel®Pentium® 4/Xeon® or AMD Athlon™/AMD Opteron™ processor.
	• 512 MB of system memory; 1 GB or more recommended for best performance.
	• Motherboard with available bus connection slot as applicable to the interface on the ATI FireMV product you have purchased:
	  ◦ x16 lane PCI Express®
	  ◦ x1 PCI Express
	  ◦ PCI
	• CD-ROM or DVD-ROM drive for installation software.
	• 450-watt or greater power supply recommended.

Operating System	• 32- or 64-bit Windows Vista™. • 32- or 64-bit Windows® XP Pro with Service Pack 1 (or higher). • 32- or 64-bit Linux® Xfree86 4.x.0.
Monitor	• DisplayPort™ display. • DVI Digital flat-panel (DFP) display. • HDMI™ display (using third-party adapter). **Note:** VGA displays are not supported.

Performing a Quick Installation

Experienced users and system administrators can follow these brief instructions for installing an ATI FireMV product.

Other users should refer to the detailed installation instructions, starting with hardware installation.

1. Uninstall the drivers and software for any previously installed graphics card.

   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 graphics card.
4. Install your new ATI FireMV graphics card.
5. Reassemble and connect your computer system.
6. Install the ATI FireMV drivers and configuration software from the ATI Installation CD-ROM.

Before You Begin

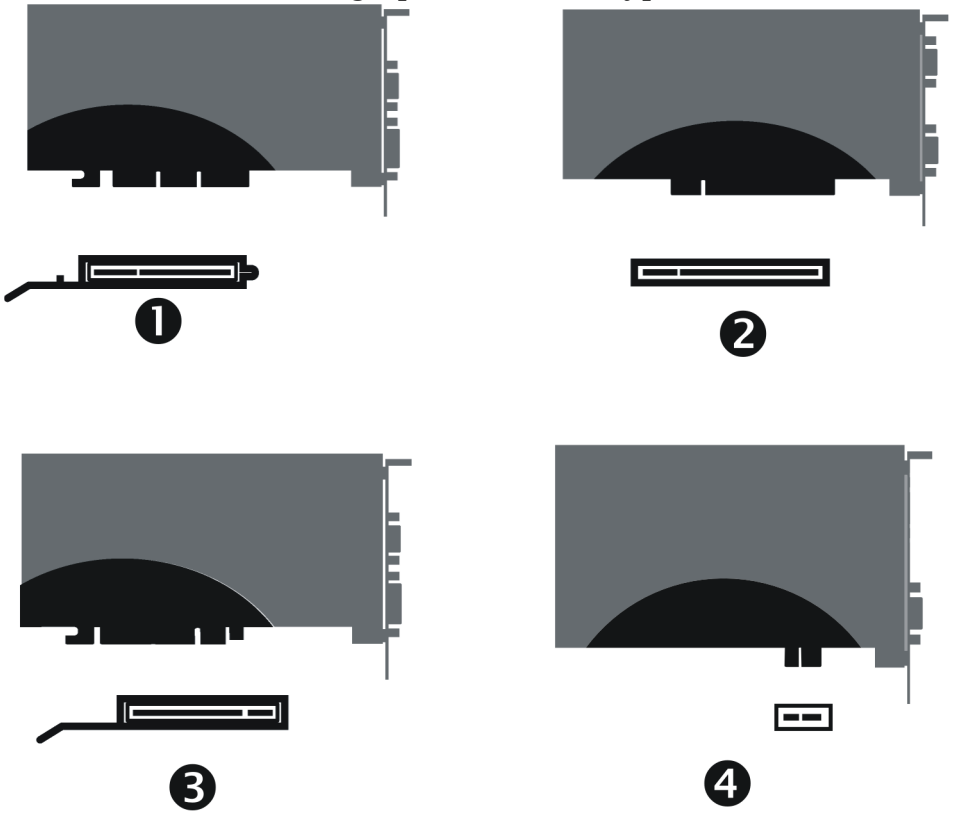
Before you begin installing your new ATI FireMV 2260 graphics card, please perform the following tasks.

Graphics Card Bus Types

Your graphics card connects to the motherboard through a bus slot, the most common types of which are shown in the following figure:

Figure 1–1 Common Graphics Card Bus Types

The four most common graphics card bus types: PCIe® x16 and x1, AGP, PCI.



1	AGP card connector and motherboard slot
2	PCI card connector and motherboard slot
3	PCI Express (PCIe) x16 card connector and motherboard slot
4	PCIe x1 card connector and motherboard slot

Make sure you have an available bus slot on your motherboard for the type of ATI FireMV graphics card you have purchased.

Recording Serial Numbers

The serial number and 102 part number on the graphics card are required for product registration. They are located on a white sticker on the back of the graphics card and are shown in boldface and underlined in the illustration below.

Record these numbers in the space provided below and retain for future use.

1. Remove the graphics card from packing.
2. Locate the white label on the back of the graphics card.
3. Record the serial number and 102 part number.

Figure 1–2 Typical Serial Number and 102 Part Number Arrangement

1	*Serial number (S/N)*
2	*102 part number (P/N)*

Uninstalling Previous Drivers in Windows XP

Follow these steps to uninstall the existing graphics card driver in Windows XP in preparation for installation of a new card.

1. With the current graphics card still in the computer, close all open applications.

2. On the Windows taskbar, click **Start ▸ Control Panel** and then double-click **Add or Remove Programs**.
3. Select the current graphics card driver and then click **Add/Remove**.
   The wizard will appear and help remove the current display drivers.
4. Turn off the system after the driver has been removed.

   Note: If the previously installed graphics card has any additional software installed, this software may also need to be removed before restarting the computer. For example, DVD Player or Multimedia applications.

Uninstalling Previous Drivers in Windows Vista

Follow these steps to uninstall the existing graphics card driver in Windows Vista in preparation for installation of a new card.

1. With the current graphics card still in the computer, close all open applications.
2. Click **Start ▸ Control Panel**. Double-click **Programs and Features** and then select the graphics card driver from the list of software programs.
3. Double-click **Hardware and Sound** and then double-click **Device Manager**.
4. Expand **Display Adapter** and then right-click the driver for the graphics card you are replacing.
5. In the shortcut menu that appears, click **Install**.
   The driver for the old graphics card is uninstalled.
6. Turn off the system.

Chapter 2

Hardware Installation

This chapter details how to install the ATI FireMV graphics card into your computer.

Installing a Graphics Card

Make sure you have completed the preinstallation steps outlined in Getting Started.

Please read all installation instructions completely before you begin.

1. Turn off your computer, monitor(s), and other peripheral devices.
2. Unplug the computer's power cord and disconnect all cables from the back of the computer.

   Caution:
   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.

3. Remove the cover to your computer's case.

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

   Caution:
   Static electricity can seriously damage computer components. Discharge your body's static electricity by touching the power supply or the metal surface of the computer chassis before you touch any components inside your computer's case to avoid damaging them.

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

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

5. Locate the appropriate slot and, if necessary, remove the metal back-plate cover. Make sure all internal cables are clear of the slot.
6. Align your ATI FireMV graphics card with the slot and press it in firmly until the card is fully seated. You may need to hold open a locking tab on the slot with your finger when you seat the card.
7. Screw in or fasten the graphics card securely.
8. Make sure no internal cables are interfering with anything inside the computer (for example, a cooling fan) and replace the computer cover.

9. Reconnect any cables that were disconnected during installation and plug in the computer's power cord.
10. Turn on the monitor, and then your computer.

If you have properly installed your graphics card, operating system messages will appear and the boot procedure will proceed.

Your monitor will be running in a basic (VGA) video mode. Higher refresh rates are not available at this stage of the installation. Once you have installed the ATI FireMV drivers and software, you can use ATI Catalyst™ Control Center to adjust your video settings and configure multiple monitors.

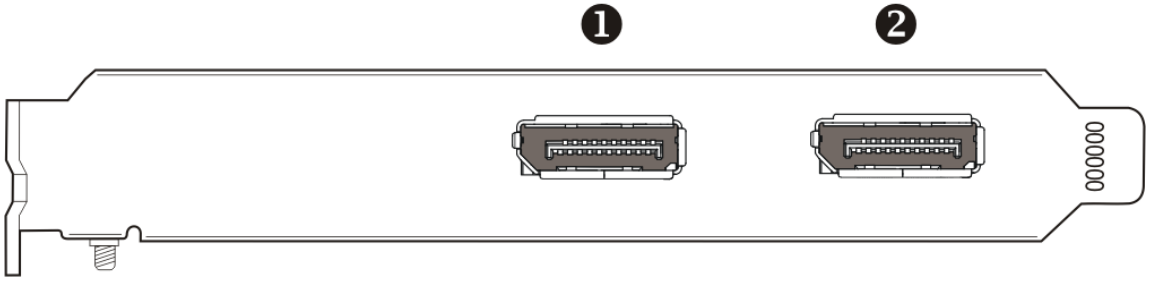
Proceed to install the software and drivers for your ATI FireMV graphics card.

ATI FireMV 2260 Baseplate Connections

The following figure shows the display connections available on your graphics card.

Note: Baseplate may not appear exactly as depicted.

Figure 2–1 ATI FireMV 2260 Baseplate Connections



1	DisplayPort Connection
2	DisplayPort Connection

Note: This image shows a full-height baseplate; a low-profile baseplate is also included in your ATI FireMV 2260 package.

Display Configurations

Your ATI FireMV 2260 graphics card provides dual-display functionality through two DisplayPort connections.

Note: Up to 10 monitors may be supported using multiple graphics cards; for more information, consult the ATI Catalyst Control Center online help.

