



# AMD FirePro™ W8000

Be Limitless,  
When Every Detail Counts.

## Enhancing and extending AMD's graphics leadership.

### Key Features:

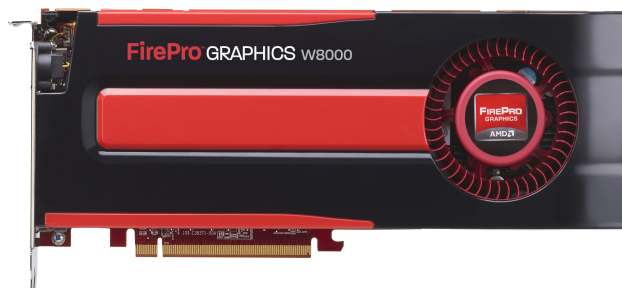
- Up to 4.5x as fast as competitive solutions in single precision compute performance.<sup>3</sup>
- 4GB GDDR5 memory running at 176 GB/s bandwidth.
- Error Correcting Code (ECC) Memory means accuracy of your computations
- Partially Resident Textures (PRT) allows for the utilization of enormous texture files, up to 32 terabytes.
- AMD ZeroCore Power Technology enables your GPU to power down when your monitor is off .
- GeometryBoost — the GPU processes geometry data at a rate of twice per clock cycle, doubling the rate of primitive and vertex processing.
- AMD Eyefinity Technology— Industry-leading multi-display technology enabling highly immersive and unrivaled multi-tasking experience across up to 4 displays, powered by a single AMD FirePro™ W8000 card<sup>1</sup> and up to six utilizing DisplayPort 1.2.<sup>1</sup>
- DisplayPort 1.2 compliant allowing for display of content at resolutions beyond standard HD.<sup>4</sup>
- Energy Efficient Design— AMD PowerTune technology dynamically optimizes GPU power usage and AMD ZeroCore Power technology significantly reduces power consumption at idle.
- Framelock/Genlock— Facilitates synchronization to external sources (Genlock) or synchronizes 3D rendering across multiple GPUs in different systems (Framelock).<sup>2</sup>
- Video Codec Engine (VCE)— A multi-stream hardware H.264 HD encoder, for power efficient and quick video encoding.

The AMD FirePro™ W8000 is a very powerful workstation graphics card available for workflows in CAD/CAE and Media & Entertainment environments. This high-end workstation solution is designed for professionals who require the very best in computational power and performance. It's up to 4.5X as fast as competitive solutions in single-precision compute performance due in part to its innovative all-new Graphics Core Next (GCN) architecture allowing it to effortlessly process challenging compute workloads.<sup>3</sup> In addition, its 3D primitive graphics performance is up to 1.9X as fast as competitor offerings, delivering superior interactivity when working with large, complex models and faster render times.<sup>7</sup>

Equipped with a massive 4GB GDDR5 frame buffer, the AMD FirePro™ W8000 delivers 1.5X more memory bandwidth than competitive solutions.<sup>3</sup> With high performance computing (HPC) features like error correcting code (ECC) memory, it's the ideal choice for HPC workflows. Using AMD Eyefinity multi-display technology, the AMD FirePro™ W8000 can drive up to four native displays and up to six displays using DisplayPort 1.2, allowing designers unparalleled productivity and flexibility.

### Product Features:

- Optimized and certified for Major CAD and M&E applications delivering 3.23 TFLOPs of single precision and 806 GFLOPs of double precision performance with outstanding reliability for the most demanding professional tasks.
- Using a revolutionary 28nm architecture, the AMD FirePro™ W8000 uses Graphics Core Next (GCN) to efficiently balance compute tasks with 3D workloads enabling multi-tasking that is designed to optimize utilization and maximize performance.



