The Oxygen GVX1 Pro is a mid-range addition to the popular Oxygen family of workstation graphics accelerators for CAD and DCC professionals who need effortless interaction with complex designs to maximize productivity. Packed with the latest silicon from 3Dlabs® -- including the new GLINT® R4 processor and the second generation GLINT Gamma G2 geometry processor, the Oxygen GVX1 Pro provides enhanced performance, 64MB of on-board memory and flexible analog and DVI-I display connectivity. Unlike graphics cards based on gaming technology, Oxygen GVX1 Pro is a true professional graphics solution with 3Dlabs' renowned OpenGL® quality and extensive application certifications for trouble-free performance.

OXYGEN® *GVX1 Pro*

64MB Workstation Graphics with DVI-I

- **New-Generation GLINT R4 Rasterizer**
  Delivers unified 2D, 3D and video processing with professional quality and enhanced small primitive performance for smooth interactivity with large models and hardware accelerated volumetric rendering.

- **GLINT Gamma G2 Second-Generation Geometry Processor**
  Offloads 100% of the OpenGL transformation and lighting calculations from the CPU for maximum application performance and to boost the interactivity of large models.

- **64MB On-Board Memory with Virtual Texturing**
  Oxygen GVX1 Pro acts as a full 256MB graphics card while caching large amount of textures on-board for smooth interaction with complex scenes, even with high-resolution screens and full-screen anti-aliasing.

- **Analog and DVI-I Display Connectors**
  Flexibility to drive analog or high-quality digital displays, preserving graphics board investment as displays are upgraded.

- **PowerThreads™ OpenGL**
  Dynamically balances the transform and lighting load between the on-board geometry accelerator and the host CPU for maximum system performance.

- **Over 50 Application Certifications**
  Oxygen boards are certified with all key professional CAD and DCC applications, ensuring optimal and trouble free acceleration.

- **Control Panel Application Configuration**
  3Dlabs' advanced control panel and task-bar applet enables point-and-click optimization of system configuration for key professional applications.
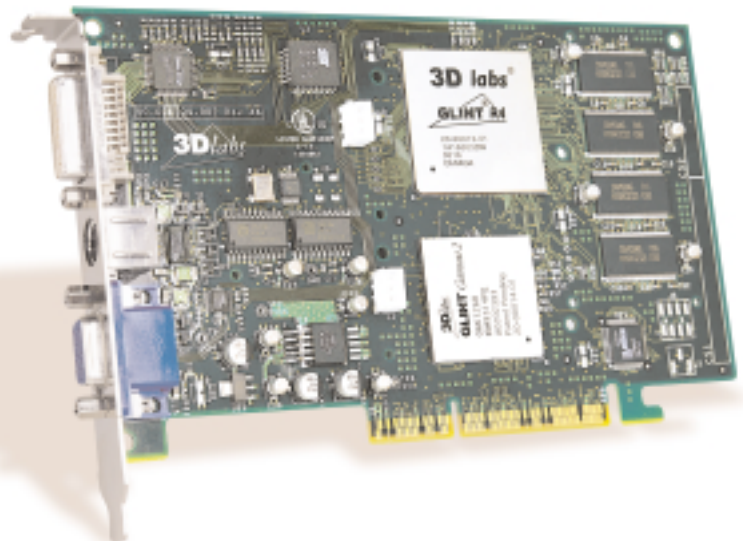
3Dlabs

Technical Specifications

GLINT R4 Rasterization Processor
- Unified 2D, 3D and video processing
- 128-bit memory bus architecture
- Integrated 300MHz RAMDACs
- 7 independent DMA engines provide low CPU utilization
- Integrated SVGA Controller

GLINT Gamma G2 Second Generation Geometry Processor
- 100% OpenGL 1.2 transformation and lighting in silicon
- 5Gflop floating point performance
- 6.3 Million transformed, lit triangles/sec
- 16 Simultaneous light sources
- Directional, positional and spotlights with quadratic attenuation and local viewer support
- Two-sided lighting directly supported in hardware at no extra cost

PowerThreads OpenGL Drivers
- Full OpenGL 1.1 ICD (1.2 ready)
- Dynamic load balancing optimizes geometry and lighting load between GLINT Gamma G2 and host CPU
- Fully optimized for Intel SSE and AMD 3DNow!