The following table lists the different ways you can connect displays to your card:

Display Configuration	Connector(s) Used	Comments
DisplayPort display	DisplayPort connector	
DFP (digital flat-panel) display	DVI connector with DVI-to-DisplayPort adapter	
HDMI display	HDMI connector with HDMI-to-DisplayPort adapter	An HDMI-to-DisplayPort adapter can be used to transfer the video signal to an HDMI display, but audio must be transferred using a different cable because the DisplayPort does not transfer the audio signal. **Note:** HDMI adapters are not included in your ATI FireMV 2260 package.

Note: The ATI FireMV 2260 graphics card does not support VGA displays.

Using Adapters

Your ATI FireMV graphics card includes adapters to enable you to attach display types other than those included on the baseplate.

Use the following instruction to attach a display with an adapter.

1. Turn off your computer and monitor.
2. Plug the adapter into the connection on your ATI FireMV graphics card and tighten the thumbscrews (if there are any).
3. Connect your display's cable to the adapter and tighten the thumbscrews (if there are any).
4. Turn on your monitor first, then your computer.

Use the ATI Catalyst Control Center to configure the new monitor.

Chapter 3

Drivers and Software Installation

This chapter describes the installation of the drivers and software associated with your ATI FireMV graphics card.

ATI Drivers and Software

Drivers are small but important programs that enable an operating system to communicate with a piece of hardware, such as a graphics card.

When you install a new graphics card, you must also install the driver and configuration software the card requires to function properly.

You also need to install (or reinstall) your ATI FireMV drivers when you have reinstalled or upgraded your operating system or when you download updated drivers from ATI's Web site.

> **Note:** When reinstalling drivers, always uninstall any previous drivers that are on your system, even if they are for the same graphics card. Always start "fresh."

Linux Drivers

Linux drivers are not included on the installation CD-ROM. Linux drivers and software are available from the ATI Web site at http://ati.amd.com/support.

Installing ATI Drivers and Software in Windows XP

In order to install the drivers and software necessary for your ATI FireMV 2260 graphics card to function properly, the following must be true:

- Your graphics card must be physically installed in your computer.
- Your operating system must be installed and operational; you must have at least Windows XP Service Pack 1 installed.
- You must log in as a user with administrator rights.

1. Turn on your monitor and then turn on your computer. Wait for your operating system to boot up. When the Found New Hardware Wizard dialog appears, click **Cancel**. If the System Settings Change dialog asks if you want to restart your computer, click **No**.
2. Run the Setup utility. The Setup utility may start automatically if you insert the ATI Installation CD-ROM into your CD-ROM or DVD-ROM drive after the operating system has started. If your CD-ROM auto-run feature is not enabled or the Setup utility is not on a CD-ROM (because it was downloaded from the Internet, for example):
    a. In the Windows task bar, click **Start**.

The Start Menu opens.

b. Click **Run**.
The Run dialog appears.

c. Select **Browse** and select `atisetup.exe` from the root directory of the ATI Installation CD-ROM or the folder in which you have placed the driver.
*`atisetup.exe` appears in the **Open** field of the Run dialog.*

d. Click **OK**.

3. In the Software Install dialog, click **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:
   - Select **Express** to install typical drivers and software.
   - Select **Custom** to choose individual software components for installation.

   Note: The Custom installation option is recommended for advanced users only.
7. When the setup complete message appears, select **Yes, I want to restart my computer now** and click **Finish**.
Your computer will reboot.
8. After the system reboots, the Found New Hardware dialog may display the **Digital Signature Not Found** message. Click **Yes** or **Continue** to complete the driver installation.

Proceed to configure your video settings and connect additional monitors, if necessary.

Installing ATI Drivers and Software in Windows Vista

In order to install the drivers and software necessary for your ATI FireMV 2260 graphics card to function properly, the following must be true:

- Your graphics card must be physically installed in your computer.
- Your operating system must be installed and operational.
- You must log in as a user with administrator rights.

1. Turn on your monitor and then turn on your computer. Wait for your operating system to boot up. You may receive a warning that the graphics driver failed to install. Close this dialog.
2. Run the Setup utility. The Setup utility may start automatically if you insert the ATI Installation CD-ROM into your CD-ROM or DVD-ROM drive after the operating system has started. If your CD-ROM auto-run feature is not enabled or the Setup utility is not on a CD-ROM (because it was downloaded from the Internet, for example):

   a. In the task bar, click the **Start** (Windows icon) button.
   The Start Menu opens.

b. Select **All Programs** ▹ **Accessories** ▹ **Run**.
The Run dialog appears.

c. Select **Browse** and select `setup.exe` from the root directory of the ATI Installation CD-ROM or the folder in which you have saved the driver download.
*`setup.exe` appears in the **Open** field of the Run dialog.*

d. Click **OK**.
Note: The User Account Control dialog may appear; if so, click **Continue**.
The ATI Catalyst Install Manager dialog may prompt you to close all open applications; if so, do so.

3. In the Software Install dialog, click **Install**.
4. Click **Next**.
ATI Easy Install will start the Installation Wizard.
5. Follow the wizard's on-screen instructions to complete the installation:
   - Select **Express** to install typical drivers and software.
   - Select **Custom** to choose individual software components for installation.

   Note: The Custom installation option is recommended for advanced users only.
6. Click **Yes** to the license agreement.
7. When installation is complete, select **View Log** to review installation details. Click **Finish** when are done; you will be prompted to reboot your computer.
Your computer will reboot.

Proceed to configure your video settings and connect additional monitors, if necessary.

HydraVision Multi-monitor Software

The HydraVision™ multi-monitor and desktop management software will install automatically with an Express installation of the ATISETUP utility.

Note: If you do not want to install HydraVision, select the Custom driver installation and clear the **HydraVision** check box.

For more information, consult the HydraVision online help available through the ATI Catalyst Control Center.

Chapter 4

Basic Display Configuration

This chapter contains basic procedures for configuring your displays.

Configuring a Display

A monitor must be connected to your computer to be configured.

Use the following procedure to configure a display in ATI Catalyst Control Center's Advanced view.

Note: A simplified version of this procedure is available through the ATI Catalyst Control Center Basic view using the **Setup my display configuration** option on the Easy Setup Wizards Tab.

1. Open ATI Catalyst Control Center in the Advanced view.

   Note: For more information, see Starting the Software.

2. Select the **Displays Manager** aspect.
3. To select a primary monitor, right-click the numbered monitor icon you wish and choose **Primary**.
4. To enable a monitor that is connected but disabled, right-click the numbered monitor icon you wish and choose **Enable**
5. To configure the display properties of a monitor, left-click the numbered monitor icon you wish to configure (if it is not already selected) and select values for the **Desktop Area** (resolution), **Color Quality**, and **Refresh Rate** from the drop-down menus that best suit your requirements and your monitor's performance.

   Caution:

   Choosing a refresh rate that your monitor does not support may damage your monitor. Consult your monitor's documentation, if necessary.

6. To extend your Windows desktop from a primary onto a secondary display, right-click on the icon in the **Desktop 2** area and choose the appropriate option.

   - Choose **Clone desktop...** to mirror the display on **Desktop 1**.
   - Choose **Stretch desktop...** to extend the display across both desktops (horizontally or vertically).

7. Click **Apply** to apply your selections or **OK** to apply your selections and close ATI Catalyst Control Center.

Chapter 5

ATI Catalyst™ Control Center

This chapter introduces the ATI Catalyst Control Center, a graphical user application that provides access to the display features of the graphics card.

ATI Catalyst Control Center Overview

The ATI Catalyst Control Center software provides access to the display features of the graphics card. Use the software to fine-tune graphics settings, enable or disable connected display devices, and change the orientation of the desktop. Many features display previews of the changes before they are applied.

Basic View	A simplified view of the features that includes wizards to quickly make changes.
Advanced View	A powerful interface that enables complete configuration of the feature set of the graphics card.

The ATI Catalyst Control Center software can be customized for easy access to the most-used features.

For information on the individual features of the software, access the comprehensive in-program help system (see Accessing Help or visit the AMD Customer Care Web site at http://ati.amd.com/support/).

Starting the ATI Catalyst Control Center Software

The following table shows the ways you can start the ATI Catalyst Control Center software:

Table 5–1 ATI Catalyst Control Center Access Routes

Access Route	Instructions
Windows Desktop	1. Right-click anywhere on the desktop. 2. From the shortcut menu that appears, click **ATI CATALYST(R) Control Center**.
Windows Start Menu	1. Click **Start** on the Windows task bar. 2. Select **All Programs ▸ Catalyst Control Center**.
Windows System Tray	1. Right-click the ATI icon in the Windows System Tray. 2. From the short menu, select **ATI Catalyst Control Center**.
Desktop Shortcut	When you first installed the ATI Catalyst Control Center, the setup wizard provided you with the option of placing a shortcut on the desktop. If you chose this option, you can double-click the **ATI Catalyst Control Center** desktop shortcut.
Predefined Hot Keys	Press the predefined hot keys, **Ctrl**+**Alt**+**C**, to launch ATI Catalyst Control Center. You can also define your own hot key sequence by using the ATI Catalyst Control Center Hotkey Manager.

Accessing ATI Catalyst Control Center Help

ATI Catalyst Control Center Help provides information on the features and concepts of your ATI FireMV graphics card. You can also use the ATI Catalyst Control Center Help feature to access usage information, generate a problem report, and get software version information for your graphics card.

1. Open ATI Catalyst Control Center in the **Advanced view**.
2. Choose one of the following options:
   - Press the **F1** key at any time to get specific help on the currently displayed information.
   - From the ATI Catalyst Control Center Dashboard, choose **Help ▸ Help Contents** to browse the entire help contents.
   - From the ATI Catalyst Control Center Dashboard, choose **Help ▸ Search Help** to search the help contents for a specific term.
   - To access AMD's Web site, from the ATI Catalyst Control Center Dashboard, choose **Help ▸ Go to ATI.com**.

Chapter 6

Reference

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

Workstation Card Troubleshooting

The following troubleshooting tips may help if you experience problems.