- The use of AMD Partially Resident Textures (PRT) and Improved Anisotropic Filtering (AF) enables both streaming of ultra-high resolution datasets and razor sharp image quality, even at a distance from the display.
- The AMD FirePro™ W8000 includes AMD PowerTune and AMD ZeroCore Power technologies that allow for dynamic power management and higher engine clock speeds delivering improved performance and efficient power management.
- GeometryBoost delivers real-time rendering of complex, realistic images at high tessellation speeds, while a Full 30-bit Display Pipeline enables a palette of more than 1.07 billion color values for more accurate color reproduction and superior visual fidelity.<sup>1,4</sup>
- AMD Eyefinity technology—a revolutionary multi-display technology and using DisplayPort 1.2 outputs, AMD FirePro™ W8000 delivers the most immersive graphics/computing. Supporting massive desktop workspaces, for superior productivity, digital signage, and much more, it can drive up to 6 independent displays using DisplayPort 1.2.<sup>1,5</sup>
- Support for industry standards—DirectX® 11.1, OpenCL™ 1.1 and OpenGL® 4.2—Enables advanced features and optimal performance in leading applications using hardware acceleration.



# AMD FirePro™ W8000

AMD FirePro™ workstation graphics cards have been engineered to deliver innovation and reliability for a wide range of professional operating environments, including Microsoft® Windows® 7, Windows® XP, Windows Vista® and Linux.® The unified driver, which supports all AMD FirePro products, helps reduce the total cost of ownership by simplifying installation, deployment and maintenance.

## PRODUCT DETAILS

### Features

- GPU with Graphics Core Next (GCN) technology
- 4GB GDDR5 graphics memory
- ECC memory support
- AMD Eyefinity technology<sup>1</sup>
- Full 30-bit precision display pipeline
- Advanced support for 8-bit, 10-bit, and 16-bit per RGB color component
- PCI Express® 3.0 compliant

### System Requirements

- 1 x PCI® Express x16 (dual slot)
- 2 x PCIe AUX power connector (6-pin)
- Windows® 7 / XP / Windows Vista® or Linux® (32-bit or 64-bit)
- 512MB of system memory
- Internet connection for driver installation

### Display Capabilities

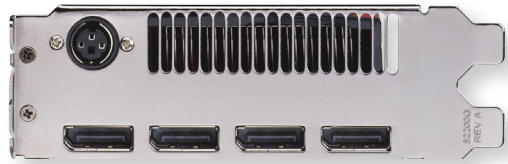
- 4 x DisplayPort 1.2 outputs
- DVI (single link and dual link) display support
- Independent multi-monitor resolution and refresh rate selection
- VGA analog support<sup>5</sup>

### AMD Warranty and Support

- Three year limited product repair / replacement warranty
- Direct toll free phone and email access to dedicated workstation technical support team<sup>6</sup>
- Advanced parts replacement option

### API and OS Support

- OpenGL® 4.2 with OpenGL Shading Language
- OpenCL 1.1
- Microsoft® DirectX® 11.1
- Windows® 7, Windows XP, Windows XP64, Windows Vista and Windows Vista64
- Linux® 32 and Linux 64



AMD FirePro™ W8000 Graphics Display Port



<sup>1</sup> AMD Eyefinity technology can support up to six DisplayPort displays using a single enabled AMD graphics card. The number of supported displays varies by card model and board design; confirm specifications with the manufacturer before purchase. Additional hardware may be required. Utilizing DisplayPort 1.2 and Multi-Stream technology-enabled displays, connectors and/or hubs, a single graphics card may support up to two more displays than it has display outputs; limit six displays. Microsoft® Windows® 7, Windows Vista®, or Linux® is required to support more than two displays; Windows XP is no longer supported. AMD Eyefinity technology works with applications that support nonstandard aspect ratios, which is required for panning across multiple displays. SLS ("Single Large Surface") functionality requires an identical display resolution on all displays. See [www.amd.com/firepro](http://www.amd.com/firepro) or [www.amd.com/eyefinity](http://www.amd.com/eyefinity) for details.

<sup>2</sup> Requires ATI FirePro™ S400 synchronization module.

<sup>3</sup> AMD FirePro™ W8000 delivers 3.23 TFLOPs of single-precision and 806.4 GFLOPs dual-precision floating point performance, a 256-bit memory interface and 176 GB/s memory bandwidth, can drive up to four displays simultaneously from a single card. Compared to Nvidia Quadro 5000 with 718.08 GFLOPs of single precision and 359.05 GFLOPs dual precision floating point performance, a 320-bit interface and 120 GB/s memory bandwidth, and is only capable of powering two displays simultaneously from a single card. See <http://www.nvidia.com/object/product-quadro-5000-us.html>. FP-35

<sup>4</sup> Full HD resolution is considered 1080p (1920x1080 = ~2.1 megapixels).

