Simmetry 3d

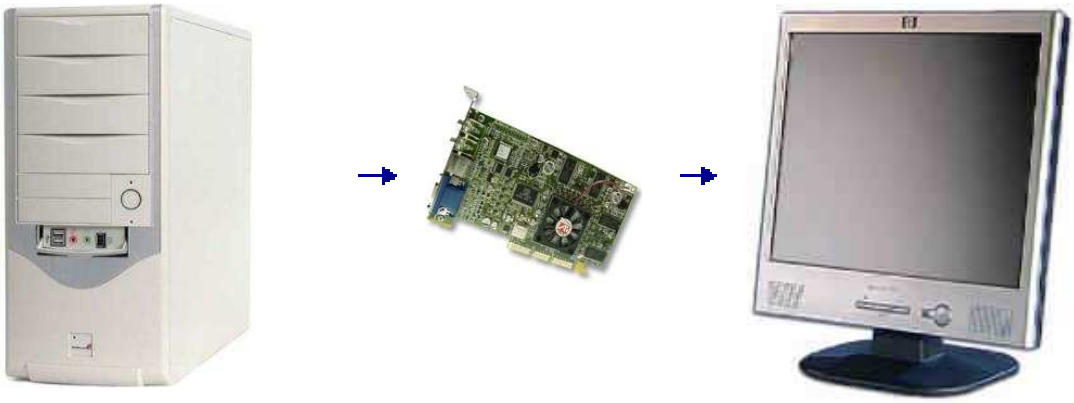
A guide to graphics cards

This guide gives a brief overview of graphic technology in computers and explains the various steps that you should go through to make sure that your computer is properly configured to run Simmetry 3d.

Graphics Card Terminology

Every computer that is connected to a monitor has some form of *graphics card.* The job of graphics card is to be instructed by the computer to display graphics and to do this by providing the video output signal to your monitor. These cards will most likely have been pre-installed into your computer case, but you can subsequently fit a new card. A graphics card will look something like the image below.

Sometimes the graphics card in your computer is already mounted on the *motherboard* (where the CPU and memory are located) of the computer. As no separate card exists, this means the graphics card is integrated into the motherboard and these are referred to as *integrated graphics cards*.



The computer sends the data to the graphics card which in turn creates the image on the monitor

Inside the case of a modern computer there are likely to be two computing units. One is the CPU (Central Processing Unit) and the other is the GPU (Graphics Processing Unit). The CPU, or processor, handles all the day to day tasks that a computer is asked to perform, such as calculating formulas on spreadsheets.

The GPU is located on the graphics card and is far more specialised than the CPU, being dedicated to the processing and display of images. When the GPU can process information, it takes the load away from the CPU and makes graphical applications run faster making them more responsive to the user.

A graphics card often has two manufacturers: one who makes the board and another who makes the GPU. For example, graphics card manufacturers include:

- ASUSTek
- Sapphire Technology
- Gigabyte

There are several GPU manufacturers, but the leading firms are:

- NVidia
- ATI
- Intel

Sometimes the board manufacturer and the GPU manufacturer are the same company, such as in the case of Intel.

Graphic Drivers

The GPU requires special software, called *graphics drivers*, *graphic card drivers,* or simply *drivers,* to be installed on the computer to allow the CPU to communicate with the GPU as efficiently as possible. This software is produced by both the manufacturers of the GPUs and the manufacturers of the graphics cards.

Without the correct software you may be able to get a picture on your monitor, but you could be wasting the ability of the GPU to perform calculations and therefore make your computer run slower for graphical applications.

Like all software there may be bugs or optimizations in the graphics drivers, which is why it is a good idea to keep the latest version installed on your system.

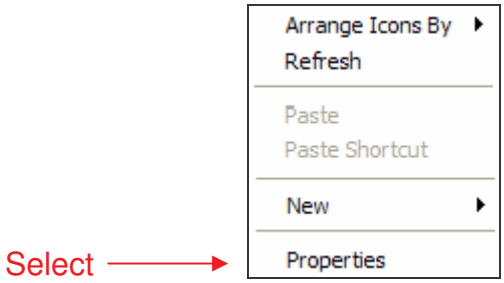
It used to be common that the manufacturer of the board made certain optimizations to make the GPU and their board work better, and produced their own software drivers to take account of these.