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

Table 6–1 Workstation Card Troubleshooting Tips

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 XP, press and hold **F8** until you see the 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.
There is no display.	Make sure the card is seated properly in its slot. Make sure 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 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 that you selected the appropriate monitor when you installed your enhanced driver. Make sure that the display resolution and refresh rate settings you have selected are supported by the monitor you have connected.
There are screen defects.	Make sure your monitor supports the resolution and 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. **Caution:** Ensure that both the graphics card and monitor support the 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
The screen image is off-center or there are odd colors.	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. 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.
The operating system warns that the graphics card isn't properly configures.	Make sure that the display resolution and refresh rate settings you have selected are supported by the monitor you have connected. Check the driver installation and make sure that all software is correctly loaded corresponding to your operating system and applications. Reinstall the drivers for your graphics card.
Stereo glasses are not working properly.	Make sure your stereo glasses are connected to the graphics card when you start your computer. Make sure you select a refresh rate of 120 Hz. Enable the **Quad Buffer Stereo** option.
There are bus address or interrupt conflicts.	Make sure 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 ATI FireMV 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 You cannot change the addresses of your ATI FireMV 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 ATI FireMV 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.

Workstation Customer Care

If you experience difficulties with your ATI FireMV product, you can contact AMD Customer Care in the following ways.

Web

The AMD Customer Care Web site has number of helpful resources, including a knowledgebase of FAQs and the ATI FireGL™/ATI FireMV™ Web Ticket Submission Page.

The Web site is complimentary and available at all times. The address is support.ati.com.

E-mail

Customer Care is available by e-mail at tech.support@amd.com. E-mails must have "workstation-support" in the subject line. This service is complimentary for registered users.

Telephone

Country	Telephone Number	Language/Times	Notes
US/Canada East Coast	1-866-284-2093	English: 9:00AM - 5:30PM EST (Mon-Thu) 9:00AM - 3:00PM EST (Fri)	Complimentary for registered users. Toll-free.
US/Canada West Coast	408-749-2005	English: 2:30PM - 5:00PM PST (Mon-Thu) 12:00PM - 4:00PM PST (Fri)	Extended hours for West Coast customers; East Coast toll-free number also available. Complimentary for registered users. International and local toll charges to California will apply.
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Mexico	+001800-514-3276	Portuguese/Spanish: 7:00AM - 3:30PM EST (Mon-Fri) English: 7:00AM - 7:00PM (Mon-Fri)	Complimentary for registered users. Toll-free.
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Surface Mail

Advanced Micro Devices Inc.
Attention: Customer Care
1 Commerce Valley Drive East
Markham, Ontario
L3T 7V9 CANADA

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Workstation Warranty Service

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This warranty is valid only if the online Product Warranty Registration form at amd.ati.com 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.

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Additional Accessories

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International Compliance Information

This section details the worldwide compliance information for this product, which is manufactured to be compliant in the regions where it is sold.

FCC Compliance Information

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

- This device may not cause harmful interference.
- 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.

Complies with FCC 15.107, 15.109, 15.111, and 15.117.

For further compliance information:

Advanced Micro Devices, Inc.
62 Forest Street
Marlborough, MA 01752
USA Tel: 508-303-3900

Industry Canada Compliance Statement

This Class B digital apparatus complies with Canadian ICES-003 and with BETS-7, Section 3.6.

Cet appareil numérique de la Classe B est conforme à la norme NMB-003 du Canada, et NTMR-7, Section 3.6.

CE Compliance Information

EMC Directive 2004/108/EC CISPR 22:2003 +A1:2004/EN 55022:1998 +A1:2000 +A2:2003—Class B: Limits and methods of measurement of radio disturbance characteristics of Information Technology Equipment. CISPR24:1997/EN 55024:1998 +A1:2001 and +A2:2003—Information Technology Equipment—Immunity Characteristics—Limits and Methods of Measurements

Electrical Safety

Europe: The Low Voltage Directive—2006/95/EC EN 60950-1, 1st edition—Safety of Information Technology Equipment

USA/Canada:

- UL 60950-1, 1st edition, 2006-07-07 (Information Technology Equipment—Safety—Part 1: General Requirements)
- CSA C22.2 No. 60950-1-03, 1st edition, 2006-07 (Information Technology Equipment—Safety—Part 1: General Requirements)

To meet UL safety requirements, the computer's maximum room temperature should not exceed 40 °C.

Waste Electrical and Electronic Equipment (WEEE) Directive Compliance

This product was manufactured by Advanced Micro Devices, Inc.

VCCI Class B ITE Compliance Information

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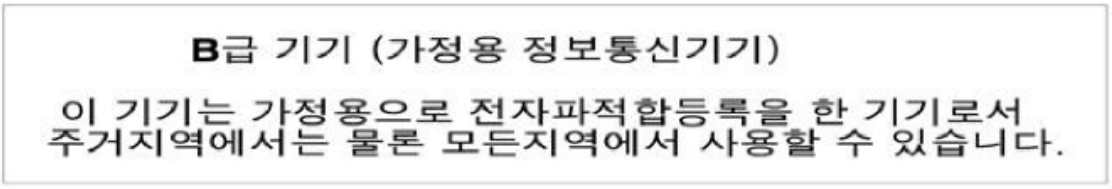

"Class B" Equipment (Household purpose info/telecommunications equipment)

As this equipment has undergone EMC registration for household purpose, this product can be used in any area including residential area.

BSMI Certification Information

CNS 13438，C6357，B類 — 資訊科技設備

Appendix A

Glossary - Workstation Products

2D

Acronym for “two dimensional,” a term applied to computer graphics that are “flat.” Typical desktop applications such as word processors, spreadsheet programs, or other programs that manipulate print or simple graphics (such as pictures or line art) are generally considered to be operating within a 2D environment, even when they include simple three dimensional elements, such as buttons.

3D

Acronym for “three dimensional,” referring to computer graphics that appear to have volume and depth. Various modeling processes take the representation of a three dimensional object provided by the computer program and render it by using various lighting components, applying textures, and setting layers of transparency or opacity as required in order to produce a realistic representation of a three-dimensional object on a two-dimensional display.

AGP

The Accelerated Graphics Port (AGP) is a slot on the computer motherboard designed specifically for 3D graphics cards. AGP runs 3D images much more smoothly and quickly than was previously possible with PCI video cards; AGP runs at several times the bus speed of PCI and employs sideband addressing, so multiple data transfers between the graphics processor and the computer can take place concurrently. AGP is currently being phased out in favor of PCI Express™ (PCIe).

Alpha Blending

Alpha blending is used in 3D graphics to create transparent or opaque effects for surfaces such as glass and water. Alpha is a transparency value, so the lower the value, the more transparent the image looks. It is also used in animations to produce such things as fading effects, where one image gradually fades into another.

Anisotropic Filtering

A technique that preserves the surface details of an object as it recedes into the distance by utilizing and blending together the object’s texture maps. This makes 3D objects appear more realistic as the detail of their surface texture is retained in a smooth, seamless fashion on the sections that move or fade away into the background.

Anti-aliasing

A method that smooths out the jagged edges of a curved object. A black curved line on a white background displayed on a computer screen will have some jaggedness along its edges due to the inherent limitations of using discrete pixels to display the image. Anti-aliasing smooths out this jaggedness by filling in the white spaces between the jagged edges with varying shades of grey.

Aspect Ratio

The proportions of a display are expressed as a ratio of its width and height. Common ratios include 4:3 for TVs and CRTs, 5:4 for LCDs, and 16:9 for widescreen displays.

ATI Catalyst Control Center

ATI Catalyst Control Center (CCC) is a graphical user application providing access to the display features contained within the installed ATI hardware and software. CCC can be used to fine-tune various graphics settings, enable or disable connected display devices, change the orientation of a desktop, and much more.

Back Buffer

A type of offscreen memory used to provide smooth video and 2D graphics acceleration. This technique uses two frame buffers, so the process is often referred to as "double-buffering." While the contents of one buffer are displayed, a second buffer, called the "back" buffer, holds the frame being worked on. In this way, users will only see complete, smooth frames displayed onscreen.

Bilinear Filtering

This filtering method reduces the blockiness caused when zooming into a 3D surface that is at a right angle to the viewer. A newspaper photo examined closely enough will show that the picture is made up of tiny dots. If the photo was enlarged it would start to look "blocky" and less distinct. This is also a problem for computer-generated images, especially for surface details.

Bit Depth

Refers to the number of data bits required to store color information about a pixel. Larger bit depth means a greater range of color information is capable of being encoded into each pixel. For example, 1 binary bit of memory can only encode to either "0" or "1." So a graphical bit depth of 1 means that the display can only show two colors, the black and white of a monochrome display. Four-bit color depth is capable of displaying 16 colors because there are only 16 different combinations of 4 bits (0000, 0001, 0010... to 1111). Sixteen-bit color is capable of reproducing 65,536 colors, 24-bit color can display up to 16,777,216 individual colors, and 30-bit color can display up to one billion individual colors.

Bitmap

A bitmap is a graphic or character representation composed of individual pixels, arranged horizontally in rows. A monochrome bitmap uses one bit per pixel (bpp). Color bitmaps may use up to 32bpp, depending on the color depth selected.

Brightness

The amount of white or black that is applied to all colors onscreen. By making the screen "brighter" you are adding more white to it. This should not be confused with luminosity, which measures the actual light level emitted from the computer display.

Buffer

A name referring to portions of on-board video memory. One large buffer is always used to display images to the screen; this is the "display buffer." The rest of offscreen memory is typically used by applications as back buffers, z-buffers, and texture buffers.

Color Component

Three color components (Red, Green, and Blue) combine in various intensities to determine the color of each pixel on the screen. The values of each color component are graphically represented by a corresponding color curve.