Professional 3D Rendering
- Complete OpenGL 1.2 functionality in silicon
- Full OpenGL overlays
- Single pass bump-mapping, per-pixel lighting
- High-quality Gouraud shading
- Perspectively correct bilinear and trilinear filtering with per-pixel mip-mapping
- Dual bilinear mip-mapped textures in a single pass
- 2048x2048x32 maximum individual texture size
- OpenGL 1.2 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
- Hardware scissoring, stippling and stencil buffers
- GID clipping for efficient window management
- 32 bit Z-buffering

Integrated Video Processing
- Hardware YUV-RGB conversion
- Hardware MPEG-2 Motion Compensation

Virtual Texturing Memory Management
- Full virtual memory management unit in GLINT R4 silicon allows the board to act as a full 256MB graphics card

Memory
- 64MB of unified high-speed SDRAM for framebuffer, Z-buffer and texture memory

Board Physical
- Short-card ATX form-factor
- AGP 1x/2x/4x compatible
- AGP Pro compatible

Connectors
- DB-15 analog display connector
- DVI-I digital display connectors
- 3-pin mini-din stereo connector

On board DVI-I connector
- High-resolution DFP and Digital CRT Output
- Drives digital displays up to 1600x1200 @60Hz and analog displays up to 2048x1536 @60Hz

Stereo Support
- True quad-buffered stereo support up to 1280x1024 true-color, 118Hz refresh rate
- Independent Z buffer for left and right eye

Drivers
- Windows NT 4.0 with PowerThreads OpenGL ICD
- Windows 2000 with PowerThreads OpenGL ICD and DirectX 7.0
- DDC2B support on all operating systems

Advanced Control Panel
- Point-and-click optimization of system configuration for key professional applications
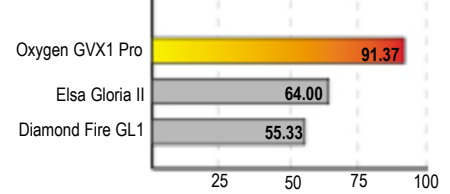
System Requirements
- 100% IBM compatible PC
- Intel Pentium II or AMD Athlon K6 processor or compatible
- IBM compatible motherboard with AGP or AGP Pro slot
- Microsoft Windows 2000 or NT 4.0 with Service Pack 5 or higher
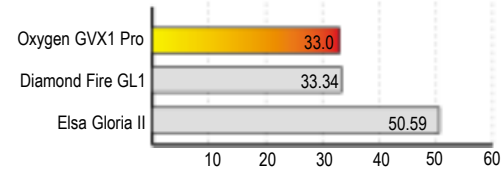- 64MB System memory
- 16MB free disk space

Warranty
- Three (3) years parts and labor limited warranty

Outstanding Performance on Industry-leading Benchmarks

Maya - X1000 Spheres / Textured Fine - higher is better *

Oxygen GVX1 Pro	91.37
Elsa Gloria II	64.00
Diamond Fire GL1	55.33

25   50   75   100

SPECapc℠ benchmark v1.0 for Unigraphics™ - High Quality Shading *
Lower score is better

Oxygen GVX1 Pro	33.0
Diamond Fire GL1	33.34
Elsa Gloria II	50.59

10   20   30   40   50   60

* Test platform: Intel Pentium III 733 MHz, 512MB of RAM, 1280x1024@75Hz refresh rate. Unigraphics Ugbench test performed on 1000MHz system.

