Wildcat 4210

Dual-pipeline Architecture for Extreme Graphics Professionals

With the industry's first full dual-pipeline architecture, Wildcat™ 4210 pushes graphics speed to the limit. Higher-than-ever supported screen resolutions, along with SuperScene™ antialiasing and 3D volumetric textures, lets you see your creations with better image quality and more realism than ever before. The Wildcat 4210 also supports two displays (under Microsoft® Windows® 2000) when you need the performance and realistic 3D experience of Wildcat graphics, but more visual elbow room than a single screen will allow.

- **Complete OpenGL 1.2 geometry acceleration**
  The Wildcat 4210 offers complete OpenGL® 1.2 geometry acceleration using two highly-tuned hardware geometry engines to sustain the highest level of real-time, on-screen performance in the industry.

- **Dedicated texture memory and frame buffers**
  Apply numerous, extremely detailed texture maps without compromising performance. Large, dedicated 128 MB frame buffer and 128 MB texture memory support lets you create in rich, photorealistic shading and highly detailed textures - always in true color, with maximum depth accuracy and with double buffering enabled.

- **Leading-edge, 3D volumetric texture support**
  Hardware accelerated 3D volumetric texture support allows you to apply textures throughout the volume of any model, not just the external surfaces. The Wildcat 4210 provides real-time performance with 3D textures for applications such as medical imaging and GIS.

- **Exclusive SuperScene antialiasing**
  Forget about jaggies and crawling, twinkling edges. SuperScene antialiasing dramatically improves the sense of reality with true, multi-sampled scene mode antialiasing. With SuperScene, you get higher performance and significantly lower memory utilization than typical multisampled antialiasing techniques.

- **Maximum acceleration for maximum performance**
  Wide, independent buses connect frame buffer and texture memory to the graphics chipset for maximum performance. Specialized DirectBurst™ technology optimizes the 3D graphics pipeline, significantly boosting performance.

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

- **Fully programmable geometry ASICs**
  With programmable geometry ASICs, you can work with the latest innovations in graphics APIs by means of a simple software driver update. This protects your graphics investment and gives you more power on the desktop.

PRAISE FOR THE WILDCAT 4210

"We have given awards to other graphics cards before, but never to such a barn-burning, roof-raising solution as (the) latest Wildcat cards."

CADENCE Magazine
July 2000

3Dlabs®

Technical Specifications

Wildcat Chipset Technology

- Data width:
  - •Frame buffer: 256-bits
  - •Texture buffer: 128-bits
  - •DirectBurst™: 64-bits
- Integrated 250 MHz RAMDAC
- Dual-pipeline configuration featuring wide, independent buses to connect frame buffer and texture memory to the graphics chipset
- Complete OpenGL® 1.2 geometry acceleration using a highly-tuned hardware geometry engine. Accelerates the complete OpenGL 1.2 pipeline, including all geometry operations, triangle setup, texturing, and pixel operations
- Wide, independent buses connecting frame buffer and texture memory to the graphics chipset for maximum performance
- 3D volumetric texture support
- DirectBurst technology optimizes the 3D graphics pipeline, significantly boosting performance

Geometry Acceleration

- Model view matrix transformation of vertex and normal coordinates
- Perspective and viewport transformations
- Texture matrix transformation of texture coordinates
- Local display list storage and processing
- Full lighting calculations (up to 24 lights)
- View volume clipping
- Up to six user clip planes
- Image processing

Hardware Performance

- 3D Gouraud-shaded triangles, Z-buffered: 15.0 million triangles/sec
- Trilinear-textured, Gouraud-shaded, 32-bit (RGBA) texels: 243.0 million pixels/sec
- 3D Vectors, solid-color, 10-pixel: 17.6 milllion vec/sec

NOTE:Performance numbers reflect maximum hardware rate. Numbers may vary depending on application.