Color Correction

Correct discrepancies between the real color value and the way a screen displays it. Color discrepancies can be caused by a variety of sources, including the lighting

conditions in the work area and gradual shifts in color over time on monitors or flat panel displays.

Color Curve

A color curve represents all possible intensity values (from 0 to 255) for a color component (Red, Green, or Blue). For each color curve, the horizontal axis represents the input value (the color value a program wants to display), while the vertical axis represents the output value (the color value that the display driver will write to the screen). A value of 0 (in the lower left corner) represents the complete absence of that particular color, while a value of 255 (in the upper right corner) represents the "full" strength for that color.

Control Point

A control point is a user-created point on the color curve. Users can change the color of the screen by moving the control points with a mouse.

CRT

Acronym for "cathode ray tube," which is the main component of computer monitors and TVs. Color CRTs use three separate electron beams fired through a shadow mask and onto the back of the glass screen. The electron beams activate separate red, green, and blue values in various strengths in order to produce a colored image.

Direct 3D®

Part of Microsoft®'s DirectX API designed for rendering 3D graphics on Windows® systems. It provides software developers with low-level access to functions on graphics cards, providing the type of performance necessary for intensive 3D applications such as games.

DisplayPort

DisplayPort is a digital display standard that became a VESA-approved standard in May 2006. HDMI is aimed primarily at the consumer electronic market, but DisplayPort was designed with computer displays in mind. It is scalable and extensible in terms of pixel depth and resolution, designed to work as a comprehensive solution both for PCs and notebooks, which currently use different signaling standards (DVI and LVDS). DisplayPort is designed as a long-term comprehensive replacement for VGA, providing a cost-effective, scalable, industry standard which will consolidate external (box-to-box) and internal (LCD panel) display connections.

Dithering

A computer graphics technique that takes advantage of the human eye's tendency to mix two colors that are adjacent to each other to produce smooth boundary transitions. Dithering adds intermediate color values between two or more boundaries, producing smoother, more natural look to 2D images or 3D objects.

Dot pitch

Dot pitch specifies the sharpness of a monitor's display. It is measured in millimeters (mm) and is the distance between the individual phosphor sub-pixels in a CRT display or cells of the same color within an LCD display. The smaller the number, the sharper the image. The most common dot pitches for monitors range from .24 mm to .31 mm. Also, if a monitor with a .24 mm dot pitch is set to its highest possible resolution, the pixel size will equal the dot pitch. If the monitor is set to lower resolutions, the pixels will be comprised of multiple dots.

DVI

Acronym for "Digital Video Interface," a standard video connection used on many current computer displays. There are three types of DVI connections: DVI-A (analog), DVI-D (digital), and DVI-I (integrated, capable of either analog or digital). It supports high-bandwidth video signals over 160 Hz, so it is most often used for high-resolution displays.

Flat Shading

A lighting technique that shades each polygon of a 3D object based on where the source of the light is and the angle of the polygon in relation to it. It enables relatively fast rendering of 3D objects, although it can make those objects appear "faceted" as each visible polygon is set to a particular color value, and consequently does not produce as realistic an effect as obtained when using Gouraud shading.

Fog

Term used to describe the blending of an object using a fixed color as objects are made to appear more distant from the viewer.

Frame Buffer

The portion of the memory buffer on the graphics card used to store the image being displayed. All rendering processes have been accomplished by this stage and this buffer contains only a one-to-one relationship of the data to be relayed to the display.

Frames Per Second

In terms of 3D graphics, refers to the rate at which the graphic processor can render new screens per second. Higher rates equals better, more naturalistic performance for such things as games set in a 3D environment. Sometimes abbreviated to "fps."

Gamma

Sometimes confused with brightness, gamma actually refers to the correction that is applied to any display device in order to produce more gradual increases or decreases in the perceived brightness for that device. A change in gamma produces a non-linear change in the color curve, ensuring that perceived changes in color and intensity are consistently applied.

Gouraud Shading

A shading method used to produce a smooth lighting effect across a 3D object. A specific color is used at each vertex of a triangle or polygon and interpolated across the entire face.

GPU

GPU is an acronym for "Graphics Processing Unit." The GPU powers the operations of a graphics card including support for 2D/3D and video.

HDCP

HDCP is an acronym for "High-Bandwidth Digital Copy Protection." It is a form of digital rights management designed to protect copyright of signals being transported across DVI or HDMI connections. Several international regulatory bodies have recommended its incorporation into high-definition display and playback devices.

HDMI

HDMI is an acronym for "High Definition Multimedia Interface." It is a 19-pin connector used for transferring combined digital audio and video. HDMI supports standard, enhanced, and high-definition digital video signals, and is

designed for use with VCRs, DVD players, personal computers, and set-top boxes. A DVI adapter can be used to transfer the video signal to an HDMI-capable display, although audio must be transferred from a different route, as DVI output does not support audio.

Hue

Refers to a specific color within the visible spectrum of light, defined by its dominant wavelength. A light wave with a central tendency within the range of 565-590 nm is visible as yellow. In the standard RGB color space used by most computer displays, hue refers to a coordinate of the color as described by its red, green, and blue values, minus any additional brightness or saturation values for that color.

HydraVision

HydraVision is ATI's multi-monitor management software, enabling users to manage the display of multiple windows and applications across two or more adjacent monitors. It also includes a range of productivity features designed to effectively manage applications in this environment.

HyperZ™ HD

HyperZ HD includes a number of different technologies aimed at optimizing memory-bandwidth efficiency, particularly with respect to Z-buffer operations. The Z-Buffer, sometimes also called the Depth Buffer, stores information used to determine the placement of objects in a 3D environment with respect to the viewpoint of the observer. Reading and updating this buffer typically consumes more memory than any other part of the 3D rendering process, making it a major performance bottleneck. HyperZ HD technology reduces the memory bandwidth consumed by the Z-Buffer, thereby increasing performance while also making the 3D environment more realistic.

Keyframe Interpolation

This feature is also known as "morphing." In an animation, a start and end point are picked as the key frames. In a 3D rendering, the start point could have a character with a neutral expression, and the end point could have that same character smiling. Additional frames are interpolated (inserted) between the two keyframes in order that morphs (transforms) the image so that there is a smooth transition between the key frames.

KTX Buffer Region Extension

This OpenGL® programming term refers to a feature that rapidly updates portions of the display of 3D modelling applications that change very quickly, or have been moved or occluded. It does this by optimizing the storage of buffer regions in the graphics card's memory buffer. Other applications are typically not adversely affected when this is enabled.

Lighting

In 3D computer graphics, refers to aspects and quality of the virtual light source being used to make an object visible. Lighting can strongly affect the "mood" of a scene. For example, a "harsh" light could be a bare lightbulb that is glaringly bright on the objects closest to it while casting strong shadows in the background. A "softer" light would be more diffuse and not cast shadows, such as you would get outdoors on a typical overcast day.

Mipmapping

The most memory-intensive aspect of 3D graphics are the textures that give an object its realism (like wood, marble, leather, and cloth). Because objects in real life become less detailed as they move farther away from the viewer, 3D

programmers simulate this by using less detailed, lower resolution texture maps on distant objects. These texture maps are merely scaled down versions of the main texture map used when the object is up close, and they use less memory.

Offscreen Memory

An area of memory used to preload images so that they can be quickly drawn to the screen. Offscreen memory refers to all of the remaining video memory not taken up by the front buffer, which holds the contents of the display screen currently visible.

OpenGL

Short for "Open Graphics Library," this is an industry standard for cross-platform 3D graphics development. It consists of a large number of functions that can be called upon in various programs, such as games, CAD, and virtual-reality systems, to produce complex 3D objects from simpler, more "primitive" building blocks. Implementations currently exist under Windows®, Mac OS® X, and various forms of Unix, including Linux®.

PCI

Acronym for "Peripheral Component Interconnect," which is the specification for a type of computer bus used for attaching computer peripherals to a computer's motherboard. PCI encompasses both integrated motherboard components (such as built-in graphical processors) and peripherals that fit into an expansion card slot, such as a separate graphics card. PCI replaced the older ISA and VESA bus standards, and was itself superseded by the AGP standard for the main graphics card bus.

PCI Express (PCIe)

The successor standard to the PCI and AGP bus standards, with a significantly faster serial communications system, further opening up bandwidth for more communications between such peripherals as graphics cards and the computer's CPU. PCIe cards can come in several physical configurations, the fastest currently being X16, which is typically used for graphic cards, and X1, typically used for other peripherals, such as separate multimedia cards.

Pipeline

In relation to computer graphic processors, refers to the number of separate arithmetic units available for rendering the output on a display. In general, more pipelines available on a graphical processor means there are more 3D rendering capabilities available, increasing overall 3D performance.

Pixel

All computer images are made up of tiny dots. Each individual dot is called a pixel, a word created from the term "picture element." A pixel is the smallest indivisible unit of a digital image and can be only a single color. The size of the pixel depends on how the display resolution has been set. The smallest size a pixel can be is determined by the display's dot pitch, which is measured in millimeters (mm).

Refresh Rate

Also referred to as "vertical refresh rate." This is the rate at which a monitor or television can redraw the screen from top to bottom. NTSC television systems have a refresh rate of approximately 60 Hz whereas computer displays typically have refresh rates of 75 Hz or more. At refresh rates of 70 Hz and lower, screen flicker is often noticeable.

Rendering

Rendering refers to the final drawing stages where the 2D image that appears on a display is derived from its 3D descriptions. What appears on the display may look three dimensional, but it is really just a 2D grid of pixels designed to appear that way.

Resolution

The resolution of any display is the number of pixels that can be depicted on screen as specified by the number of horizontal rows against the number of vertical columns. The default VGA resolution of many video cards is capable of displaying 640 rows of pixels by 480 columns. The typical resolution of current displays is set to higher values, such as 1024x768 (XGA), 1280x1024 (SXGA), or 1600x1200 (UXGA).

