OXYGEN® GVX210

64MB Workstation Graphics with Dual Displays

The Oxygen GVX210 is a high-end workstation graphics accelerator for demanding CAD and DCC professionals who need effortless interaction with complex designs to maximize productivity. Dual 3Dlabs GLINT® R3 processors and the second-generation GLINT Gamma G2 geometry processor provide 256-bit graphics performance, 64MB of on-board memory and dual display capability from a single AGP card. Unlike graphics cards based on gaming technology, Oxygen GVX210 is a true professional graphics solution with 3Dlabs®' renowned OpenGL® quality and extensive application certifications for trouble-free performance.

- **Dual GLINT R3 Rasterizers**
  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.

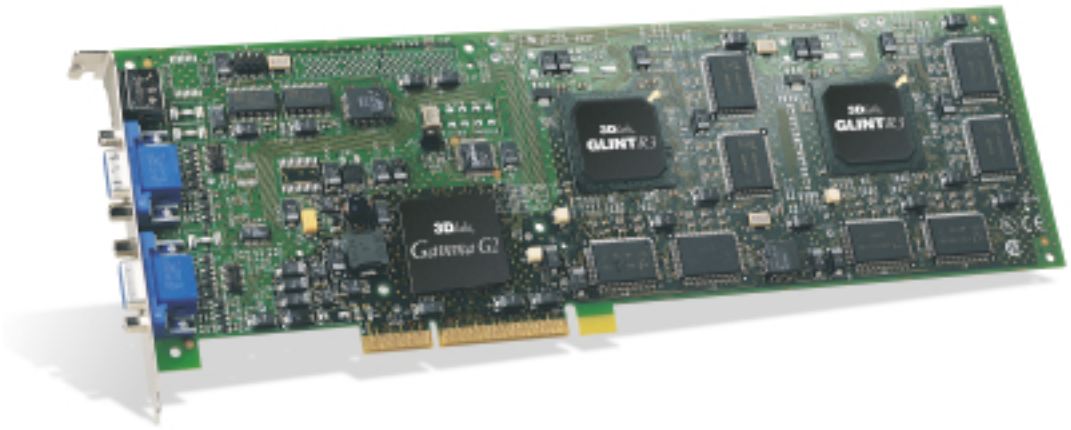
- **64MB On-Board Memory with Virtual Texturing**
  Virtual Texturing enables the Oxygen GVX210 to act as a full 256MB graphics card while caching large amounts of texture on-board for smooth interaction with complex scenes, even with high-resolution screens and full-screen anti-aliasing.

- **Flexible Dual Processor Architecture**
  Enables two display modes: single screen mode where both processors are efficiently focused into one framebuffer for 256-bit graphics performance, and dual screen mode which drives two independent displays, effectively acting as two 32MB graphics boards.

- **Dual Display Capability**
  Seamlessly drive two screens as a large OpenGL accelerated virtual desktop for flexible and productive layout of 2D and 3D applications.

- **Standard AGP slot**
  Oxygen GVX210 can be installed in any standard AGP system and does not require an AGP Pro slot, enabling the upgrade of existing workstations.

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



PRAISE FOR OXYGEN GVX210

"Side Effects Software Inc. is a long-time supporter of the Oxygen family. The combination of Houdini 3D software and the Oxygen GVX210 results in a powerful, interactive authoring environment. The dual GLINT R3 rasterization engines and Gamma G2 geometry processor on the Oxygen GVX210 raises the bar for professional performance at an affordable price."

Paul Salvini
Chief Technology Officer,
Side Effects Software Inc.

3Dlabs®

Technical Specifications

Dual GLINT R3 Rasterization Processors
- Unified 2D, 3D and video processing
- Flexible digital stripe interleaving architecture efficiently focuses both processors into one framebuffer for double fill-rate performance or drives two independent displays
- 256-bit memory bus architecture
- Dual 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
- Bilinear filtered playback re-scaling
- Hardware YUV-RGB conversion
- Hardware MPEG-2 Motion Compensation

Virtual Texturing Memory Management
- Full virtual memory management unit in GLINT R3 silicon
- Allows the board to act as a full 256MB graphics card
- Independent texture handling in each GLINT R3 optimizes texture handling in dual processor architecture

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

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

Connectors
- Dual DB-15 analog connectors
- 3-pin mini-din stereo connector

Multi-head Capable
- Supports dual high-resolution displays from a single card under Windows 2000 and Windows NT 4.0

Multi-head OpenGL and Window Manager
- Dual screen virtual desktop with uninterrupted OpenGL acceleration at any window position
- Maximum virtual desktop resolution of 4096x1536 on dual displays (monitor dependant)
- 3Dlabs advanced window manager provides point-and-click control over dialog and window positions on the desktop

Stereo Support
- True quad-buffered stereo support up to 1280x1024 true-color, 118Hz refresh rate
- Independent Z buffer for left and right eye
- Dual screen stereo supported for effective maximum stereo resolution of 2560x1024

Drivers
- Windows NT 4.0 with PowerThreads OpenGL ICD
- Windows 2000 with PowerThreads OpenGL ICD and DirectX 7.0
- Windows 98 with PowerThreads OpenGL ICD and DirectX 7.0
- DDC2B support on all operating systems

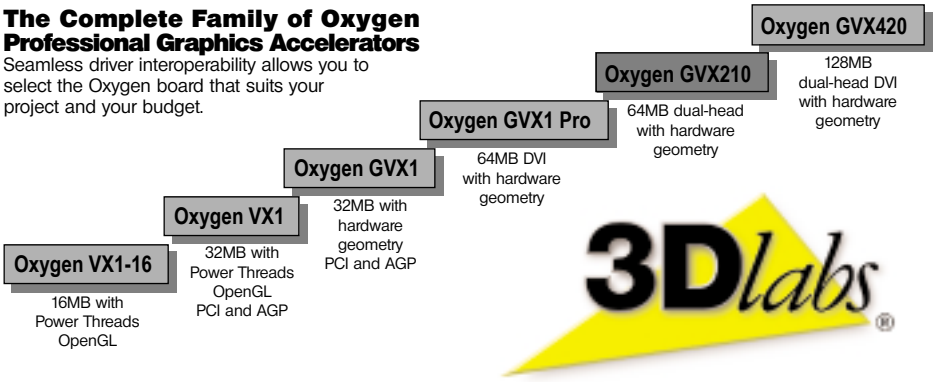
Advanced Control Panel
- Point-and-click optimization of system configuration for key professional applications

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 98, 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

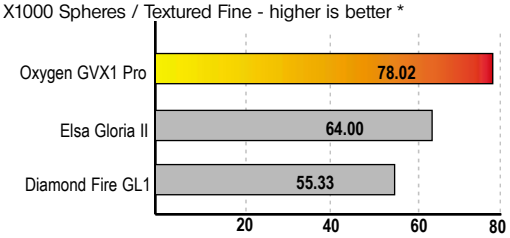
The Complete Family of Oxygen Professional Graphics Accelerators

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

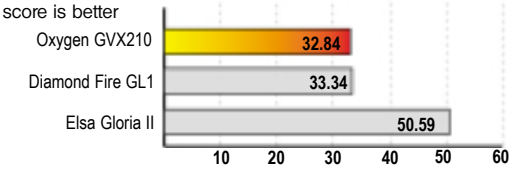


Outstanding Performance on Industry-leading Benchmarks

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



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



* 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	75Hz	75Hz	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.

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

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)

SOFTENGINE™4 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.

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