

ATI Eyefinity Technology Setup Guide



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ATI Eyefinity Technology Setup Guide

What is ATI Eyefinity Technology?

ATI Eyefinity Technology from AMD provides advanced multiple monitor technology delivering an incredibly immersive graphic and computing experience with innovative display capabilities, supporting massive desktop workspaces and super-high resolution gaming environments. ATI Eyefinity technology with DisplayPort connectivity enables a single GPU to support up to six independent display outputs simultaneously. For the purposes of this document an “ATI Eyefinity system” means a computer system employing ATI Eyefinity technology and an “ATI Eyefinity resolution” means a resolution achievable using ATI Eyefinity technology.

Recommended Monitor Configurations

Although ATI Eyefinity technology can be implemented with two, three, and in some products four or even six monitors, the optimal configuration is usually three. This keeps the focal point (and the crosshairs, if you’re playing a shooter) in the center of the middle monitor, rather than hidden behind a bezel.



Figure 1: An example of an optimal three display ATI Eyefinity technology configuration.

Landscape vs. Portrait Orientation

Most games look good in a three-way landscape configuration, although they may require special configuration to access the ultra-wide aspect ratio. For media (watching movies, for example), a portrait arrangement may be more appropriate. Some titles, which do not offer appropriate aspect ratio control, may look better in a portrait orientation.

Total Resolution

ATI Eyefinity gives the user access to an enormous number of pixels. Obviously, as pixel count grows, the graphics horsepower required to drive the displays at a reasonable frame rate can increase dramatically. The table below shows some recommended monitor configurations which take account of the power of the various GPU’s.

Selecting Monitors to Suit a Graphics Adapter

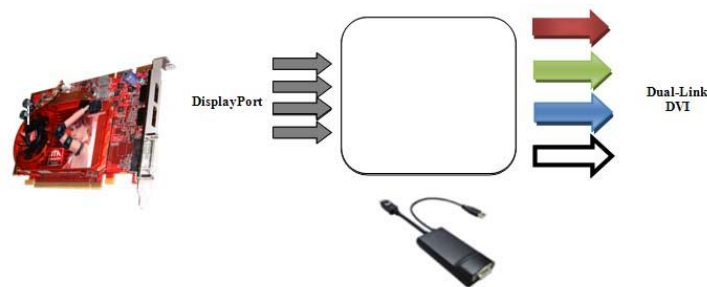
Graphics Product	Recommended Monitor Configurations
ATI Radeon™ HD 5700 series	3 x 1680x1050 = 5040x1050 Landscape or 3150x1680 Portrait 3 x 1280x1024 = 3840x1024 Landscape or 3072x1280 Portrait 3 x 1366x768 = 4098x768 Landscape ¹ 3 x 1280x720 = 3840x720 Landscape ¹
ATI Radeon™ HD 5800 series	3 x 1920x1200 = 5760x1200 Landscape or 3600x1920 Portrait 3 x 1920x1080 = 5760x1080 Landscape or 3240x1920 Portrait 3 x 1680x1050 = 5040x1050 Landscape or 3150x1680 Portrait
ATI Radeon™ HD 5970 graphics	3 x 2560x1600 = 7680x1600 Landscape ² 3 x 1920x1200 = 5760x1200 Landscape ² 3 x 1920x1080 = 5760x1080 Landscape ²

Connecting Displays

ATI Eyefinity Technology is closely aligned with AMD's DisplayPort implementation providing the flexibility and upgradability modern user's demand. Up to two DVI, HDMI, or VGA display outputs can be combined with DisplayPort outputs for a total of up to six monitors, depending on the graphics card configuration.

The initial AMD graphics products with ATI Eyefinity technology will support a maximum of three independent display outputs via a combination of two DVI, HDMI or VGA with one DisplayPort monitor. AMD has a future product planned to support up to six DisplayPort outputs.

Wider display connectivity is possible by using display adapters that support active translation from DisplayPort to DVI or VGA. These adapters require complex circuitry to convert the DisplayPort signal from the graphics card, modify it to the new display signal required for the attached monitor, and for transmission.