Professional 3D Features

- SuperScene full-scene multisampled antialiasing:
  - •Point sampled with eight samples
  - •Sample location jittering
  - •Dynamic sample allocation
  - •Dynamic sample backoff
  - •64-bit hardware accumulation buffer

Traditional 2D Operations

- 16- and 32-bit color depths (565, 8888)
- Solid and patterned area fills
- Vectors (diamond rule compliant)
- Block moves (screen-to-screen)
- Block gets (screen-to-system)
- Block puts (system-to-screen)

Board Physical

- Full-length ATX form-factor
- AGP Pro 110

Memory

- 128 MB dedicated frame buffer
- 128 MB dedicated texture buffer
- 32 MB DirectBurst

Display

- True color resolutions up to 1920x1200 double-buffered and 32-bit Z per monitor
- 60 Hz-90 Hz screen refresh rates (monitor dependent)
- Dual display support under Windows 2000

Stereo Sync Support

Female, 3-pin, VESA-standard, mini-DIN connector provides connection to a LCD shutter glasses emitter module or to other stereo shutter devices

Digital Flat Panel Output

Two 29-pin DVI-I output connectors

Drivers

- Windows NT
- Windows 2000
- LINUX (Xfree86, v.4x)

Connectors

- 3-Pin, MiniDIN stereo sync output
- Two 29-pin DVI-I output connectors (supports two standard 15-pin VGA output connectors with required adapter)
- Genlock BNC connector
- Two Multiview RJ12 modular jack connectors

Genlock Support

Provides a periodic signal to the display system to lock vertical refresh rate

Multiview Support

Provides frame locking and rate locking of multiple workstations

System Requirements

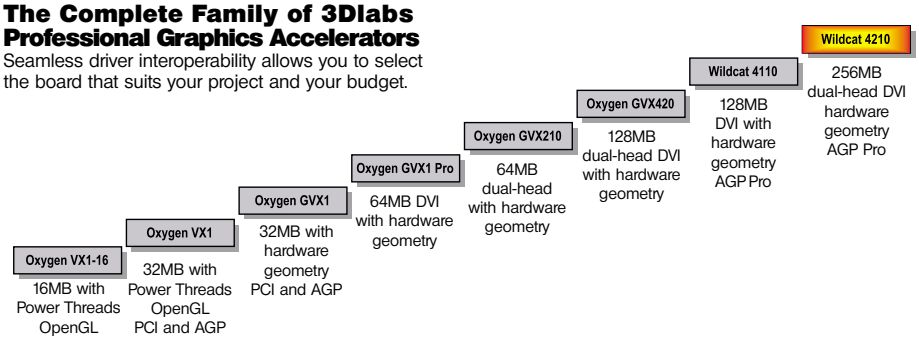
- Intel® Pentium® Processor or compatible
- Microsoft Windows NT 4.0 with Service Pack 5 or higher or Windows 2000
- One AGP Pro 110 slot
- Two open PCI slots adjacent to the AGP Pro 110 slot for cooling and power
- Minimum of 32 MB DRAM (64 MB recommended)
- 3 MB of free space on the computer's primary system disk for the video display driver software
- 110 W of available power

Warranty

Three (3) years parts and labor limited warranty

The Complete Family of 3Dlabs Professional Graphics Accelerators

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



Supported Screen Resolutions (true color, double-buffered)

Display Resolution	Max. Refresh Rates (H)	SuperScene Support	Stereo Support
1280 x 1024	85	X	X
1920 x 1440	75		
1856 x 1392	85		
1824 x 1368	90		
1792 x 1344	75		
1600 x 1200	90	X	
1280 x 960	85	X	X
1152 x 864	85	X	X
1024 x 768	85	X	X
800 x 600	85	X	X
640 x 480	85	X	X
1920 x 1200	76		
1824 x 1128	75	X	
1792 x 1120	75	X	
1600 x 1024	76	X	
1440 x 900	90	X	X
1280 x 800	90	X	X
2048 x 1152	75		
1920 x 1080	85	X	
1600 x 900	85	X	
1520 x 856	90	X	X
1360 x 766	90	X	X
1280 x 720	85	X	X
856 x 480	85	X	X

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

Fully Tested and Optimized 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

Contacts, Service and Support

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