Saturation

Refers to the intensity of a specific hue (color). A highly saturated hue is vivid and intense, whereas a less saturated hue appears more grey. A completely unsaturated color is grey. In terms of the RGB color model, a fully saturated color exists when you have 100% brightness in one of the three channels (say, red) and 0% in the two others (green and blue). Conversely, a fully desaturated color is one where all of the color values are the same. Saturation can therefore be thought of as the relative difference between the values of the channels.

Shadow Mask

In CRT monitors, the shadow mask is a metal plate full of tiny holes that is attached to the inside of the glass screen. It focuses the beams from the electron guns at the back of the CRT. The distance between these holes is called the dot pitch.

SmartShader™ HD

SmartShader HD contains advanced vertex and pixel-shading capabilities. A shader is a small program that runs on the GPU and describes how an image should be rendered. Vertex shaders manipulate the individual polygons that make up 3D objects, and pixel shaders operate on the individual pixels that fill in these polygons to create a visible image. SmartShader HD is designed to alleviate the resource constraints of earlier shader hardware, paving the way for more complex, detailed, and realistic shader effects in applications requiring high-performance 3D rendering.

SmoothVision™ HD

SmoothVision HD incorporates improved anti-aliasing, anisotropic filtering and 3Dc™ compression features designed to further enhance image quality. Anti-aliasing performance is improved, providing better overall detail and image quality. The enhanced anisotropic filtering ensures sharper and clearer pictures at higher frame rates, and the new 3Dc compression technology makes it possible to display higher polygon counts for 3D rendered objects.

Specular Highlight

The bright, usually small, intense light reflected from a 3D surface with a high refraction value. From the intensity and spread of this highlight users can differentiate between a “hard,” smooth surface, such as metal or porcelain, or a “soft,” textured surface, such as fabric or skin.

Texel

Short for “texture element,” the 3D equivalent of a pixel, describing the base unit of the surface of a 3D object, such as a sphere; for a 2D object, such as a circle, the base unit is a pixel.

Texture Mapping

In computer graphics, two-dimensional textured surfaces are referred to as texture maps. Texture mapping is the process by which a two-dimensional surface gets wrapped around a three-dimensional object so that the 3D object takes on the same texture qualities. For example, if you take a 2D textured surface that looks like cloth and wrap it around a 3D sphere, the sphere will now appear to have a cloth-like surface.

Texture Preference

Texture Preference is a feature enabling the user to select the texture quality level for the surface of a 3D object. Selecting the highest quality possible will provide the most realism, although it may also have some impact on the performance of any 3D intensive application.

Trilinear Filtering

A sampling method used to produce realistic-looking 3D objects. Trilinear filtering averages one of the bilinear filter mipmap levels along with the standard mipmap samples.

Vertex Shader

Three-dimensional objects displayed on a screen are rendered using polygons, each of which is made up of intersecting triangles. A vertex is a corner of a triangle where it connects to another triangle, and each vertex carries a considerable amount of information describing its coordinates in 3D space, as well as its weight, color, texture coordinates, fog, and point size data. A vertex shader is a graphics processing function that manipulates these values, producing such things as more realistic lighting effects, improved complex textures such as hair and fur, and more accurate surface deformations such as waves rippling in a pool or the stretching and wrinkling of a character's clothes as he or she moves.

VGA Connector

A type of graphics connector, sometimes also called an analog connector. It is the most common type of video connector available, consisting of 15-pins set in three rows. VGA is an acronym for "Video Graphics Array," which is also the name for the video resolution mode of 640x480 pixels, the lowest standard resolution supported by virtually all video cards.

Z-buffer

The portion of video memory that keeps track of which onscreen elements can be viewed and which are hidden behind other objects. In the case of a 3D image, it keeps track of which elements are occluded by the foreground in relation to the user's perspective, or by another 3D object.

Documentation

- ATI™ FireMV™ 2260
- ATI™ FireMV™ 2200\2250
- ATI™ FireMV™ 2400
- HydraVision™

HYDRAVISION™
User's Guide

P/N 137-40319-40

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Introduction

HydraVision™ Multi-monitor Management Software enables you to tailor your desktop to the way you work, so you can manage increased amounts of information and improve your productivity. Your productivity is increased thanks to two aspects of HydraVision:

- Breadth - increase your desktop work space by using up to two monitors.
- Depth - create multiple layers of desktop workspace with MultiDesk.

Flexible and easy to use

Within minutes HydraVision gives you the power to manage independent monitor display features and:

- Determine the behavior of pop-up windows and dialogs in different applications.
- Switch between desktop with a mouse click or "Hot Key".
- Vary your settings from one application to the next.
- Customize the features of HydraVision to an application.

Increase your productivity

To increase your productivity even more, ATI has introduced the following innovative features in HydraVision 3.2:

- Save and Restore Desktop Profiles
- MagnifyFX"

Installing HydraVision

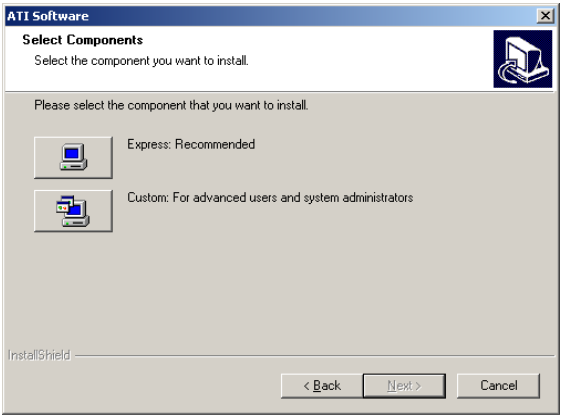
- HydraVision can easily be installed in the following operating systems:
- Windows® 98SE
- Windows® Me
- Windows® 2000
- Windows® XP

To install HydraVision perform the following steps:

1. Insert the ATI Installation CD into your CD-ROM drive *If Windows® runs the CD automatically, proceed to step 6.*
2. Click **Start.**
3. Select **Run.**
4. Type the following:

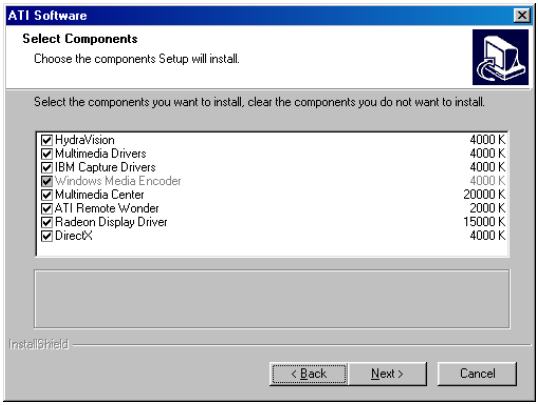
   D:\ATISETUP

   If **D** is not your CD-ROM drive, substitute **D** with the correct drive letter.
5. Click **OK.**
6. Click on **ATI Easy Install** to start the Installation Wizard.
7. Follow the ATI Setup program prompts to the **Select Components Dialog**.



8 Click **Custom** and then select **HydraVision** and any other components you wish to install.

The **Select Components** list may vary.



9 **Reboot** your system when prompted.

You are now ready to use the ATI Graphics Accelerator and HydraVision.

The first time HydraVision is loaded a **Wizard** will launch automatically and walk you through the configuration process.

However, the HydraVision Wizard may be re-run at any time by doing the following:

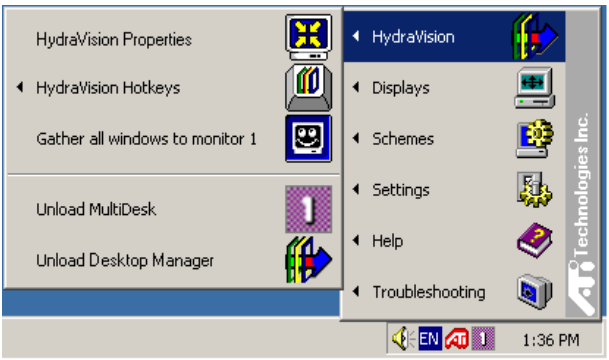
1. Click **Start.**
2. Click **Programs.**
3. Click **ATI HydraVision.**
4. Click **HydraVision Wizard.**

HydraVision for Windows®2000/Windows® XP

HydraVision installation creates a Windows® program group for HydraVision multi-monitor management software.

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.



Accessing HYDRAVISION Desktop Manager

The HydraVision Desktop Manager allows you to modify your display options. You can access the **Desktop Management** and **Hot Keys Dialogs** by clicking on the appropriate tab in the Desktop Manager.

Along the bottom of each HydraVision Dialog are four buttons: **OK**, **Cancel**, **Apply** and **Help**.

OK implements the changes you've made in the HydraVision Dialog and exits the Desktop Manager. Changes take effect immediately unless you see a message prompting you to restart your computer.

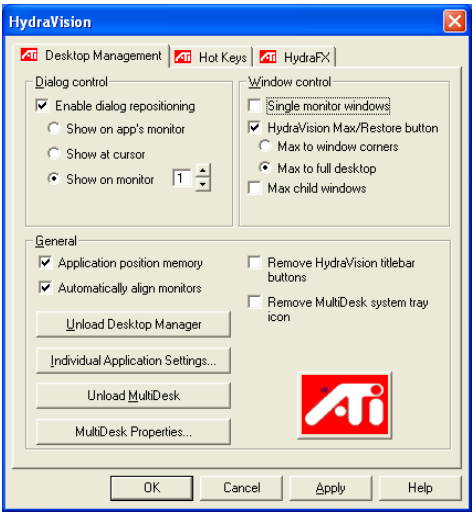
Cancel discards *all* changes made to any section of the HydraVision Dialog and closes the Desktop Manager.

Apply implements your changes without closing the Desktop Manager.

