

Oxygen GVX1 AGP is the industry's first workstation graphics board to bring the heavy-duty power of hardware geometry acceleration below \$1,000. By integrating the 3Dlabs® workstation class GLINT® R3 rasterizer and GLINT Gamma G1 geometry processor on a single card, Oxygen GVX1 boosts the productivity of design professionals with best-of-class 2D and 3D performance and innovative technology, including Virtual Textures and fully accelerated Volumetric Rendering.

PRAISE FOR OXYGEN GVX1

"The Oxygen GVX1 provides compelling 3D acceleration for the highly interactive, complex modeling requirements of SOFTIMAGE users. Oxygen GVX1 is a high-performance, cost-effective solution for serious 3D animators."

Patrick de Grasse

*Program Manager, hardware environment,
SOFTIMAGE - an AVID company*

OXYGEN™ *GVX1*_{AGP}

Accelerated Geometry for Workstation Professionals

- **100% Geometry and Lighting Acceleration in Hardware**
Hardware geometry boosts the interactivity of large models by up to three times and offloads the CPU for increased application performance. The 3GFlop GLINT Gamma G1 processes 100% of the OpenGL geometry pipeline in silicon.
- **Virtual Textures Allow You to Manipulate up to 256MB of Textures**
An industry first that lets you manipulate up to 256MB of textures in a single scene. Oxygen GVX1 implements a full demand-paged virtual texture sub-system in hardware, using on-board graphics memory to cache huge textures stored in main system memory.
- **Pentium III and AMD Athlon 3Dnow! optimized PowerThreads™ SSE OpenGL Drivers**
Dynamically balance the geometry and lighting load between the GLINT Gamma geometry processor and host CPU to harness the additional power of multiple Pentium III's with SSE instructions for full performance scalability.
- **Legendary, Workstation-class 3Dlabs Drivers**
16 years of 3Dlabs' OpenGL experience provides you quality you can trust - backed by the industry's most extensive application certification program.
- **Flexible Display Capability**
Drive up to 2048x1536x32 display resolutions, with up to 4 monitors by mix-and-matching AGP and PCI boards. Direct connection to digital flat panels up to 1280x1024 and true-color quad-buffered stereo up to 1280x1024 resolution.
- **Sophisticated Rendering Pipeline**
The GLINT R3 graphics processor accelerates 100% of OpenGL 1.2 and DirectX 7.0 primitives, including filtered volumetric rendering, advanced bump-mapping with per pixel lighting and multiple textures in a single pass.
- **Advanced Software and Control Panel**
3Dlabs' advanced control panel optimizes your system for your applications with three mouse clicks. Colorific color-calibrates your display. Soft Engine 4 significantly enhances AutoCAD performance.



3D*labs*

Technical Specifications

GLINT R3 Rasterization Processor

- Virtual Texture memory management unit
- 256MB Virtual Texture address space
- Single pass, multi-texture unit
- Integrated 300MHz RAMDAC
- High-speed 128-bit memory interface
- 7 independent DMA engines
- 2D/3D Raster Engine
- Integrated SVGA Controller

GLINT Gamma G1 Geometry Processor

- 100% OpenGL Transforms and Lighting
- Hardwired processor provides three times the geometry performance of a Pentium III
- 16 simultaneous light sources
- 4.75 Million lit, transformed triangles/second

PowerThreads SSE OpenGL Drivers

- PowerThreads™ SSE OpenGL ICD with full Pentium III and AMD Athlon 3DNow! optimizations
- Dynamic Load Balancing distributes geometry and lighting load between GLINT Gamma G1 and host CPU
- OpenGL 1.1 ICD (OpenGL 1.2 ready)• Multiprocessor system optimized

Professional 3D Rendering

- Complete OpenGL 1.2 functionality in silicon
- Virtual Texturing in silicon
- Up to 256MB Virtual Texture space
- 2048x2048x32 maximum individual texture size
- Single pass bump-mapping, per-pixel lighting
- Gouraud shading
- Perspective correct bilinear and trilinear filtering
- Perspective correct per pixel mip-mapping
- Dual bilinear mip-mapped textures in a single pass
- Volumetric rendering with up to 8-way filtering
- Source and destination alpha blending
- Fogging and depth cueing
- Anti-aliased lines and polygons
- Full-scene anti-aliasing
- Scissoring and stippling
- Overlay and stencil buffers
- 32 bit Z-buffering
- GID clipping

Hardware Performance

- Fill rate - 230Mtexels/sec dual bilinear mip-map
 - Fill rate - 115Mpixels/sec trilinear mip-map texture
 - Polygon rate - 4.75M lit, transformed polygons/sec (50% backface culled)
 - Viewperf
 - DX-04 score - 26.3 (1024x768 true-color 75Hz)
 - DRV-05 score - 15.6 (1024x768 true-color 75Hz)
 - Light-02 score - 3.0 (1280x1024 true-color 75Hz).
 - 2D Winbench 99 HE 375 (1024x768 true color)*
 - 2D Winbench 99 BG 182 (1024x768 true color)*
 - AutoCAD R14 C96 Score: 27
- Test system: Intel Pentium III 600MHz, Intel SE440BX motherboard, 512MB of RAM, 75Hz refresh rate. The board used for the tests was the Oxygen GVX1 AGP with Windows NT driver version 2.14-1110.