<sup>5</sup> W8000 (4xMDP) supports a maximum of 6 x 2560x1600 displays (i.e. 3 x DP1.2 MST (3 per DP)). Based off DP1.2 bandwidth availability for MST supports up to: 4 x 1920x1200 @24bpp 60Hz displays, 2 x 2560x1600 @24bpp 60Hz displays, 1 x 4096x2160 @24bpp 60Hz display.

<sup>6</sup> Toll free hotline available in United States and Canada.

<sup>7</sup> AMD FirePro™ W8000 has a triangle rate of 1.8 billion triangles per second compared to Nvidia Quadro 5000 that is capable of 0.95 billion triangles per second. Visit <http://www.nvidia.com/object/product-quadro-5000-us.html> for Nvidia product specs. FP-45

FEATURES	BENEFITS
AMD Eyefinity Technology	Advanced multi-display technology delivering the most immersive graphics/computing experience with innovative display capabilities supporting massive desktop workspaces.
Graphics Core Next (GCN) Architecture	Balancing compute with 3D workloads efficiently.
AMD PowerTune Technology	A state-of-the-art power management technology that provides direct control over GPU power usage. AMD PowerTune dynamically optimizes the GPU clock, while keeping the workstation energy-conscious, conserving electricity when it isn't needed. Applications enjoy ultimate performance while intelligently conserving electricity
AMD ZeroCore Power Technology	Exceptional idle power reduction by shutting down GPU.
Partially Resident Textures (PRT)	Graphics memory behaves as a hardware-managed cache. Data can be streamed in on demand.
Discrete Digital Multi-Point Audio (DDMA)	Simultaneously output multiple, independent audio streams using DisplayPort 1.2.
Video Codec Engine (VCE)	Multi-stream hardware H.264 HD Encoder. Power efficient & faster than real-time 1080p @60fps.
GeometryBoost	Utilizes the unique new hardware architecture that features dual graphics engines, allowing the GPU to process two primitives per clock cycle and provide ultra-high geometry processing performance. Allows users to unleash their creativity by ensuring ultra-high geometry performance and smooth handling of complex models.
DirectGMA Support	DirectGMA enables low latency peer to peer data transfers between devices on the bus and AMD FirePro GPUs. Devices supporting DirectGMA can write directly into the local memory of the GPU and vice versa the GPU can directly access the memory of a peer device.
Framelock/Genlock	Enables high end video production when used with industry standard video production hardware.
D.O.P.P.	By enabling application access to the frame buffer before content reaches the display engine, we empower ISVs to create new, exciting and innovative solutions.
Error Correcting Code (ECC) Memory	Correct single bit memory errors in hardware. ECC memory maintains a memory system virtually free from single-bit errors: the data read from each word is always the same as the data that had been written to it, even if a single bit actually stored, or more in some cases, has been flipped to the wrong state. Some non-ECC memory with parity support allows errors to be detected, but not corrected; otherwise errors that may occur are not detected.
AutoDetect Technology	As a user moves between applications, or opens new ones, the graphics driver settings are automatically configured for maximum performance.
Full 30-bit Display Pipeline	Enables four times more color values than 24-bit products for more accurate color reproduction and superior visual fidelity.
HydraVision	Use HydraVision to manage desktop displays and workspaces in multi-display environments: <ul style="list-style-type: none"> <li>&gt; Explicitly set the behavior of pop-up windows and dialogs in different applications through Desktop Manager.</li> <li>&gt; Provide multiple layers of the desktop workspace through Multi Desktop.</li> <li>&gt; Restrict application window placement across multiple desktops through HydraGrid.</li> </ul>
Certification	There is a high level of assurance when purchasing a configuration that is reliable, provides the performance necessary for professional 3D graphic needs and expands to include integrated AMD expert support
DirectX 11.1 and OpenGL 4.2	Support for industry standards
OpenCL 1.1	Industry standard API - Open, multiplatform development platform for enabling broad adoption of heterogeneous computing

For more information, visit [www.amd.com/firepro](http://www.amd.com/firepro)