Nowadays, it is probably better to identify the GPU manufacturer and install their graphic driver software. These are written to work for particular GPUs rather than specific boards and maybe referred to as *Reference Drivers.*

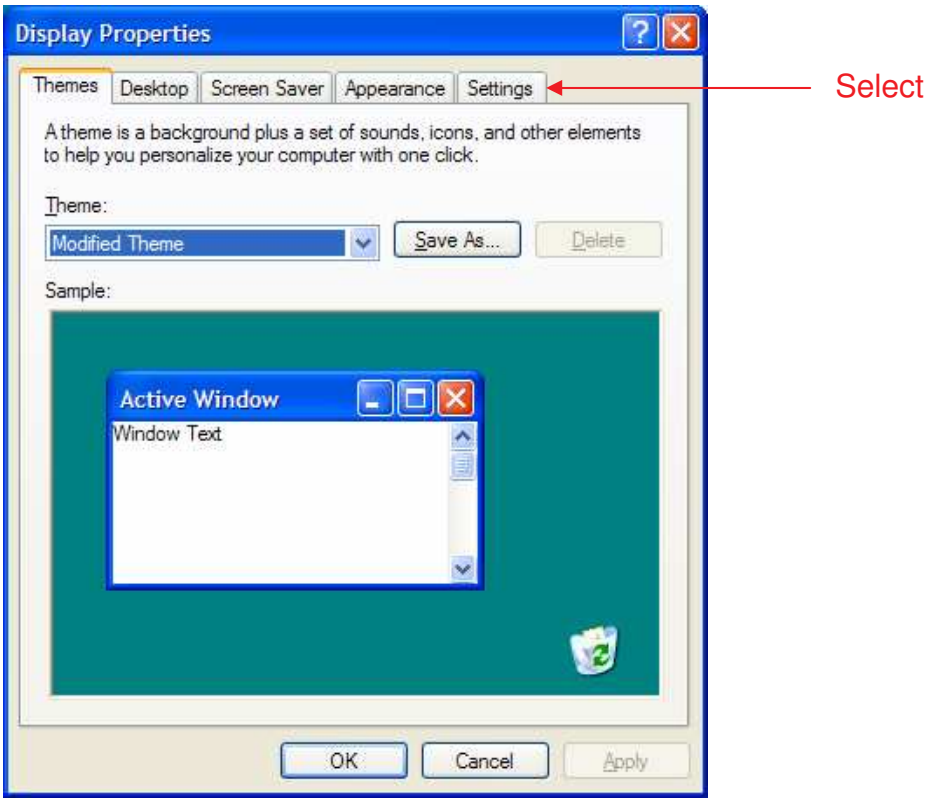
Simmetry 3d harnesses the power of the GPU on your graphics card to provide the best visual quality possible. However, Simmetry 3d will only perform to its full potential on your system, if you have the latest graphics drivers installed.

How do I find the latest graphics drivers for my computer?

