WILDCAT REALiZM™ 100

The Ultimate in Professional 3D Graphics Processing

Welcome to a new kind of Realizm . . . where precision, speed, and your creativity are combined in ways you've only dreamed. 3Dlabs® puts the power of the industry's most advanced visual processing right at your fingertips with Wildcat® Realizm™ 100. 3Dlabs' AGP 8x-based graphics solution delivers all the performance and image fidelity you'd expect from a professional graphics accelerator. So, whether you're working with realistic animations, intricate CAD renderings, or complex scientific visualizations – if you can imagine it, you can make it real with Wildcat Realizm.

Remove the boundaries to your creativity.

With Wildcat Realizm 100's no-compromise performance plus the industry's largest memory resources, you'll have more time to devote to your creativity.

Unmatched VPU Performance
- The most advanced Visual Processing Unit (VPU) available today, offering unparalleled levels of performance, programmability, accuracy, and fidelity
- Optimized floating-point precision across the entire pipeline

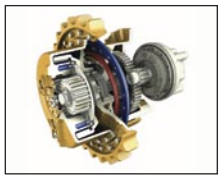
Large Amounts of On-board Memory – 256 MB
- Handles more textures without stressing system memory
- Provides ample frame buffer to support high-resolution, true-color displays, with SuperScene™ antialiasing for the ultimate in visual quality
- Precise floating-point conversions across the entire graphics pipeline maximize image accuracy, storage, and processing capabilities with zero performance impact
- Enough memory to provide off-screen support for Pbuffers while providing abundant memory for highly detailed, true-color 2D and 3D textures – all simultaneously

High Onboard Bandwidth
- High onboard bandwidth means professional performance
- 256-bit memory bus delivers the highest possible throughput

Hardware Accelerated 3D Volumetric Textures
- 3D textures are applied throughout the volume of your model, not just on the external surfaces – and it happens in real-time for the precision display capabilities you demand

Supports 32 Lights in Hardware
- Designed to minimize any performance hits to your CPU and system memory

This rendering from the "Helen of Troy" mini-series was produced by Stargate Films, Inc. and is used with permission. © 2003 USA Cable Entertainment LLC. All Rights Reserved. CAD image courtesy of Mark Tyler.



Remove the boundaries to your productivity.

Wildcat Realizm graphics accelerators offer the highest levels of image precision. You get quality and performance in one advanced technology solution.

Extreme Geometry Performance
- Manipulate the most complex models easily in real-time
- Wildcat Realizm's VPU features full floating-point pipelines from input vertices to displayed pixels to offer you unparalleled levels of performance, programmability, accuracy, and fidelity

Image Quality
- Genuine real-time image manipulation and rendering using advanced programmable features so your projects are on spec and on time
- Graphics architecture is able to directly display 16-bit floating-point pixels with 3-channel, 10-bit video-rate alpha blending, 10-bit LUT, and 8-bit WIDs
- Independent dual 400 MHz 10-bit DACs, creating the highest level of displayed color quality with no compromise in display resolution or performance

36-Bit High-Precision Floating-Point Vertex Pipeline
- Wildcat Realizm delivers images so accurate you won't worry about display anomalies or rendering errors on your next time-critical masterpiece

High-Speed Rendering
- At 12 pixels per clock cycle, Wildcat Realizm 100 processes pixels at astounding speeds
- Virtual shader program memory support up to 256 K fragment shader instructions plus flow control and loops
- With Wildcat Realizm you get unmatched OpenGL® Shading Language performance and functionality to insure robust execution and acceleration for industrial-strength shaders – from the company that initiated OpenGL Shading Language development

Remove the boundaries to your view of the world.

Innovative, advanced display features coupled with maximum programmability let your creativity take you further.

64-Bit Hardware Accumulation Buffers
- Accelerated performance of accumulation buffer operations used in depth-of-field, motion blur, shadow, and multi-pass rendering algorithms

Stereo Support
- Provides a tangible appearance of depth, enhancing visual immersion into the 3D environments you create

With over 40 years of combined engineering talent, 3Dlabs is the only graphics hardware developer 100% dedicated to building solutions designed specifically for graphics professionals.

The Advanced Benefits of Wildcat Realizm 100… Realize Your Potential

Optimized for Running Multiple Applications Simultaneously
- Designed to minimize CPU load while driving the graphics pipeline at maximum capacity
- Innovative 16 GB virtual memory support shatters the limits of onboard memory by automatically handling huge datasets while caching essential data for fastest access

Maximum Scalability, Maximum Performance
- Wildcat Realizm 100's Visual Processing Unit (VPU) offers industry-leading performance and programmability capabilities
- Huge fragment shader program support for 256 K individual instructions with looping and conditionals where competing technologies only support 64 K
- Fragment processor has direct access to virtual memory, enabling generalized algorithms to be efficiently computed using large data buffers without concern for memory fragmentation
- Shader programs can access 32 different buffers in one pass, allowing complex algorithms to execute efficiently using an unlimited number of samples

Video Display Capabilities
- Industry's only isochronous command channel with fast context switching and automatic hardware scheduling to insure you "glitch-free" effects with real-time video

Optimized Dual-Display Acceleration
- Innovative VPU design allows improved graphics acceleration for your dual-display configurations
- High-resolution support and dual-display support give you more visual real estate on the desktop

Windows Acuity Manager
- Next-generation display management technology for application and performance optimization and control
- Ergonomic, dual taskbar minimizes your cursor and mouse movement for dual displays