The following active adapters are available in the market today:

- DisplayPort to Dual-Link DVI
- DisplayPort to VGA
- Mini DisplayPort to Dual-Link DVI
- Mini DisplayPort to VGA

¹ Portrait modes are possible, but likely impractical with the display devices (generally HDTV's) that support these resolutions

² Portrait oriented ATI Eyefinity modes will function, but are not accelerated by the current implementation of ATI CrossFireX™ technology. For best performance with the currently available drivers, use a Landscape setup with an ATI Radeon™ HD 5970 graphics adapter

Example Configuration Options Based on a Graphics Card with Four Display Outputs



	DVI Connector	DVI Connector	DP Connector	HDMI Connector
Monitor Configuration #1 DVI-DVI-DP	<i>Native</i>	<i>Native</i>	<i>Native</i>	<i>Disabled</i>
Monitor Configuration #2 DVI-DVI-DVI	<i>Native</i>	<i>Native</i>	<i>Active DP to DVI Adapter</i>	<i>Disabled</i>
Monitor Configuration #3 DVI-HDMI-DP	<i>Native</i>	<i>Disabled</i>	<i>Native</i>	<i>Native</i>
Monitor Configuration #4 DVI-VGA-DP	<i>Native</i>	<i>DVI to VGA Adapter</i>	<i>Native</i>	<i>Disabled</i>
Monitor Configuration #5 VGA-VGA-VGA	<i>DVI to VGA Adapter</i>	<i>DVI to VGA Adapter</i>	<i>Active DP to VGA Adapter</i>	<i>Disabled</i>
Monitor Configuration #6 DVI-VGA-HDMI	<i>Native</i>	<i>Disabled</i>	<i>Active DP to VGA Adapter</i>	<i>Native</i>

Using ATI Catalyst™ Control Center to Configure Desktops & Displays

The following general instructions apply using CCC to configure displays.

1. The ATI Catalyst Control Center (CCC) Desktops & Displays manager is used to configure ATI Eyefinity settings.

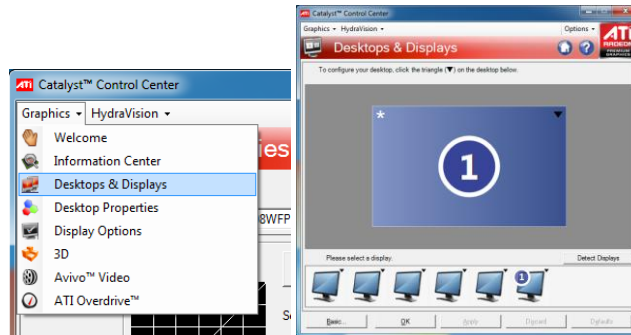
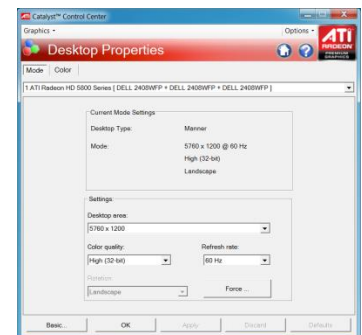
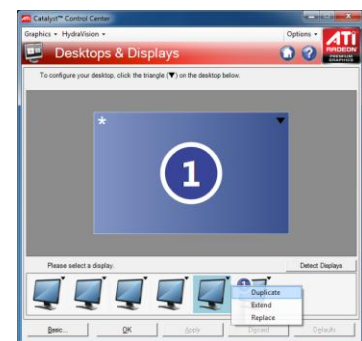


Figure 2: How to get to the Desktops & Displays manager in CCC and CCC with one display enabled

2. Right clicking on the desktop image (upper area) or clicking on the triangle in the Desktop allows you to configure desktop properties including the display mode, rotation and desktop color.



3. Replace an active display with this display. Right clicking on the display icon (lower area) of an disabled display allows you to:
 - Enable a display in duplicate mode.
 - Extend the desktop onto the display
 - Replace an active display with this display



4. Right clicking on the display icon (lower area) or an enabled display allows you to:
 - Disable a display
 - Identify a display
 - Access display properties like display specific color and scaling

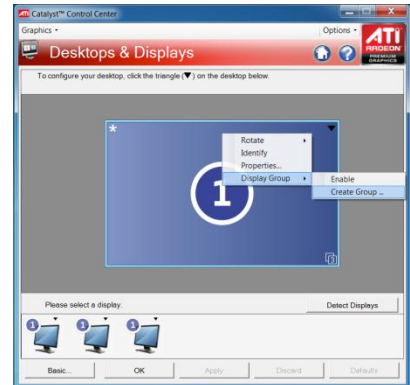


Using ATI Eyefinity Technology to Create a 3x1 Display Group (Landscape)

First Steps

1. With three or more displays connected click on the desktop or click on the black triangle ▼ to access the context menu. Select the “Create Group” menu option.

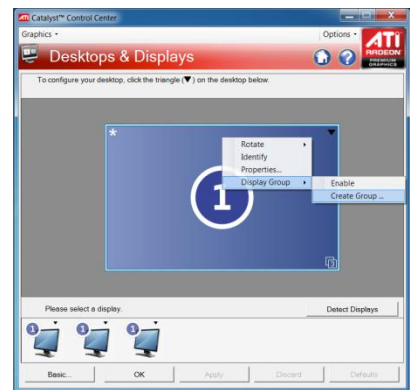
If you have other desktops enabled you will see a pop-up dialog offering to disable those other desktops in order to allow additional group layouts. Select “Yes”.



