Important Information about OpenGL® for Macintosh

OpenGL for Macintosh enables your computer to display three-dimensional graphics using applications designed to take advantage of OpenGL.

System Requirements

The following is required to install and run OpenGL for Macintosh:

• A PowerPC™ based computer with a minimum of 32 megabytes of memory (RAM)
• Mac OS System 8.1 or later

For more information

The latest version of OpenGL for Macintosh, along with software demos and additional information is available through the Internet at the following site:

http://developer.apple.com/opengl

Installing OpenGL

To install OpenGL, double-click the "Installer" icon in the "OpenGL Install" folder and follow the on-screen instructions.

Conix OpenGL Users

OpenGL for Macintosh is a complete replacement for Conix OpenGL v1.5, so if Conix OpenGL v1.5 is installed on the system you may remove it. Conix OpenGL v1.5 is normally located in the "Conix OpenGL 1.5" folder in the Extensions folder within the System Folder.

OpenGL for Macintosh is **not** a replacement for Conix OpenGL v1.3, so if Conix OpenGL v1.3 is installed on the system you should take care **not** to remove it unless you are sure that it is no longer needed by any applications. Conix OpenGL v1.3 is normally located in the "Conix OpenGL" folder in the Extensions folder within the System Folder.

OpenGL for Macintosh does not conflict with Conix OpenGL v1.3, so both versions may be simultaneously installed on the system. However, if you have an application that uses Conix OpenGL v1.3, you may wish to contact the application vendor to upgrade to a version that uses OpenGL for Macintosh.

Using OpenGL

How OpenGL uses memory

OpenGL is a shared library. When no applications that rely on OpenGL are open, the library does not take up memory space (RAM). Once OpenGL -based application is open, the amount of memory taken up by the shared library doesn't increase if other OpenGL -based applications are launched. Of course, each application will take up memory according to their size and the complexity. The memory taken up OpenGL becomes available when you quit all OpenGL -based applications.

While an OpenGL application is open, the OpenGL library allocates memory from "temporary memory." This memory shows up in the "**About This Macintosh...**" window as memory used by the application. When you quit the application, the memory becomes available.

About Apple Game Sprockets

Some third-party applications may need Apple Game Sprockets files installed in the Extensions folder within the System Folder. These files provide the support that many games need to interact with joysticks, networks, and monitors. If you install any games on your computer, they may install earlier versions of Apple Game Sprockets. To make sure that you are using the latest versions, remove any copies of DrawSprocketLib, NetSprocketLib, InputSprocketLib, or SoundSprocketLib that are not in the Extensions folder within the System Folder.

Troubleshooting

Application fails to launch

If you try to start an application that uses OpenGL and get the message "The application '<application name>' could not be launched because OpenGLLibrary could not be found," make sure that the following files are in the Extensions folder within the System Folder:

• OpenGLLibrary

• OpenGLUtility
• OpenGLMemory
• OpenGLEngine
• OpenGLRenderer

If the files are there and you still get the message, it means that you don't have enough memory to run the application. You may be able to open the application if you try the following:

•   Quit other open applications.
•   Reduce the amount of memory allocated to the application. This is done by:
  - Selecting the application's icon in the Finder
  - Choosing "**Get Info...**" from the **File** menu
  - Typing a lower number in the boxes for Minimum Size and Preferred Size
•   Install more memory (RAM).

Image fails to display

If an application tries to draw 2D image larger than 1024 in width, it will fail if an ATI 3D accelerator card is installed. You may be able to fix the problem if you try the following:

•   Reduce the size of the window that is to display the 2D image

Reinstalling OpenGL

To reinstall OpenGL, open the "OpenGL Install" folder and double-click the "Installer" icon.

Removing OpenGL

If you wish to remove OpenGL, follow these steps:

1. Open the "OpenGL Install" folder and double-click the Installer icon.
2. Choose Custom Remove from the pop-up menu.
3. Click the box next to each item to put a check in it.
4. Click Remove.
5. Restart your computer.

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