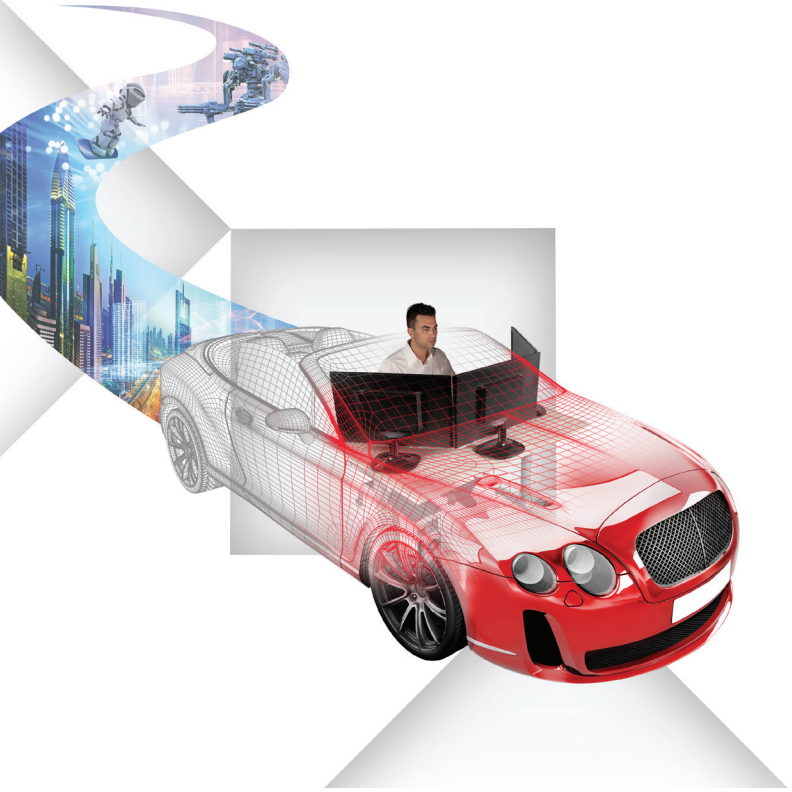


# AMD FirePro™ W7000

## Be Limitless, When Every Detail Counts.

## The workstation card for those with higher standards.

### Key Features:

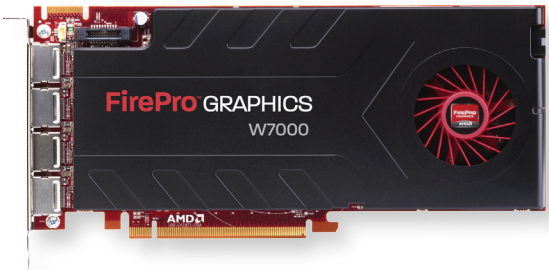
- **Up to five times as fast** as competitive solutions in single precision compute performance.[2]
- **Unmatched application responsiveness in your workflow,** whether in advanced visualization, complex models, large data sets or video editing.
- **AMD ZeroCore Power Technology** enables your GPU to 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 four displays, powered by a single AMD FirePro™ W7000 card and up to six utilizing DisplayPort 1.2.[1]
- **DisplayPort 1.2 compliant** allowing for display of content at resolutions beyond standard HD.[4]
- **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).[8]
- **Video Codec Engine (VCE)**—A multi-stream hardware H.264 HD encoder, for power efficient and quick video encoding.