Help opens HydraVision's online help. You can also get context-sensitive on-screen help by moving your mouse over the relevant text for each control.

HydraVision Properties

Desktop Management Controls



The Desktop Management Dialog

The **Desktop Management Dialog** lets you determine the behavior of pop-up dialogs in a multiple monitor environment.

Dialog control

Enable dialog repositioning: Toggles dialog control on and off. When it is checked, you can choose to have dialogs appear on the parent application's monitor. (The parent application is the application that generated the dialog.) If the parent application or associated monitor cannot be located, the dialog defaults to monitor 1. You can also choose to have dialogs appear on the monitor in which the cursor is located or to 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/Restore button: Allows you to control the behavior of the **Max/Restore** button. When HydraVision is running, the HydraVision Max/Restore button appears in the upper right corner of your application title bar. Clicking this icon makes the active window maximize in one of three 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 to current monitor** (available in Windows® 2000 only) causes windows to maximize to the current monitor.

Max child windows: Keeps windows generated by parent applications from splitting across monitors. (A child window is a window residing within a parent application window.) 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 titlebar icon changes from a single square to two smaller squares when a window is in a HydraVision maximized state. Clicking the icon 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 reapply those settings when the application is reopened.

Boot to single monitor: (Windows® 2000 only) Check this box to enable a single monitor only when the computer starts. All other connected devices will be disabled.

Extended Desktop must be enabled before the computer is restarted.

Automatically align monitors: (Windows® XP only) Monitor placement can be manually defined in the Settings Dialog of the Display Properties. However, when the **Automatically align monitors** box is checked, HydraVision will override the user-defined monitor placement setting if the monitors are not evenly aligned.

Remove HydraVision title bar buttons: This box removes or restores the ATI buttons placed on the titlebar in installed 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 starts or stops the HydraVision Desktop Manager tracking program. You should only stop 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 starts or stops multiple desktop functionality.

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

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

Individual Application Settings: This button allows you to specify, enable and disable desktop management settings for individual applications. You can access these settings by clicking on the down arrow of the HydraVision icon in the application title bar or by clicking the **Individual Application Settings** button in the **Desktop Management Dialog**.

To enable Individual Applications Settings via the Desktop Manager

These settings override the global settings defined in the Desktop Management Dialog.

1. Click on the **Individual Application Settings** button.
2. All open applications will appear in the **Individual settings not enabled Dialog.**
3. Drag the desired application to the **Individual settings enabled Dialog.**
4. With the application highlighted click **Enable individual application settings.**

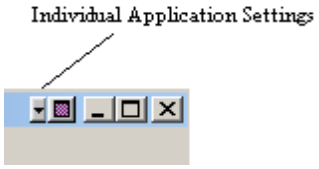
The name of the application will appear in the top of the **HydraVision Individual Application Settings Dialog**.

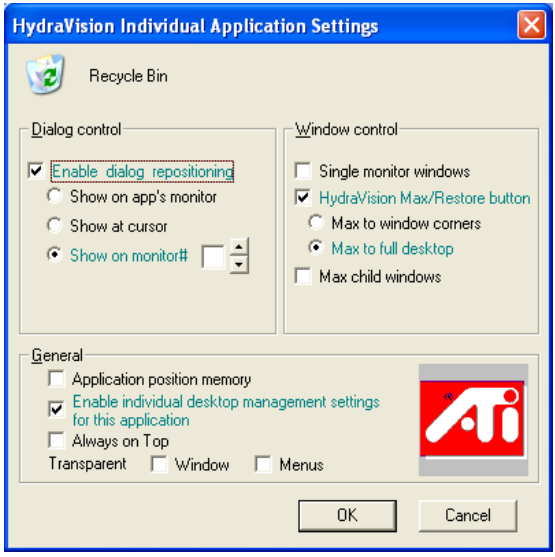
5. Click **Change Settings** to open the **HydraVision Individual Application Settings Dialog.**
6. Select the settings you wish to apply to the application and click **OK** in the next two dialogs to apply the changes.

Make certain that **Enable individual desktop management settings for this application** is selected.

To enable Individual Applications Settings using the HydraVision titlebar button

1 Open the **Individual Application Settings Dialog** by clicking the Individual application Settings button:





Individual Application Settings Dialog

Text in **green** reflects Desktop Management settings.

2 Click **OK** to apply the settings you selected for your application.

Exclusions

This feature allows you to *exclude* HydraVision settings from being applied to a specific application or *unload* HYDRAVISION completely when a specific application is started.

To exclude HYDRAVISION settings:

1. Open HYDRAVISION **Desktop Management.**
2. Click **Individual Application Settings** button.
3. Click **Exclusions** button.
4. Click **Add** button.
5. Browse to the application.
6. Click **Open** button.

The application will appear in the **Excluded applications Dialog**.

7. Click **OK** to apply the change.

To exclude HYDRAVISION when a specific application is started:

1. Open HYDRAVISION **Desktop Management.**
2. Click **Individual Application Settings** button.
3. Click **Exclusions** button.
4. Click **Add** button.
5. Browse to the application.
6. Click **Open** button.

The application will appear in the **Excluded applications Dialog**.

7. Double click the **application** in the **Excluded applications Dialog.**

8 Click **Unload HYDRAVISION** in the **Edit exclusion level Dialog**.

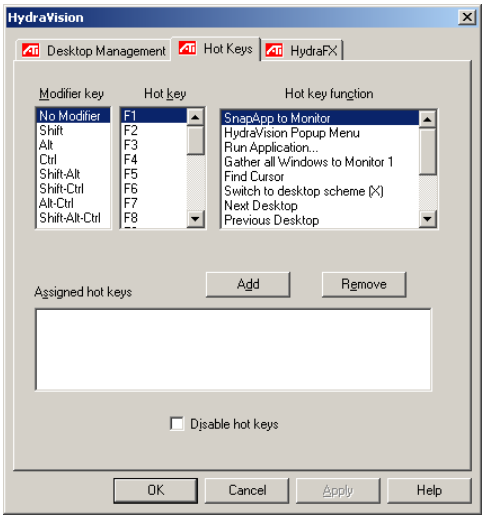
9 Click **OK** to apply the setting.

The application will appear in **red text** in the **Excluded applications Dialog**.

HYDRAVISION will not automatically restart when the application closes. You will need to manually restart HYDRAVISION.

Hot Keys Controls

HYDRAVISION allows you to specify hot key shortcuts for common operations such as starting applications, snapping applications to designated monitors, and changing display resolution.



The Hot Keys Dialog

Hot Keys only work if HYDRAVISION is installed and loaded.

Create/Remove Hot Keys

To create custom hot key sequences, select a **Modifier key** (Shift, Alt, etc.), 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 the 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 it, click **Remove**, and then click **Apply.**

You can also disable all hot keys listed in the **Assigned hot keys** list box by checking the **Disable hot keys** box near the bottom of the **Hot Keys Dialog**.

Using Hot Keys

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

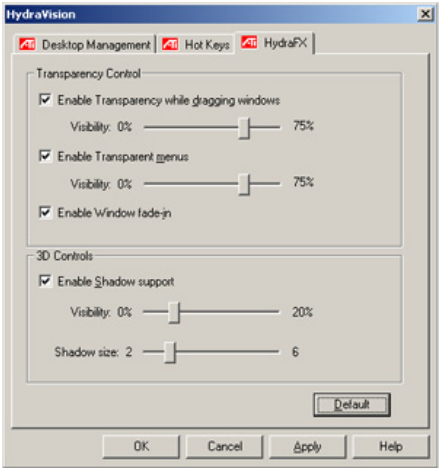
Hot key functions include:

Snap App to Monitor	Moves or “snaps” active dialogs from monitor to monitor for quick placement and viewing of desktop contents.
HYDRAVISION Pop-up Menu	Allows on-the-fly access to HYDRAVISION controls.
Run Application	Starts any application with a hot key.
Gather All Windows to Monitor 1	Finds applications that are hidden or are open and lost on disabled monitors.
Find Cursor	Locates the cursor on a busy or crowded desktop.
Zoom Display In/Out	Causes the desktop resolution to increase or decrease.
Zoom In/Out on Monitor	Causes the resolution of the active monitor to increase or decrease.
Switch to Desktop scheme	Switches from one pre-defined desktop scheme to another
Next Desktop	Moves up to the next active desktop.
Previous Desktop	Moves down to the next active desktop.
Jump to Desktop	Jumps to a predetermined desktop.
Move Application to Desktop	Moves an active application to a predetermined desktop.
Restore and Tile Windows	Tiles 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.
Start MagnifyFX...	Starts MagnifyFX

HydraFX

HydraFX is only available in Windows® 2000 and Windows® XP.

HYDRAVISION HydraFX adds visual enhancements to your desktop.You can control the transparency of windows and application drop-down menus and gives a window depth by enabling Shadow support.



HydraFX

Transparency Control

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 has.

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

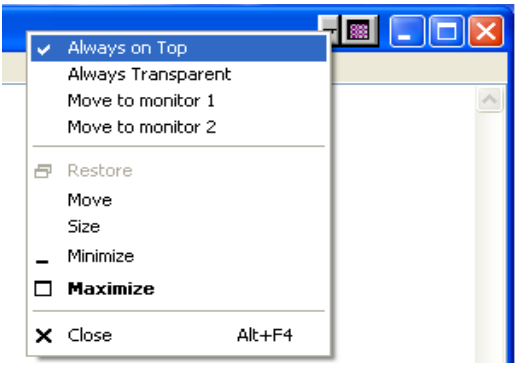
3D Controls

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 size slider sets the size of the shadow added to an application dialog.

Always On Top

This feature allows you to keep a specific application on top of other open applications, even if another application is opened or moved on your desktop.

- To enable **Always on Top** right-click the titlebar of the required application and click **Always on Top** in the pop-up menu.



This feature remains enabled with the application even when it is closed. The next time the application is started it will appear on top of all open applications.