Setting the ATI Eyefinity Group Level

2. The “Select Layout” dialog is shown allowing you to choose the desired arrangement. Only arrangements which are possible based on the currently detected displays are shown. Choose the 3x1 layout from the drop down boxes.

The selected layout is previewed in the dialog box below the drop down list. Click on “Accept”.



Automatically Adding Displays to the Group

- 3a. If the number of enabled displays matches the number of required to create the selected layout (three in this case), then CCC automatically selects all of the displays and enables the group. Skip to step 4

Adding Displays to an ATI Eyefinity Group

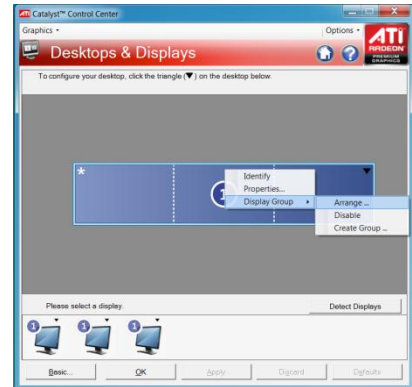
- 3b. Select the displays that you wish to use for this group by click in the icons in the display area (lower part of the UI). Displays can be added or removed as needed by clicking on them. After each display s added it is enable din duplicate (clone) mode. Once you have enabled enough displays click on the “Next” button.



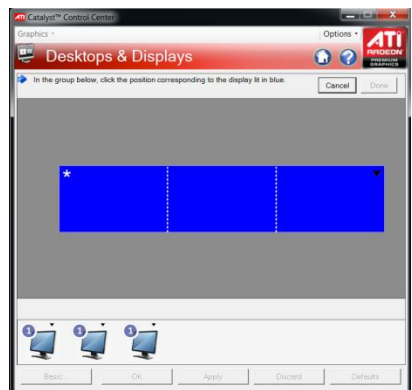
Arranging Displays

4. To arrange the displays in your group there is no need to physically move or re-cable your displays. A wizard is provided to arrange the display surfaces included in your display group.

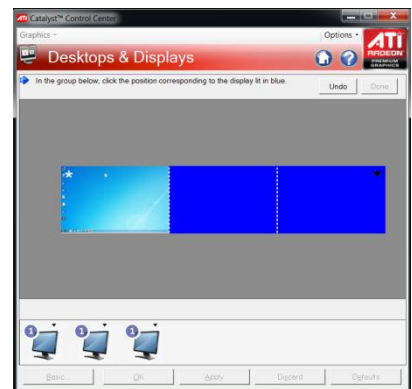
Once the group is created, CCC automatically starts the wizard. If the arrangement is already correct, click “Yes” and skip to step 7, otherwise click “No” to start the arrangement wizard



5. The wizard will black out all of the displays in the group. The CCC UI will show a grid that represents the Display Group layout you have created. CCC then highlights each display in turn by switching it from black to blue. Click on the corresponding cell in the CCC UI to the one that is highlighted.

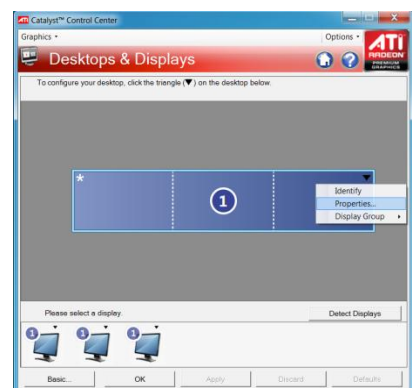


6. Progress through each display one at a time until the Display Group is shown with your desktop properly organized on the group. Click “Done”.

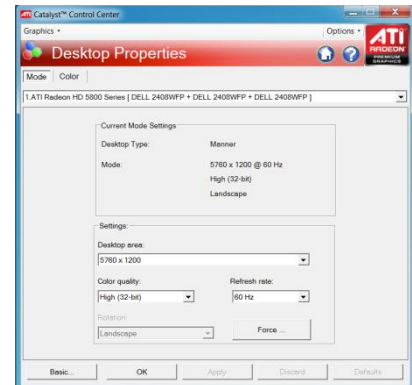


Changing Display Mode

7. To change the resolution of the Display Group click on the triangle for the surface options, then select Properties to bring up the CCC Desktop Properties and Mode settings.



8. The Display Group you've just configured will add new very large resolutions, with the maximum resolution being the highest possible combined resolution of all your attached monitors based on what they report to the graphics adapter. The other two resolutions are medium and small Display Group surfaces also based on the resolutions supported by the attached monitors.



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