Board Physical

- Half-length ATX form-factor
- AGP - AGP Version 2.0 Compliant
- PCI - 32-bit 33/66 MHz Version 2.1

Memory

- 32MB of unified SGRAM framebuffer, Z-buffer and texture memory
- Up to 256MB of host memory used as a Virtual Texture store

Display

- True color resolutions up to 1920x1200 or 2048x1536 with 32-bit Z
- 60Hz-150Hz screen refresh rates (monitor dependant)
- Softimage-compliant 8-bit double-buffered overlay planes
- DDC2B support on all operating systems

Multi-head Capable

- Drive up to 4 displays using multiple AGP and PCI Oxygen boards

Stereo Support

- True quad-buffered Stereo support up to 1280x1024 true-color, 118Hz refresh rate

Digital Flat Panel Output

- MDR20 (DFP) output connector, supporting digital flat panels up to 1280x1024@60Hz

Drivers

- Windows NT 4.0 and PowerThreads SSE OpenGL ICD
- Windows 98, DirectX 7.0 and PowerThreads SSE OpenGL ICD
- Windows 2000

Advanced Control Panel

- Point and click automatically optimize system configuration for each professional application

Value-added Software Bundles

- Soft Engine 4, from Vibrant, for up to 400% AutoCAD performance boost (a \$300 value)
- Colorific from E-Color, for accurate color calibration and matching (a \$50 value)

Video

- Bilinear filtered re-scaling
- Hardware YUV-RGB conversion
- Hardware MPEG-2 Motion Compensation

Connectors

- DB-15 analog connector
- 3-pin Mini-din stereo connector
- MDR20 DFP - Digital Flat Panel Connector

System Requirements

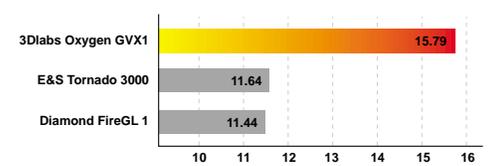
- 100% IBM-compatible PC
- Intel Pentium, AMD Processor or compatible
- IBM-Compatible motherboard with AGP slot
- Compatible with Microsoft Windows NT 4.0 with Service Pack 3 or higher, Windows 98 or Windows 2000
- 64MB system memory
- 16MB free disk space

Warranty

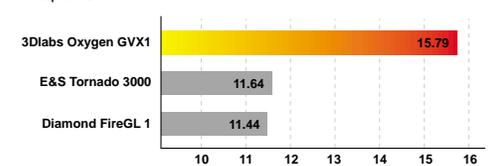
- Three (3) years parts and labor limited warranty

Outstanding Performance on Industry-leading Benchmarks

3DS Max 3.0 R3



Viewperf DX-04



Supported Screen Resolutions

Display Resolution	Color Depth	Refresh Rates
640x480	8-bit, 16-bit, True-color	100, 85, 75, 60Hz
800x600	8-bit, 16-bit, True-color	100, 85, 75, 60Hz
1024x768	8-bit, 16-bit, True-color	100, 85, 75, 60Hz
1152x864	8-bit, 16-bit, True-color	100, 85, 75, 60Hz
1280x960	8-bit, 16-bit, True-color	100, 85, 75, 60Hz
1280x1024	8-bit, 16 bit, True-color	100, 85, 75, 60Hz
1600x1200	8-bit, 16-bit, True-color	100, 85, 75, 60Hz
1920x1080	8-bit, 16-bit, True-color	100, 85, 75, 60Hz
1920x1200	8-bit, 16-bit, True-color	76Hz
2048x1536	8-bit, 16-bit, True-color	60Hz

Fully Tested on all Leading Professional Applications

3D Studio Max	3D Studio Viz	Houdini
Lightscape	LightWave 3D	Maya NT
Mirai	MultiGen Creator	Softimage 3D
AutoCAD	CATIA	I-DEAS
MicroStation	Pro/ENGINEER	Solid Edge
SolidDesigner	SolidWorks	Unigraphics

Software Bundles to increase your productivity

- Vibrant's Soft Engine 4 improves display performance of AutoCAD by up to four times
- Colorific from E-Color, Inc. calibrates your screen for display and printing consistency



Contacts, Service and Support

For more information and online technical support, visit us at www.3dlabs.com. Buy online at www.3dlabs.com/store

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