- To disable **Always on Top** right-click the application's titlebar and click **Always on Top**.

If a second instance of the same application is opened when **Always on Top** has been enabled, the second instance will appear on top of the first. You will be able to switch between the two instances as though **Always on Top** was disabled. However, any other opened application will appear underneath the application that has **Always on Top** enabled.

Always Transparent

This feature applies a degree of transparency preset in the **HydraFX Dialog** for a specific application. This setting is applied regardless of how **Transparency** is configured in the HydraFX Dialog. However, you can change the degree of transparency in the **HydraFX Dialog**.

- Right-click the titlebar of the application you wish to apply this setting and click **Always Transparent** in the pop-up menu.

This feature remains enabled with the application even when it is closed. The next time the application is started it will have the same transparency settings as it did when it was closed.

- To disable **Always Transparent** right-click the application's titlebar and click **Always Transparent**.

If a second instance of the same application is opened when Always Transparent has been enabled, the second instance will have the same transparency settings applied to it. Disabling Always Transparent of one instance will disable it in all other instances.

Move to monitor

This feature allows you to move an application dialog to a specific monitor. To do so:

1. Right-click the application titlebar.
2. Select the preferred monitor from the drop-down menu.

Restore to monitor

This feature allows you to specify which monitor a minimized application will open on. To do so:

1. Right-click a minimized application.
2. Select the preferred monitor from the pop-up menu.

Internet Explorer Feature

In a multi-monitor environment, HYDRAVISION extends the capabilities of Internet Explorer. By right-clicking on a hyperlink, you can choose which monitor the new page will open on. To do so:

1. Open Internet Explorer.
2. Surf to your favorite website.
3. Right-click a hyperlink.
4. Select the preferred monitor from the drop-down menu.

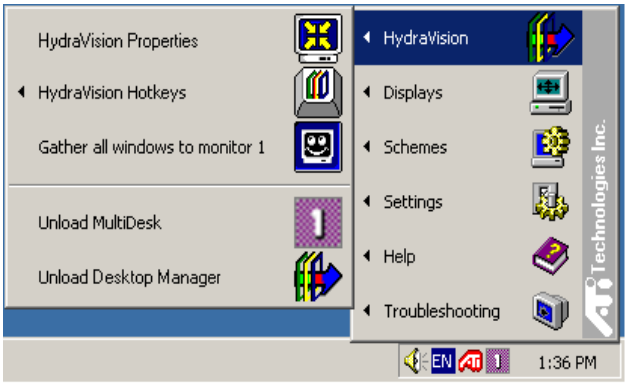
Double right-click a hyperlink to automatically open it in a new window on the original display.

HYDRAVISION for Windows®98SE/ Windows® Me

HYDRAVISION installation creates a Windows® program group for HYDRAVISION display management software.

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.



Accessing HYDRAVISION Desktop Manager

The HYDRAVISION Desktop Manager allows you to modify your display options. You can access the **Desktop Management** and **Hot Keys Dialog** by clicking on the appropriate tab in the Desktop Manager.

Along the bottom of each HYDRAVISION Dialog are four buttons: **OK**, **Cancel**, **Apply** and **Help**.

OK implements the changes you've made in the HYDRAVISION Dialog and exits the Desktop Manager. Changes take effect immediately unless you see a message prompting you to restart your computer.

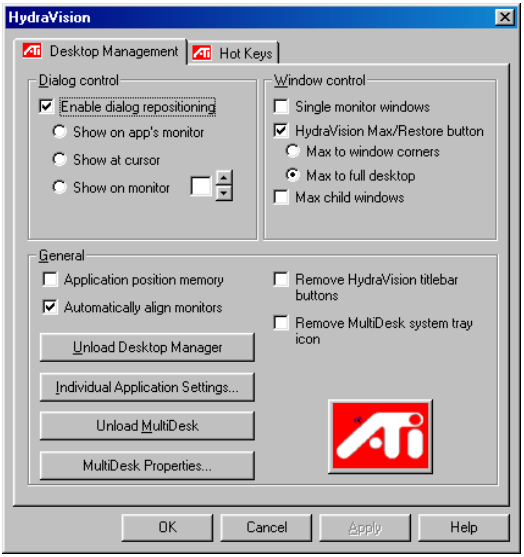
Cancel discards *all* changes made to any section of the HYDRAVISION Dialog and closes the Desktop Manager.

Apply implements your changes without closing the Desktop Manager.

Help opens HYDRAVISION's online help. You can also get context-sensitive on-screen help by moving your mouse over the relevant text for each control.

HYDRAVISION Properties

Desktop Management Controls



The Desktop Management Dialog

The **Desktop Management Dialog** lets you determine the behavior of pop-up dialogs in a multiple monitor environment.

Dialog control

Enable dialog repositioning: Toggles dialog control on and off. When it is checked, you can choose to have dialogs appear on the parent application's monitor. (The parent application is the application that generated the dialog.) If the parent application or associated monitor cannot be located, the dialog defaults to monitor 1. You can also choose to have dialogs appear on the monitor in which the cursor is located or to 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/Restore 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 your application title bar. Clicking this icon 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. (A child window is a window residing within a parent application window.) 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 titlebar icon changes from a single square to two smaller squares when a window is in a HYDRAVISION maximized state. Clicking the icon 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 dialogs when they are closed and reapply those settings when the application is reopened.

Automatically align monitors: You can manually define monitor placement from the **Settings Dialog** in the **Display Properties Dialog** When **Automatically align monitors** 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 (monitors side-by-side).

Remove HYDRAVISION titlebar buttons: This box removes or restores the buttons placed on the titlebar in installed 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 starts or stops the HYDRAVISION Desktop Manager tracking program. Unloading the Desktop Manager returns display settings to Windows® 98SE and Windows® Me defaults. You should only select this option if you do not want to use any multiple monitor dialog controls and window controls or hot keys.

Desktop Manager will not reload automatically when Windows® restarts. You will need to restart Desktop Manager from the Desktop Management Dialog.

Load/Unload MultiDesk: This button starts or stops multiple desktop functionality.

MultiDesk will not reload automatically when Windows® restarts. You will need to restart MultiDesk from the Desktop Management Dialog.

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

Individual Application Settings: This button allows you to specify, enable and disable desktop management settings for individual applications. You can access these settings by clicking on the down arrow of the HYDRAVISION icon in the application title bar or by clicking the **Individual Application Settings** button in the **Desktop Management Dialog**.

To enable Individual Applications Settings via the Desktop Manager

These settings override the global settings defined in the **Desktop Management Dialog**.

1. Click on the **Individual Application Settings** button.
2. All open applications will appear in the **Individual settings not enabled Dialog**.
3. **Drag** the desired application to the **Individual settings enabled Dialog**.
4. With the application highlighted click **Enable individual application settings.**

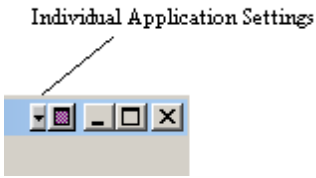
The name of the application will appear in the top of the **HYDRAVISION Individual Application Settings Dialog**.

5. Click **Change Settings** to open the **HYDRAVISION Individual Application Settings Dialog**.
6. Select the settings you wish to apply to the application and click **OK** in the next two dialogs to apply the changes.

Make certain that **Enable individual desktop management settings for this application** is selected.

To enable Individual Applications Settings using the HYDRAVISION titlebar button

1 Open the **Individual Application Settings Dialog** by clicking the Individual application Setting button.



Individual Application Settings Dialog

Text in **green** reflects Desktop Management settings.

2 Click OK to apply the settings you selected for your application.

Exclusions

This feature allows you to *exclude* HYDRAVISION settings from being applied to a specific application or *unload* HYDRAVISION completely when a specific application is started.

To exclude HYDRAVISION settings:

1. Open HYDRAVISION **Desktop Management.**
2. Click **Individual Application Settings** button.
3. Click **Exclusions** button.
4. Click **Add** button.
5. Browse to the application.
6. Click **Open** button.

The application will appear in the **Excluded applications Dialog**.

7. Click **OK** to apply the change.

To exclude HYDRAVISION when a specific application is started:

1. Open HYDRAVISION **Desktop Management.**
2. Click **Individual Application Settings** button.
3. Click **Exclusions** button.
4. Click **Add** button.
5. Browse to the application.
6. Click **Open** button.

The application will appear in the **Excluded applications Dialog**.

7. Double click the **application** in the **Excluded applications Dialog**.

8 Click **Unload HYDRAVISION** in the **Edit exclusion level Dialog**.

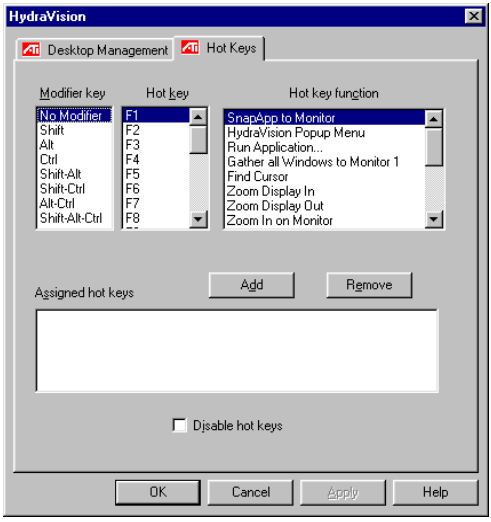
9 Click **OK** to apply the setting.

The application will appear in **red text** in the **Excluded applications Dialog**.

HYDRAVISION will not automatically restart when the application closes. You will need to manually restart HYDRAVISION.

Hot Keys Controls

HYDRAVISION allows you to specify hot key shortcuts for common operations such as starting applications, snapping applications to designated monitors, and changing display resolution.



The Hot Keys Dialog

Hot Keys only work if HYDRAVISION is installed and loaded.