Supported Screen Resolutions

	8bpp 256 Colors	16bpp 64K Colors	32bpp 16.7M Colors
640x480	220Hz	220Hz	220Hz
800x600	220Hz	220Hz	220Hz
1024x768	220Hz	220Hz	217Hz
1152x864	217Hz	217Hz	176Hz
1280x960	176Hz	176Hz	145Hz
1280x1024	145Hz	145Hz	137Hz
1600x1200	60Hz 75Hz	60Hz 75Hz	60Hz 75Hz
1920x1080	100Hz	100Hz	100Hz
1920x1200	85Hz	85Hz	85Hz
2048x1536	60Hz	60Hz	60Hz

Maximum refresh rates. Actual rates are dependent on your monitor and operating system.   *DVI*

Fully Tested and Optimized On All Leading Professional Applications
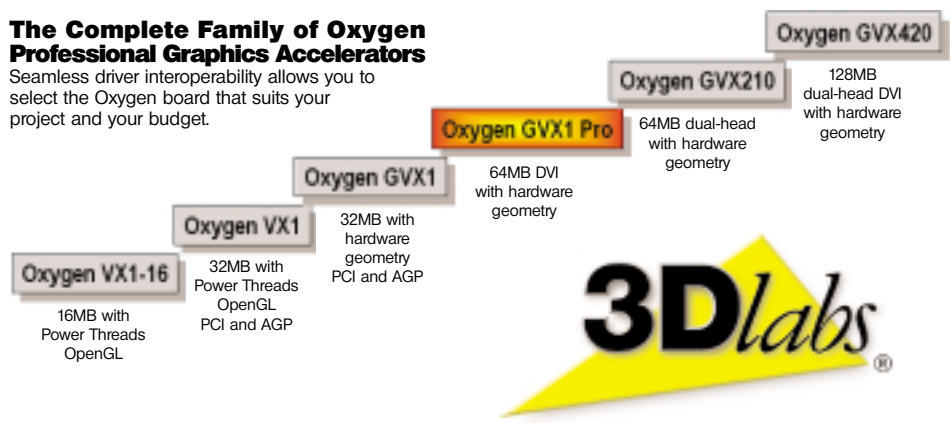
DCC applications, including:

3D Studio Max	Houdini	Maya
3D Studio Viz	Lightscape	Softimage XSI
Animation Master	LightWave 3D	TrueSpace

CAD applications, including:

ArchiCAD	Co-Create	Pro/ENGINEER
AutoCAD	I-DEAS	SolidWorks
CATIA	MicroStation J	Unigraphics

The Complete Family of Oxygen Professional Graphics Accelerators

Seamless driver interoperability allows you to select the Oxygen board that suits your project and your budget.

Oxygen GVX420
128MB dual-head DVI with hardware geometry

Oxygen GVX210
64MB dual-head with hardware geometry

Oxygen GVX1 Pro
64MB DVI with hardware geometry

Oxygen GVX1
32MB with hardware geometry PCI and AGP

Oxygen VX1
32MB with Power Threads OpenGL PCI and AGP

Oxygen VX1-16
16MB with Power Threads OpenGL

3Dlabs

Software Bundles To Increase Your Productivity
- Vibrant's Soft Engine 4 improves display performance of AutoCAD by up to four times (a $300 value)
- Colorific from E-Color, Inc. calibrates your screen for display and printing consistency (a $50 value)

SOFTENGINE4   COLORIFIC

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

In North America:
480 Potrero Avenue, Sunnyvale, CA 94085
Tel: (800) 464-3348 Fax: (408) 530-4701

In Europe:
Meadlake Place, Thorpe Lea Road, Egham,
Surrey TW20 8HE, UK
Tel: (44) 1784-470-555

In Germany:
3Dlabs, GmbH Breckenheimer Weg 29
65205 Weisbaden Deutschland
Tel: +49 6122 916 778
Fax: +49 6122 919 646
Mobile: +49 171 3506315

In Asia/Pacific:
Shiroyama JT Mori Bldg., 16F Toranomon, 4-3-1 Minato-ku
Tokyo 105-6016, Japan
Tel: (81) 3-5403-4653