



ATI™ CrossFire™ Pro

User Guide

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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.

Read all instructions before beginning installation. All safety and installation instructions should be read before the product is installed or operated.

Retain all instructions. Safety, installation, and operating instructions should be retained for future reference.

Heed all warnings. All warnings regarding the product and its operating instructions should be obeyed.

Use appropriate grounding.

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. This is a safety feature. Do not remove the grounding pin of a three-pin plug.

Attach product securely. All product-securing screws or fasteners should be completely tightened in order to provide continuous bonding between the product and the PC chassis, as appropriate.

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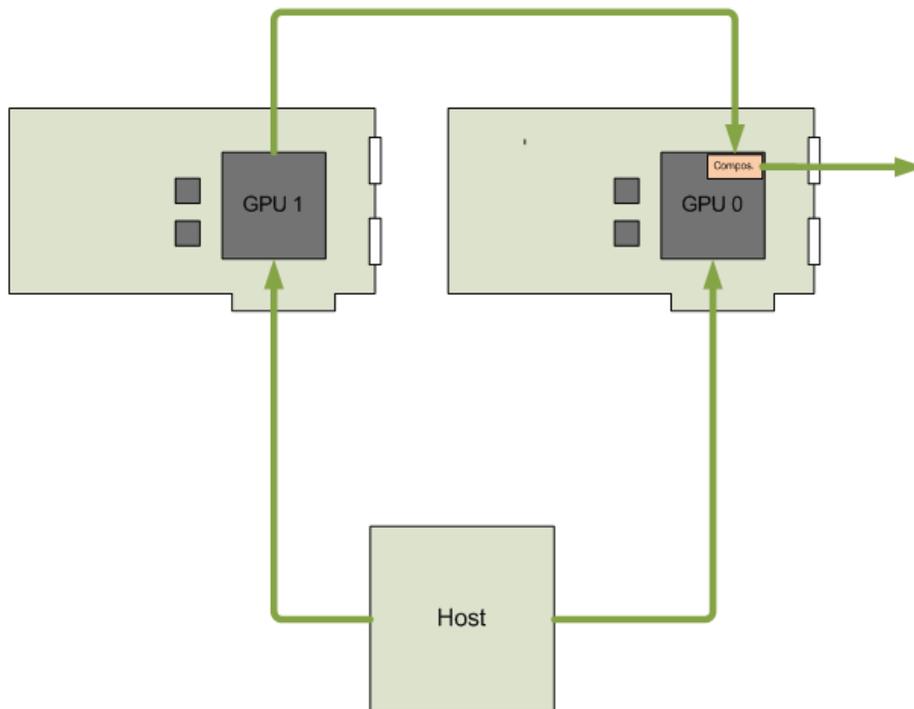
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Chapter 1

Introduction

ATI™ CrossFire™ Pro leverages ATI CrossFireX™ technology to scale professional OpenGL applications in a windowed mode by combining the computational power of two discreet ATI FirePro™ workstation graphics cards to drive a single display. Note that unlike ATI CrossFireX, ATI CrossFire Pro does not allow more than two discreet cards to be combined.

Figure 1–1 ATI CrossFire Pro Diagram

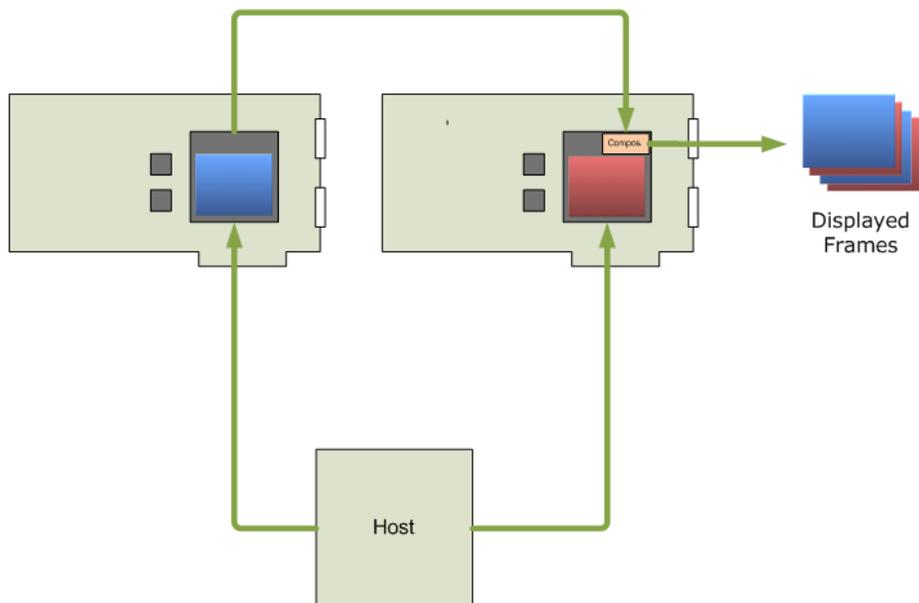


Modes

ATI CrossFire Pro significantly scales high-end DCC, CAD, and VizSim applications on a single display using the following modes:

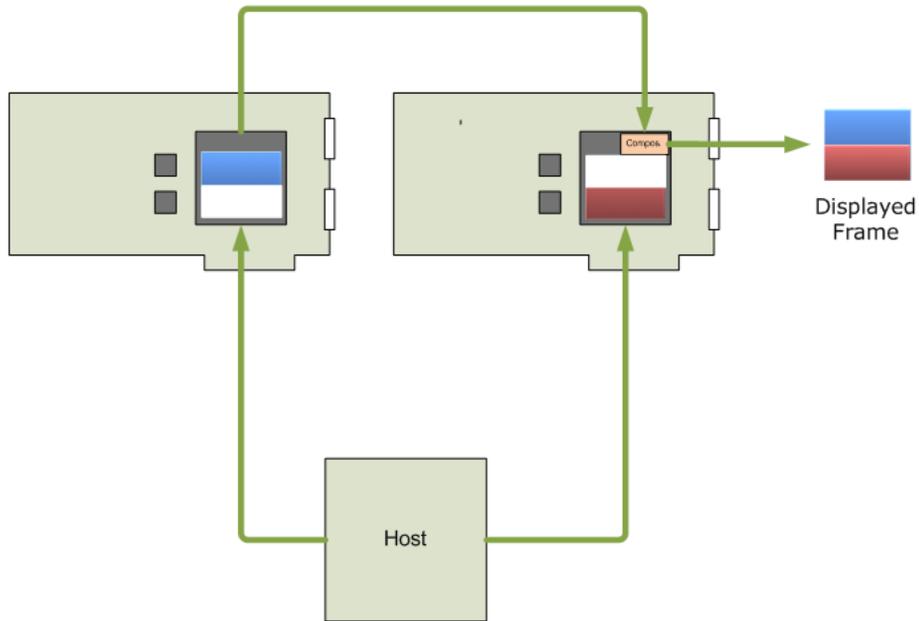
- **Frame Rendering:**
 - **AFR (Alternate Frame Rendering):** In this mode, all even frames are rendered on one GPU, and all odd frames are rendered on the other. Most useful for SPECviewperf and geometry-limited applications. ATI CrossFire Pro significantly scales applications such as Autodesk Maya, UGS NX, UGS Teamcenter, and Ensight.

Figure 1–2 ATI CrossFire Pro AFR Rendering



- **SFR (Split Frame Rendering):** In this mode, each frame is split into two sections, and each GPU renders one section. Most useful for VizSim, broadcast, and video applications that are fill-rate limited.

Figure 1–3 ATI CrossFire Pro SFR Rendering



- Full Scene Anti-aliasing: This mode provides higher quality anti-aliasing than single discrete workstation cards.

Most useful for digital mock-ups, optical simulations, TV productions, and video applications requiring a high level of image/line quality.

Note: Example applications are trademarks or registered trademarks of their respective owners.

For more information on ATI CrossFire Pro, please visit <http://ati.amd.com/products/workstation.html>.

Chapter 2

Installing ATI CrossFire Pro Graphics Cards

These instructions assume that a PCIe® graphics card has already been successfully installed in the secondary slot (slot one), and that the primary slot (slot zero) is empty.

Note: Consult your system builder or OEM to ensure that your system has an adequate power supply.

For an up-to-date listing of CrossFire Pro certified motherboards, see ati.amd.com/products/certification

1. Make sure the computer, monitor, and other peripheral devices are off.
2. Unplug the computer power cord and disconnect the monitor cable from the back panel of the computer.

Caution:

To avoid possible damage to the motherboard, wait approximately 20 seconds after unplugging the power cord before disconnecting a peripheral or removing a component from the motherboard.

3. Remove the computer cover.

If necessary, consult the computer manual for help removing the cover.