Create/Remove Hot Keys

To create custom hot key sequences, select a **Modifier key** (Shift, Alt, etc.), 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 it, click **Remove**, and then click **Apply.**

You can also disable all hot keys listed in the **Assigned hot keys** list box by checking the **Disable hot keys** box near the bottom of the **Hot Keys Dialog**.

Using Hot Keys

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

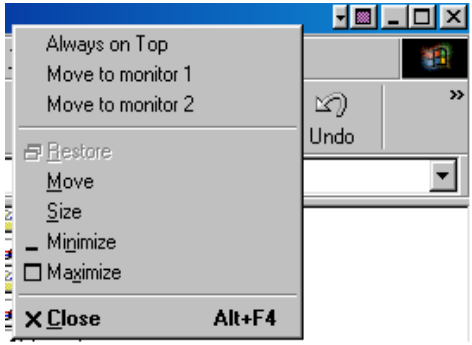
Hot key functions include:

Snap App to Monitor	Moves or “snaps” active dialogs from monitor to monitor for quick placement and viewing of desktop contents.
HYDRAVISION Pop-up Menu	Allows on-the-fly access to HYDRAVISION controls.
Run Application	Starts any application with a hot key.
Gather All Windows to Monitor 1	Finds applications that are hidden or are open and lost on disabled monitors.
Find Cursor	Locates the cursor on a busy or crowded desktop.
Zoom Display In/Out	Causes the desktop resolution to increase or decrease.
Zoom In/Out on Monitor	Causes the resolution of the active monitor to increase or decrease.
Switch to desktop scheme	Switches from one pre-defined desktop scheme to another.
Next Desktop	Moves up to the next active desktop.
Previous Desktop	Moves down to the next active desktop.
Jump to Desktop	Jumps to a predetermined desktop.
Move Application to Desktop	Moves an active application to a predetermined desktop.
Restore and Tile Windows	Tiles 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.
Starting MagnifyFX...	Starts MagnifyFX

Always On Top

This feature allows you to keep a specific application on top of other open applications, even if another application is opened or moved on your desktop.

- To enable **Always on Top** right-click the titlebar of the required application and click **Always on Top** in the pop-up menu.



This feature remains enabled with the application even when it is closed. The next time the application is started it will appear on top of all open applications.

- To disable **Always on Top** right-click the application's titlebar and click **Always on Top**.

If a second instance of the same application is opened when **Always on Top** has been enabled, the second instance will appear on top of the first. You will be able to switch between the two instances as though **Always on Top** was disabled. However, any other opened application will appear underneath the application that has **Always on Top** enabled.

Move to Monitor

This feature allows you to move an application dialog to a specific monitor. To do so:

1. Right-click the application titlebar.
2. Select the preferred monitor from the drop-down menu.

Restore to Monitor

This feature allows you to specify which monitor a minimized application will open on. To do so:

1. Right-click a minimized application.
2. Select the preferred monitor from the pop-up menu.

Internet Explorer Feature

In a multi-monitor environment, HYDRAVISION extends the capabilities of Internet Explorer. By right-clicking on a hyperlink, you can choose which monitor the new page will open on. To do so:

1. Open Internet Explorer.
2. Surf to your favorite website.
3. Right-click a hyperlink.
4. Select the preferred monitor from the drop-down menu.

Double right-click a hyperlink to automatically open it in a new window on the originating display.

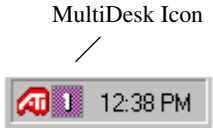
MultiDesk

HYDRAVISION software supports multiple desktops. With MultiDesk, one active desktop will always be visible, while up to eight active desktops can reside in the background. When MultiDesk is running, the MultiDesk icon in the system tray displays the number assigned to the current desktop.

MultiDesk is installed with HYDRAVISION. However, multiple desktop support and HYDRAVISION can be loaded/unloaded and operated independently of each other.

Accessing MultiDesk Properties

MultiDesk can be accessed in several ways. Click on the MultiDesk Properties button in the Desktop Management tab or right-click the MultiDesk Icon.



MultiDesk System Tray Icon

The MultiDesk icon also gives you quick access to all of the MultiDesk features and to quickly move to a different desktop. In addition to accessing active desktops from the system tray, you can also access active desktops with a **Hot key** shortcut.

Hot Keys only work if HYDRAVISION is installed and loaded.

MultiDesk functionality can be removed by selecting **Unload MultiDesk** from the pop-up menu of the ATI Icon or the Desktop Manager.

MultiDesk will not reload automatically when Windows® restarts. You will need to reload MultiDesk from the Desktop Manager.

MultiDesk Properties

MultiDesk Properties allows you to control up to nine desktops. In addition, each desktop can be saved and restored at any time. Saving a desktop will also save any open applications. When a saved desktop is restored so are the applications that were open when the desktop was saved.

You can also **give a desktop a unique name.** Double-click a desktop tab. The tab will turn grey and a blinking cursor will appear. Simply type in the new name. When you have renamed the desktop click on the tab to save the change.

Switching from one desktop to another can be achieved simply by right-clicking the MultiDesk icon and selecting the desired desktop.

You can also switch desktops while in MultiDesk Properties:

1. Click a Desktop tab.
2. Click Switch to this Desktop button.

The MultiDesk Properties can be transformed into a floating tool by double-clicking the titlebar. Simply click the number of the desktop you want to change to. Double-click the titlebar to return to the MultiDesk Properties dialog.

Finally, you can cycle through the desktops by clicking on the MultiDesk icon in the taskbar.

Set Desktop State allows you to set a specific desktop Active, Inactive, or Disabled. Inactive desktops MAY contain open applications; however, they are temporarily disabled. Disabled desktops cannot contain any applications. If an Active or Inactive desktop that contains applications is disabled, the application will be automatically moved to an Active desktop.

Keep on all desktops allows you to have a selected application visible on all desktops. Click on an application in the Active Applications window and check Keep on all desktops.

Save, Restore, and Remove Desktop Profiles allows you to save a specific or all desktops which can then be restored at any time. Any open applications will be saved with the desktop profile. When the desktop profile is restored these applications will also be restored.

To save a desktop profile:

1. Open **MultiDesk Properties.**
2. Click **Save** in the Desktop Profiles box.

or

1. Right-click the MultiDesk icon in the Windows® taskbar.
2. Select **Save desktop**.
3. Click a specific desktop or **All Desktops** to save all Desktop Profiles.

To restore a desktop profile:

1. Open **MultiDesk Properties.**
2. Click **Restore** in the Desktop Profiles box.

or

1. Right-click the MultiDesk icon in the Windows® taskbar.
2. Select **Restore desktop.**
3. Click a specific desktop or **All Desktops** to restore all Desktop Profiles.

To remove a saved desktop profile:

1. Open **MultiDesk Properties.**
2. Click **Remove** in the Desktop Profiles box.

or

1. Right-click the MultiDesk icon in the Windows® taskbar.
2. Select **Remove saved desktop.**
3. Click a specific desktop or **All Desktops** to remove all saved Desktop Profiles.

Apply actions to all Desktops

When selected, all desktops can be saved, restored, or removed with a single click of the mouse.

Clear Desktop allows you to move all open applications to Desktop 1 or any specified active desktop.

To Clear Desktop:

1. Open **MultiDesk Properties.**
2. Click **Clear Desktop**.

or

1. Right-click the MultiDesk icon in the Windows® taskbar.
2. Select **Clear Desktop.**
3. Click a specific desktop or **All Desktops** to move all open applications to Desktop 1.

If **Apply actions to all Desktops** is enabled, **Clear Desktop** will move all open applications to the first active desktop.

Set Background gives you immediate access to the Windows® display properties where you can change the desktop background.

To Set Background:

1. Open **MultiDesk Properties.**
2. Click **Set Background**.

or

1. Right-click the MultiDesk icon in the Windows® taskbar.
2. Click **Set Background.**

Number of Desktops to use allows you to restrict the maximum number of available virtual desktops.

1. Open **MultiDesk Properties.**
2. Select the maximum number of desktops from the drop-down menu**.**

Switch Desktops with mousewheel when enabled, allows you to scroll through your active desktops using the mouse scroll wheel.

MagnifyFX

MagnifyFX allows you to zoom into a specific area of the desktop. The area of magnification is completely adjustable. Magnified areas can be copied to the clipboard and the contents pasted into almost any graphics or word processing application.

MagnifyFX can be accessed through the HYDRAVISION Properties:

1. Click **HydraFX** tab.
2. Click **Start MagnifyFX...** button.

Magnification

The degree of magnification can be adjusted up to 32 times the original size of an image.

To increase magnification

Move the Magnification slider to the right.

Tracking

Tracking allows you to change the way your desktop is magnified.

Follow Cursor magnifies the area immediately surrounding the cursor. Moving the cursor around the desktop changes the MagnifyFX window contents.

Fixed Area allows you to define a specific area of the desktop to be magnified.

1. Select **Fixed Area**.
2. Click **Define Area** button.
3. Place the cursor on the desired location of the desktop.

4 Click and drag until the box surrounds the object(s) to be magnified.

5 Release the mouse button.

Follow Box causes the cursor to become a **visible box.** The area within the box is magnified in the MagnifyFX window.

Transparent causes a transparent box to appear in the center of the MagnifyFX window as you move the window around your desktop. When you stop moving the MagnifyFX window, the area within the transparent box is magnified to fill the entire MagnifyFX window.

This feature requires that *Show window contents while dragging* is enabled in the Display Properties **Effects** tab.

Define Area

The **Define Area** button allows you to define the area of magnification.

1 Click **Define Area.**

2 Click and drag to the desired size.

3 Release mouse button.

Copy to Clipboard

Copy to Clipboard copies the contents of the MagnifyFX window onto the clipboard. The contents can then be pasted into almost any graphics application or word processor.