



# ATI FireGL Workstation Graphics

Automatic Application Detection  
and Configuration



## Introduction

Today's workstation class graphics processing units (GPUs) have surpassed CPUs in terms of complexity and, in some cases, raw processing power. This processing power has enabled software developers to create algorithms that were once thought to be too computationally expensive. Software applications that have taken advantage of these operations provide intensive visualization capabilities and realism that was not possible only a few years ago.

## Problem

Despite the best efforts software developers put forth to insure software applications achieve the maximum performance possible from system hardware, application performance ultimately rests in the hands of the end user.

To achieve the highest level of performance possible, the end user must consider 3 factors:

1. Raw workstation hardware performance
2. Application software performance
3. Workstation configuration

With respect to 3D graphics software, the end user must configure the graphics driver to achieve the greatest performance possible from the GPU. Typically this requires the individual who is configuring the driver to thoroughly understand the graphics features, recognize what the performance factors are for each feature, access the graphics driver display control panel and manually manipulate the settings as required by each application. Given the constantly increasing number of features provided by modern GPUs and software applications, configuring the graphics settings by hand can be a daunting task. For large enterprises, manually replicating these settings on numerous workstations can be a significant undertaking and expensive proposition.

## Previous Options

GPU vendors have attempted to address the problem of configuring the graphics driver for optimal performance. Initial efforts consisted of documenting detailed information for each graphics feature of a given application and relying on the end user to configure the graphics driver for that application. Every time the user switched to a new application they would have to reinstate the configuration process. While it was possible to achieve good application performance, the burden of driver optimization placed on end user was significant.



The most recent attempt to address this issue is the concept of graphics profiles. With this technique the graphics driver manufacturer provides the user with a set of pre-defined graphics profiles, specific settings that will optimally configure the driver for a given application. To take advantage of this feature, end users would configure the graphics by selecting the graphics profile, which corresponds to their specific application. This solution provides an easier method for end users to achieve optimal graphics performance for a specific application. The IT burden is eased for enterprise deployment as well, but only if the deployment is for one application. It is quite common for end users to run more than one application simultaneously. If an end user wants to run more than one application this method requires them to either constantly switch profile settings or to compromise by configuring for all the applications, but not optimize for any specific application.

So, while providing a better solution, the concept of graphics profiles does not address the problem completely. To provide a more complete solution, the burden of optimizing performance while concurrently running multiple applications needs to be addressed.

### **ATI FireGL™ Solution**

With the release of the ATI FireGL 8.263 driver, AMD introduced the concept of Automatic Application Detection and Configuration. This feature enables the graphics driver to detect an application when it is launched and automatically configure the graphics driver to provide the optimal performance needed for that application. If another application is launched the graphics driver detects that application and configures the driver appropriately. This happens every time a new application is launched, even when multiple applications are running simultaneously.

Another benefit to this feature is that it can detect what window is active. If a user is switching between software applications the graphics driver will automatically load the driver settings that will deliver the optimal performance for the application that is running in the active window. The feature is completely automated and there is no interaction required by the user eliminating the burden of manually configuring, or manually choosing a graphics driver profile.

As a user moves between applications or opens new ones, the graphics settings are automatically configured for maximum performance.

The most recent attempt to address this issue is the concept of graphics profiles. With this technique the graphics driver manufacturer provides the user with a set of pre-defined graphics profiles, specific settings that will optimally configure the driver for a given application. To take advantage of this feature, end users would tune the graphics by selecting the graphics profile, which corresponds to their specific application. This solution provides an easier method for end users to achieve optimal graphics performance for a specific application. The IT burden is eased for enterprise deployment as well. But, it is quite common for end users to run more than one application simultaneously.



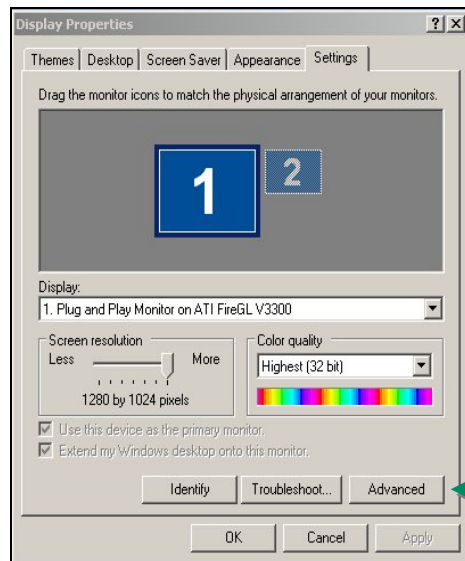
If an end user wants to run more than one application this method requires them to either constantly switch profile settings or to compromise by tuning for all the applications, but not optimize for any specific application.