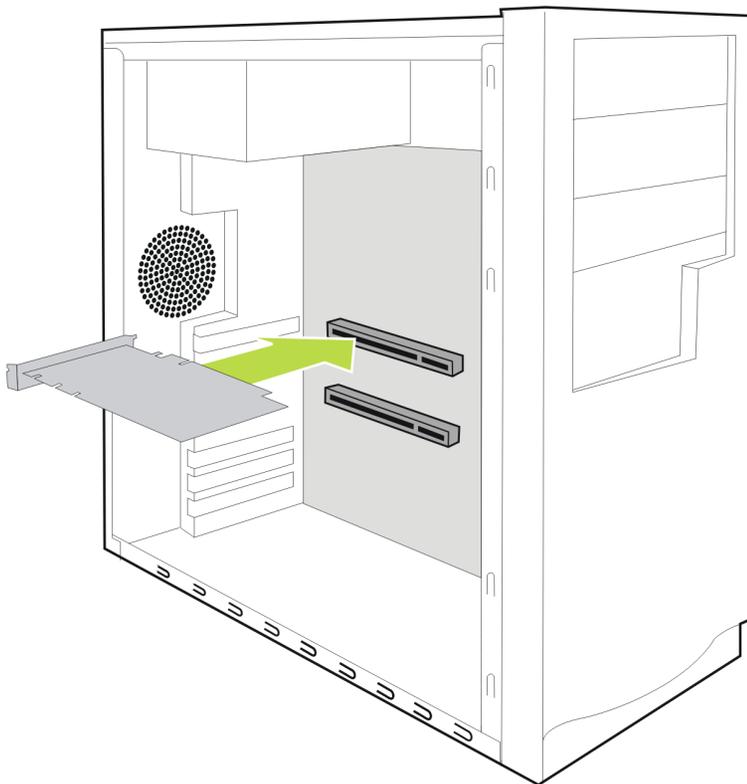
Caution:

Remember to discharge your body's static electricity by touching the power supply case or the metal surface of the computer chassis.

4. Locate the primary PCIe slot on the motherboard. If necessary, remove the corresponding back panel cover.

5. Align the new workstation card in the primary PCIe slot next to the existing graphics card and press firmly until the card is fully seated.

Figure 2-1 ATI FirePro Card Installation



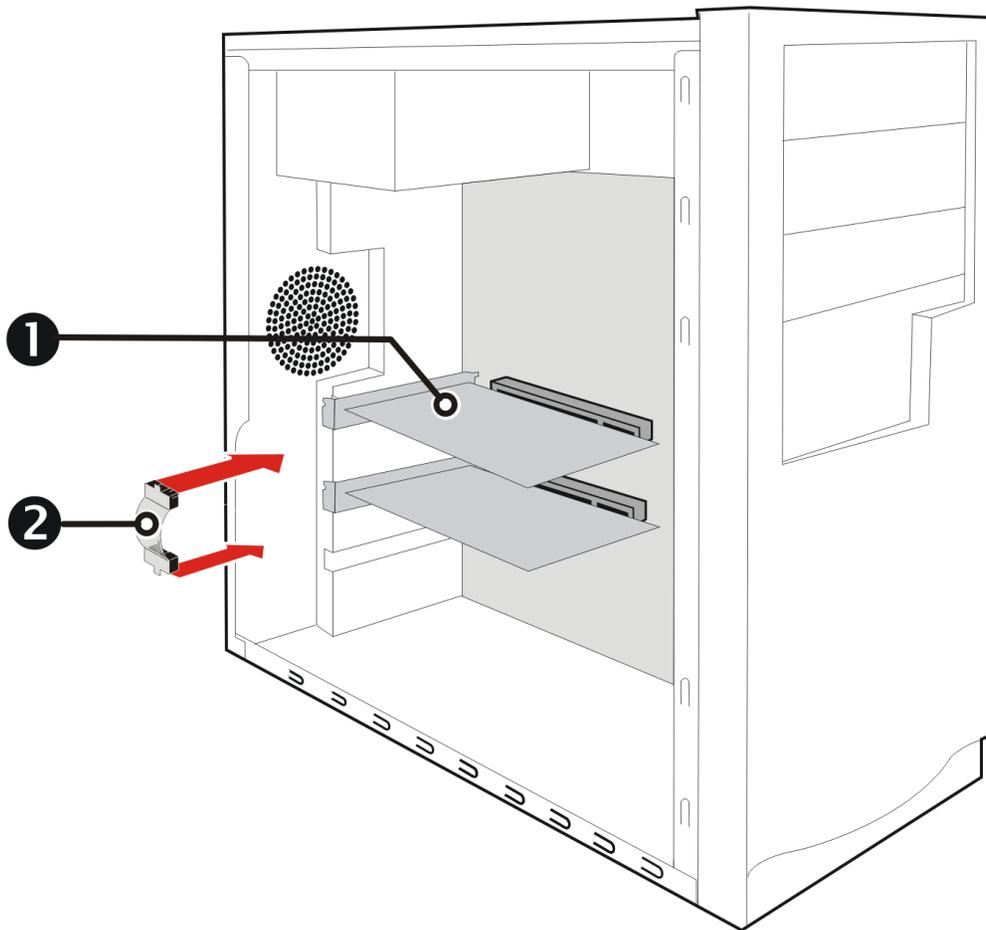
Note: You may need to hold open the PCIe card slot-locking mechanism with your finger when you seat the card.