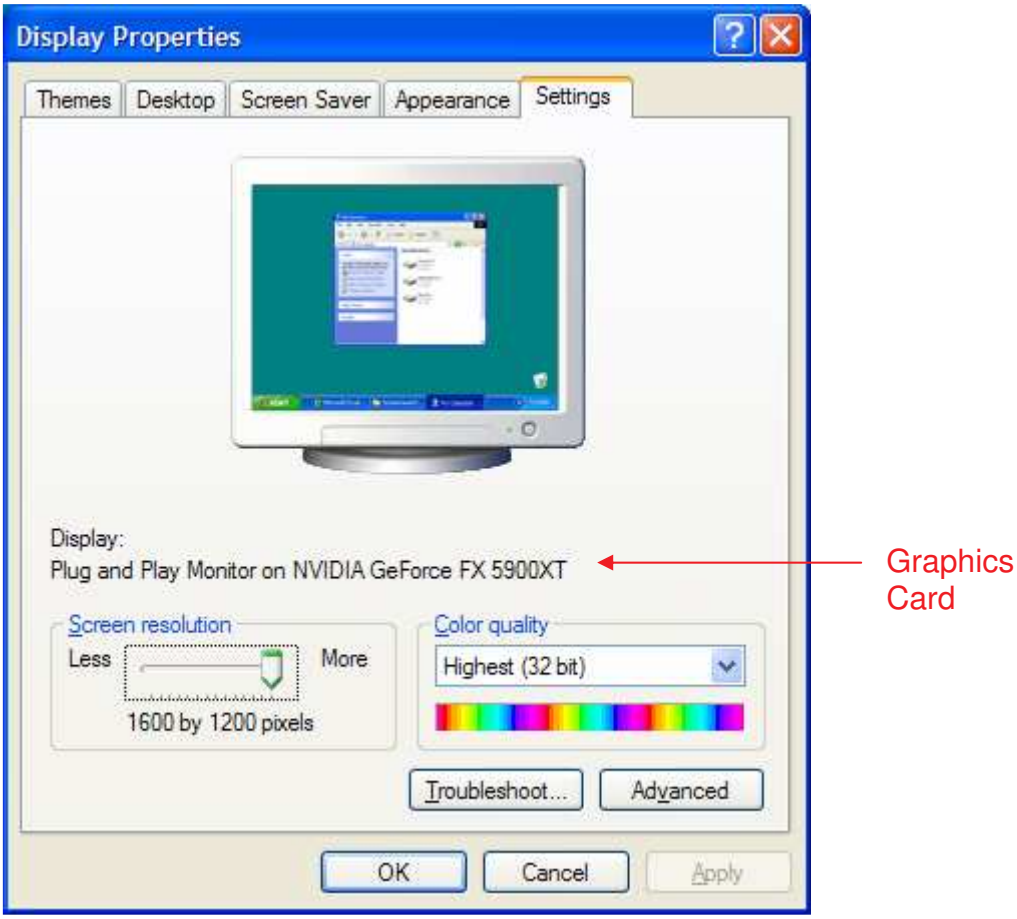
To install the latest graphics, you must first discover which graphics card is installed in your computer. To do this you must open the Windows Display Properties dialog. To do this, select a blank portion of your desktop and click the right- mouse button. A menu will appear.



Select the Properties option. This will show the Display Properties Dialog.



Select the Settings tab, at the top of this window and it will show the dialog below.



The arrow points to the description of a graphics card. This tells you which card is currently installed in your computer. In this example the computer contains an "NVIDIA GeForce FX 5900XT" graphics card.

What do all the numbers mean?

Graphics cards tend to be named with a series of letters and numbers that at first sight can seem somewhat confusing. You can normally break down the name into several different categories.

First of all, look for a manufacturer name. Likely candidates are NVIDIA or ATI.

Next look for a brand name, such as as GeForce, or Radeon which will identify the GPU series. Sometimes there is no GPU manufacturer specified, so you have to use the brand name to identify them. Below is a table of the common brand names:

Brand Name	GPU Manufacturer
Radeon	ATI
FireGL	ATI
All in Wonder	ATI
Rage	ATI
GeForce / GF	NVidia
Quadro	NVidia
Riva	NVidia

What follows is a model number, such as X800, or 6600GT, which identifies the exact type of GPU that is installed.

So, taking the prior example, the computer had a “NVIDIA GeForce FX 5900XT” installed.

Manufacturer	NVIDIA
Brand Name	GeForce FX
Model	5900XT

Another example is a “Radeon X800 GTO”

Manufacturer	ATI
Brand Name	Radeon
Model	X800 GTO

I know what my card is, how do I get the graphics driver software?

Once you have identified the card, you can now get the appropriate software. In most cases, Deliverance Software recommends that you install the latest reference drivers. These are easy to install and available from the GPU manufacturers’ websites.

ATI	www.ati.com
NVidia	www.nvidia.com
Intel	www.intel.com

You should look for Download and Support sections, or Download Drivers sections on these websites.

You must select the correct drivers for your operating system. So, if you are using Windows XP, select the version for XP and similarly if you are running Windows ME, select the version for Windows ME. The drivers are downloaded to your machine using your web browser and are usually packaged in an installer program, so all you have to do is “run” the download. It may require a reboot of your machine, but then you will have the latest version of the graphics drivers installed on your computer.

You should periodically look back to the website to see if there are any later versions of the graphics drivers. It is worth updating these as you may see a performance increase in your graphical applications.

Further information and Help

If you require any help in configuring your computer to run Simmetry 3d, then please contact us: graphics@simmetry3d.com and we will be pleased to help you.