So, while providing a better solution, the concept of graphics profiles does not address the problem completely. To provide a more complete solution, the burden of fine-tuning performance while concurrently running multiple applications needs to be addressed.

## Using the Automatic Application Detection and Configuration Feature

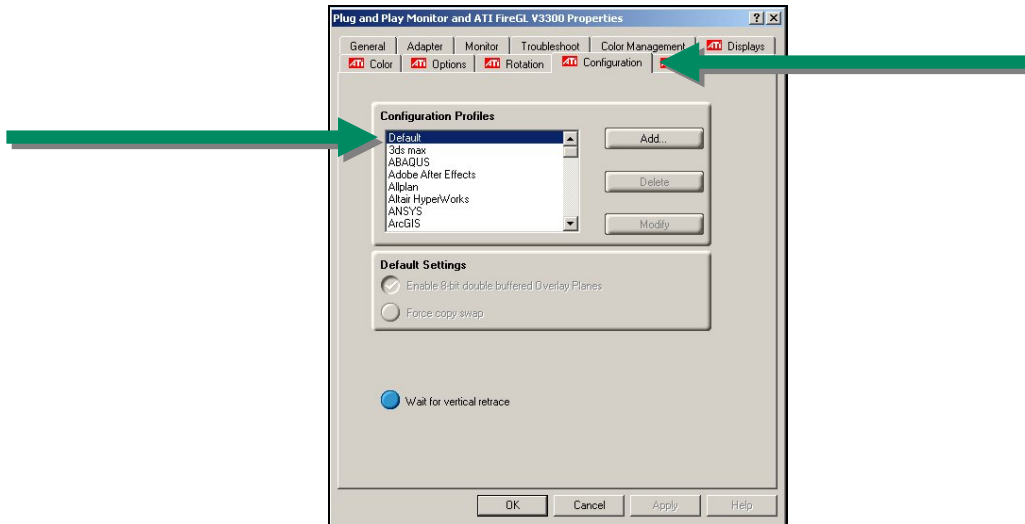
When the graphics driver is initially installed the “Default” settings are set to enable the Automatic Application Detection and Configuration (AutoDetect) feature. The user doesn’t have to interact with the driver to take advantage of the AutoDetect feature. If the “Default” settings have been changed simply follow the instructions below to use the AutoDetect feature.

Right click your mouse anywhere on the desktop background and select “Properties” from the drop down menu to bring up the Display Properties control panel. From the “Setting” tab, select the “Advanced” button to launch the ATI FireGL Properties control panel.





From the "Configuration" tab, select "Default" in the "Configuration Profiles" section. Click the "OK" button on the ATI FireGL control panel to close it, and again on the Display Properties panel. Automatic application detection and configuration is now enabled.



The AutoDetect feature (Automatic Application Detection and Configuration) currently supports the professional applications and the game applications that are listed below.

**Table 1: Professional Applications Automatically Detected**

3D Studio Max	CATIA	Microstation
Adobe After Affects	Discovery Studio	MSC.Patran
Alias Studio	FreeForm Modeling Plus	OneSpace Designer Modeling
Altair HyperWorks	Houdini	Pro/ENGINEER Wildfire
ANSYS	ICEM Surf	SOFTIMAGE XSI
ArcGIS	I-DEAS NX	Solid Edge
AutoCAD	IronCAD	SolidWorks
Autodesk Inventor	LightWave 3D	UGS NX
Autodesk VIZ	Maya	Vitrea
Axiovision		

**Table 2: Games Automatically Detected**

Chronicles of Riddick	Jedi Knight II	Quake 4
Doom 3	Quake 3	Return to Castle Wolfstein



As AMD continues to work with commercial software vendors, AutoDetect may become available for additional applications. Please check the release notes and control panel for your specific driver to obtain the most current list of applications that can be automatically detected. If the end user starts an application that is not on the list of supported applications, the "Default" profile settings will be used for that application.

## **Summary**

The AutoDetect feature included in the latest ATI FireGL drivers frees the end user from the burden of configuring the graphics driver in order to obtain optimal application performance for many applications. These are automatically detected when started by the user and graphics driver settings are automatically configured. The issues with optimally configuring the driver when running multiple applications simultaneously are also eliminated. The automatic detection feature can recognize applications when launched and configure the graphics settings as users switch between multiple applications. Because of the "Default" settings this powerful new feature also simplifies enterprise deployment, as there is no need to manually configure systems across the enterprise for software applications supported by the AutoDetect feature.



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