6. Fasten the workstation card securely to the back panel.
7. Connect external power to the workstation card from the systems power supply, if necessary.

Consult your ATI FirePro workstation card's user guide, if necessary.

8. Connect the two ATI FirePro workstation cards using the ATI CrossFire Pro flex connector.

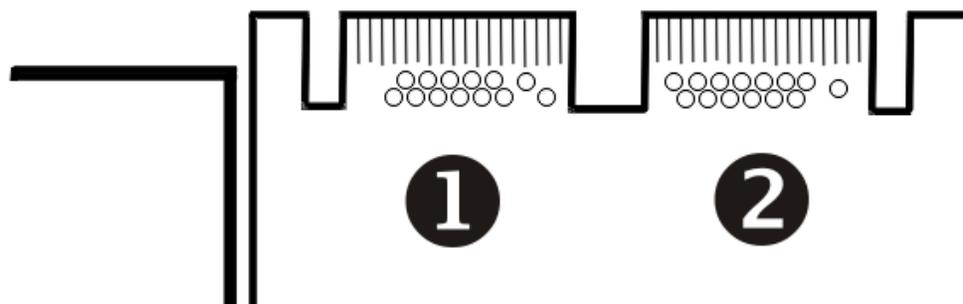
Figure 2-2 ATI CrossFire Pro Flex Connector Installation



1	Newly installed ATI FirePro card
2	ATI CrossFire Pro flex connector

Note: Connect the cards using only **one** flex connector on the “top” ATI CrossFire Pro connector tab (the one closest to the bracket) on each card

Figure 2-3 ATI CrossFire Pro Connector Tabs



1	Top connector
2	Bottom connector (do not use)

9. Make sure that no cables are interfering with anything inside the computer (for example, a cooling fan) and then replace the computer cover.
10. Reconnect any cables you have disconnected and plug in the computer power cord.
11. Turn on the monitor and then the computer.

Enable ATI CrossFire Pro in ATI Catalyst™ Control Center as described in [Chapter 3 Enabling ATI CrossFire Pro](#).

Chapter 3

Enabling ATI CrossFire Pro

Note: The CrossFire option will not appear unless two workstation cards are installed in the system and connected using an ATI CrossFire Pro flex connector.

1. From the Graphics Settings tree, expand **CrossFireX** and click **Configure**.
2. From the **Graphics Adapter** list, select the graphics card to act as the display GPU.
3. Select **Enable CrossFireX**.
4. Click **Apply**.

Chapter 4

ATI CrossFire Pro FAQ

The following are frequently asked questions regarding ATI CrossFire Pro technology.

How do you connect two discreet FirePro cards to enable this feature?

ATI CrossFire Pro requires only one ATI CrossFire Pro flex connector to connect the two discreet workstation cards to enable this feature. The flex connector should be connect to the “top” connector tab (the one closest to the bracket).

Can any two ATI FirePro cards be connected to enable this feature?

Currently, only identical ATI CrossFire Pro-ready cards can be combined to enable this feature. All mid-range or greater ATI FirePro cards are ATI CrossFire Pro-ready. This line-up currently includes the V5700, V7750, V8700, and V8750 products.

Which driver do I need to run applications in the CrossFire Pro mode?

Driver version 8.63 and Catalyst version 8.6x (or later) will support this feature.

Which operating systems are supported for this feature?

Driver version 8.63 supports Windows® XP. Support for Linux and Windows Vista® is planned for a later driver release.

Is this feature platform or chipset dependent? Which platforms does this feature support?

This feature is designed to provide open support for all AMD and Intel chipsets. Currently, it supports AMD 790FX, 790X, and 790GX platforms and Intel X58, X48, X38, 975X, and 955X platforms. No proprietary bridge or licensing is required to use this feature.

Which professional applications currently scale on ATI CrossFire Pro?

Currently, many Alternate Frame Rendering (AFR) applications that are geometry bound show good performance scaling, including Autodesk Maya, Insight, UGS Teamcenter, and UGS NX.

What is the optimal hardware for using this feature?

ATI CrossFire Pro uses the PCI Express® peer-to-peer feature and therefore performs best with PCIe 2.0 compliant workstations.

There are two ATI CrossFire Pro connector tabs and only one flex connector supplied in the box. Which tab should I connect the flex connector to?

All ATI FirePro boards have two ATI CrossFire Pro connector tabs to accommodate future requirements. Currently, ATI CrossFire Pro requires only one flex connector, which should be connected to the first cutout (the one nearer to the bracket).

Note: Example applications are trademarks or registered trademarks of their respective owners.