Minimal System Load = Maximum Graphics Acceleration
- 3Dlabs professional graphics driver works in close concert with Wildcat Realizm hardware to reduce system CPU and memory load for all display-related activities

3Dlabs®

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Key Architectural Features

- VPU technology for professional performance with professional results
- Full programmability and floating-point capabilities through the entire graphics processing pipeline
- Seamless 32- to 16-bit and 16- to 32-bit conversion with zero overhead
- AGP 8x interface for fast data transfer through the system bus
- 256-bit GDDR3 memory interface for the highest memory performance
- SuperScene multisampling, full-scene antialiasing support
- Texture sizes up to 4 K x 4 K
- Dedicated isochronous channel
- Orthogonal, compiler-friendly SIMD arrays throughout pipeline allowing compilers to deliver optimal performance
- Independent, dual 400 MHz 10-bit DACs
- Supported APIs:
  - > OpenGL® 2.0 (full support when ratified)
  - > OpenGL 1.5 with OpenGL Shading Language
  - > Microsoft® DirectX® 9.0 with High Level Shading Language (HLSL, VS 2.0, PS 3.0)

Programmability Features

- Leading support for OpenGL Shading Language and DirectX 9 HLSL
- Full floating-point programmability
  - > Optimized floating-point precision at each pipeline stage (36-bit vertices, 32-bit pixels, 16-bit back-end pixel processing) for the highest precision rendering accuracy and fidelity
- 16 programmable 36-bit floating-point vertex shaders supporting:
  - > Up to 1 K instructions
  - > Up to 32 light sources
  - > Subroutines, loops, and conditionals
- 48 programmable 32-bit floating-point fragment shaders supporting:
  - > Up to 256 K instructions
  - > Subroutines, loops and conditionals
- Unique final stage programmable pixel shader with 16 programmable 16-bit shaders

Board Physical

- AGP 3.0, single-slot card. Occupies two slots for quiet cooling solution
- Optimized for AGP 8x performance
- Requires auxiliary system power connection
- Compliant with AGP 3.0 graphics electromechanical and power specification
- Consumes 75 Watts of system power

Memory

- 256 MB GDDR3 unified memory 256-bit wide interface bus
- 64 KB flashable EEPROM memory for VGA bios and product configuration storage
- Virtual memory support allowing:
  - > Onboard memory to be used as an efficient L2 cache
  - > Seamless handling of huge datasets
  - > Automatic paging out of unused buffers
  - > Very large individual texture sizes (ex: 4 K x 4 K)

Drivers

- Compatible with Intel Pentium® 4 and AMD™ Opteron® Processors
- Microsoft Windows® 2000 and Microsoft XP (32- and 64-bit). Windows driver includes 3Dlabs Acuity™ Windows Manager
- Red Hat® Linux® Enterprise Edition (version 3.0 or later; 32- and 64-bit)

Connectors

- Two DVI-I analog/digital video output ports – single-link DVI capable supporting the following configurations:
  - > One or two analog display devices
  - > One or two single-link digital display devices
  - > One single-link display device and one analog display device
- Stereo Sync Support
  - > VESA-standard frame sequential stereo
  - > 3-pin, mini-DIN connector provides connection to LCD shutter glasses or other stereo shutter devices

Warranty

Three (3) years parts and labor

Retail Package Contents

- Wildcat Realizm 100 AGP 8x professional graphics accelerator
- Two DVI-VGA adapters for analog displays
- Auxiliary power extension cable
- International installation guide
- Product CD with electronic manual, drivers, and bonus software

System Requirements

- Intel® Pentium®, Athlon™ or compatible processor (Pentium 4, Athlon 64 or Opteron recommended)
- Microsoft® Windows® 2000, Windows XP, Red Hat® Linux® Enterprise Edition (ver. 3.0 or later)
- One AGP (3.0) slot with adjacent empty slot for cooling solution (AGP 8x recommended)
- Auxiliary system power connection
- 75 Watts available system power for graphics card
- 512 MB system memory recommended
- 25 MB free disk space

Professional Applications Certifications from Major 3D Design Software Vendors. Check www.3dlabs.com for specific applications.

Alias™	Dassault	Opticore
Alibre®	discreet®	PTC®
Altair	Kaydara	Side Effects
ANSYS®	MSC.Software®	Softimage®
Autodesk®	MultiGen-Paradigm	SolidWorks®
Bentley®	NavisWorks™	think3®
Caligari	Nemetschek	UGS PLM Solutions
Co|Create™	Newtek™	Volume Graphics

Microsoft DIRECTX®

OpenGL

Resolutions Table

Resolution	Refresh Rates (Hz)	Stereo Support
2456 x 1536	60	-
2728 x 1536	60	-
2048 x 1536	60	-
1920 x 1200	100	Yes
1920 x 1080	100	Yes
1600 x 1200	100	Yes
1520 x 856	120	Yes
1440 x 900	120	Yes
1360 x 766	120	Yes
1280 x 1024	120	Yes
1280 x 960	120	Yes
1280 x 800	120	Yes
1280 x 720	120	Yes
1152 x 864	120	Yes
1152 x 720	120	Yes
1024 x 768	140	Yes
856 x 480	100	Yes
800 x 600	120	Yes
640 x 480	120	Yes

Notes:
1 – Resolutions and refresh rates for digital display devices are limited by pixel clocks of 165MHz.
2 – Frame sequential stereo is supported for all resolutions and refresh rates listed above.
3 – Many other resolutions available; contact 3Dlabs or visit our web site for your specific needs.

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