AMD FirePro™ W7000 workstation graphics delivers incredible performance, superb visual quality and outstanding multi-display design experiences to CAD/CAE and media professionals— all from a single-slot solution. Its 3D primitive graphics performance is up to 2.1 times as fast as the competing solution, giving designers smoother interactivity when working with complex 3D models allowing them to quickly visualize and render designs.[3]

AMD FirePro™ W7000 offers up to 1.7 times more memory bandwidth than competing solutions, bringing an unmatched application responsiveness that professionals working with advanced visualization, complex models, large data sets and video footage need. Using AMD Eyefinity multi-display technology, AMD FirePro™ W7000 can drive up to four native displays and up to 6 displays using DisplayPort 1.2, allowing designers and unparalleled productivity and flexibility.[1,4,5]

### This very powerful product offers:

- Optimized and certified for major CAD and M&E applications delivering 2.4 TFLOPs of single-precision and 152 GFLOPs of double-precision performance with outstanding reliability for the most demanding professional tasks.
- Using a revolutionary 28nm architecture, the AMD FirePro™ W7000 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 AMD FirePro™ W7000 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.
- 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.
- AMD Eyefinity technology – a revolutionary multi-display technology and using DisplayPort 1.2 outputs, AMD FirePro™ W7000 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.[1,5]
- 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.
- Framelock/Genlock — Ensures accurate and consistent video synchronization to external sources or multiple GPUs in different systems .
- Video Codec Engine (VCE) — A multi-stream hardware H.264 HD encoder, for power-efficient and quick video encoding.

# AMD FirePro™ W7000

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.

AMD FirePro™ W7000 Graphics Display Port

## PRODUCT DETAILS

### Features

- GPU with Graphics Core Next (GCN) technology
- 4GB GDDR5 graphics memory
- AMD Eyefinity technology[1]
- 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 (singleslot)
- Windows® 7 / XP / Windows Vista® or Linux® (32-bit or 64-bit)
- 512MB of system memory
- Internet connection for driver installation

### Display Capabilities

- 4x DisplayPort 1.2 outputs
- DVI (single link and dual link) display support via DisplayPort to DVI adaptors[5]
- Independent multi-monitor resolution and refresh rate selection
- VGA analog support[5]

### AMD Warranty and Support

- Three year limited product repair / replacement warranty
- Direct toll free phone and email access to dedicated workstation technical support team[7]
- 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[6]

## For more information, visit **www.amd.com/firepro**

| FEATURES | BENEFITS |
|---|---|
| AMD Eyefinity Technology | Advanced multi-display technology delivering the most immersive graphics/computing experience with innovative display capabilities supporting massive desktop workspaces.[3] |
| 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.<br>AMD PowerTune dynamically optimizes the GPU clock, while keeping the workstation energy-conscious, conserving electricity when it isn't needed.<br>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<br>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 framebuffer 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:<br>> Explicitly set the behavior of pop-up windows and dialogs in different applications though Desktop Manager.<br>> Provide multiple layers of the desktop workspace through Multi Desktop.<br>> Restrict application window placement across multiple desktops through HydraGrid. |
| 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. |
| DirectX11.1 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 |

1 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 2 displays; Windows XP is no longer supported. AMD Eyefinity technology works with applications that support non-standard 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 or www.amd.com/eyefinity for details.

2 AMD FirePro™ W7000 is capable of 2.4 TFLOPs of single precision floating point performance, compared to Nvidia Quadro 4000 with 486.4 GFLOPS of single precision. Visit http://www.nvidia.com/object/product-quadro-4000-us.html for Nvidia product specs. FP-39

3 AMD FirePro™ W7000 has a triangle rate of 1.85 billion triangles per second compared to Nvidia Quadro 4000 that is capable of 0.89 billion triangles per second. Visit http://www.nvidia.com/content/PDF/product-comparison/Product_Comparison_Master_mobile_5_17.pdf. FP-46.

4 AMD FirePro™ W7000 offers 2GB of GDDR5 memory and 153.6 GB/s of memory bandwidth, compared to Nvidia Quadro 4000 with 2GB GDDR5 memory and 89.6 GB/s of memory bandwidth. Visit http://www.nvidia.com/object/product-quadro-4000-us.html for Nvidia product specs. FP-38.

5 Full HD resolution is considered 1080p (1920x1080 = ~2.1 megapixels).

6 W7000 (4xDP) 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.

7 Toll free hotline available in United States and Canada.

8 Requires ATI FirePro™ S400 synchronization module.