



**SAPPHIRE**  
Professional Graphics Solutions

# AMD FirePro™ W9100 Workstation Graphics

The Ultimate 4K Experience for Next  
Generation Workstations



## Key Features:

- Application optimizations and certifications
- 16GB GDDR5 memory
- 512-bit memory interface
- 320 GB/s memory bandwidth
- DirectGMA support
- Six Mini DisplayPort 1.2 outputs
- AMD Eyefinity multi-display technology
- 4K display resolution (up to 4096x2160)
- 2,816 stream processors (44 CUs)
- 5.24 TFLOPS peak single precision
- 2.62 TFLOPS peak double precision
- AMD HD3D Pro support<sup>1</sup> (via stereoscopic 3-pin mini DIN)
- PCIe® 3.0 compliant, x16 bus interface
- OpenCL™, DirectX® and OpenGL support
- 275W maximum power consumption
- Discreet active cooling solution
- Full height/half-length dual-slot form factor
- Planned minimum three-year lifecycle
- Limited three-year warranty
- Support for Microsoft Windows 8.1, Windows® 7 and Linux (32- and 64-bit)
- FCC, CE, C-Tick, BSMI, KCC, UL, VCCI, RoHS and WEEE compliance

AMD FirePro™ W9100 workstation graphics cards are designed for the next generation of 4K workstations. With industry leading graphics, compute power and ultra-high resolution multi-display capabilities, Video, Design, and Engineering professionals can work at a whole new level of detail, speed, responsiveness, and creativity.

## Unprecedented Memory Performance

AMD FirePro™ W9100 workstation graphics is the first graphics card to offer 16GB of ultra-fast GDDR5 memory.<sup>2</sup> It features a 512-bit memory interface and 320 GB/s bandwidth. With massive memory performance at your fingertips, you can load entire datasets or large 4K files into internal memory. With DirectGMA support, direct access to the memory helps ensure low latency transfers to and from the GPU.

## Ultimate 4K Multi-display Workflows

With the ability to support up to six 4K displays via six Mini DisplayPort outputs<sup>3</sup>, the AMD FirePro W9100 graphics card is the ideal single-GPU solution for the next generation of ultra-high resolution visualization environments. The AMD FirePro W9100 graphics card also supports 10-bit color and low latency connectivity via DirectGMA to several third-party SDI Video I/O devices.

## Powered by OpenCL™

AMD FirePro W9100 graphics cards are designed to support OpenCL 2.0.<sup>4</sup> Tap into the parallel computing power of its GPU and get up to 5.24 TFLOPS of computational power to accelerate compute-intensive tasks.

Features	Benefits
AMD Graphics Core Next Architecture	Efficiently balances compute tasks with 3D workloads, enabling multi-tasking that is designed to optimize utilization and maximize performance.
16GB GDDR5 memory	With a 512-bit memory interface and 320 GB/s of memory bandwidth, users can edit 4K video, layer in multiple effects and color correct on they fly, or load massive assemblies and data sets and manipulate them in real time.
Multi-GPU Support	Combine up to four AMD FirePro W9100 graphics cards in a single system and leverage the combined processing power turn your next-generation workstation into a personal supercomputer.
AMD Eyefinity multi-display technology support	With six Mini DisplayPort outputs and support for DisplayPort 1.2, the AMD FirePro W9100 can actually drive up to six 4K displays without DisplayPort 1.2 MST hubs <sup>3</sup> . The ability to run up to six 4K displays lets you visualize every detail of your project in new and exciting ways. That's nearly 50 million pixels at your command.
5.24 TFLOPS of peak single-precision floating-point performance	Helps speed up time required to complete single precision operations used within Simulations, Video Enhancement, Signal Processing, Video Transcoding, and Digital Rendering applications where high performance takes precedence over numerical accuracy.
2.62 TFLOPS of peak double-precision floating-point performance	Helps speed up time required to complete double precision operations used within Computational Fluid Dynamics, Structural Mechanics, Reservoir Simulation, and Aerodynamics applications, where numerical precision is mission critical. AMD FirePro W9100 is the first graphics card to break the 2.0 TFLOPS double precision barrier. <sup>5</sup>
½ rate double precision	Unlike competing cards that are not optimized for double precision performance, AMD FirePro W9100 delivers the highest double precision performance for completing compute-intensive tasks faster than ever before. <sup>5</sup>
DirectGMA and SDI support	Removes CPU bandwidth and latency bottlenecks, and optimizes communication between GPUs within a system, and third party devices like SDI I/O cards. DirectGMA bypasses any need to traverse the host's main memory, reducing CPU utilization, and avoid redundant transfers over PCIe®, resulting in high throughput, low latency data transfers.
Framelock/Genlock support	Ensures accurate and consistent video synchronization to external sources or multiple GPUs in different systems; requires ATI FirePro™ S400 synchronization module.
Error Correcting Code (ECC) Memory	ECC memory helps ensure the accuracy of computations by correcting single or double bit errors as a result of naturally occurring background radiation. ECC enabled only on the frame buffer.



1. AMD HD3D is a technology designed to enable stereoscopic 3D support in software applications such as Computer Aided Design and Digital Content Creation. Additional hardware (e.g. 3D enabled panels, 3D-enabled glasses/emitter, Blu-ray 3D drive) and/or software (e.g. Blu-ray 3D discs, 3D middleware, software applications) are required for the enablement of stereoscopic 3D. Not all features may be supported on all components or systems - check with your component or system manufacturer for specific model capabilities and supported technologies.
2. AMD FirePro™ W9100 features 16GB GDDR5 memory. Nvidia's highest memory card in the market as of April 2014 is the Quadro K6000 with 12GB GDDR5 memory. Visit [http://www.nvidia.com/content/PDF/line\\_card/6660-nv-prographicsolutions-linecard-july13-final-lr.pdf](http://www.nvidia.com/content/PDF/line_card/6660-nv-prographicsolutions-linecard-july13-final-lr.pdf) for Nvidia product specs. FP-90.
3. Requires 4K displays and content; performance dependent on file size. AMD Eyefinity technology supports up to six DisplayPort™ monitors on an enabled graphics card. Supported display quantity, type and resolution vary by model and board design; confirm specifications with manufacturer before purchase. To enable more than two displays, or multiple displays from a single output, additional hardware such as DisplayPort-ready monitors or DisplayPort 1.2 MST-enabled hubs may be required. A maximum of two active adapters is recommended for consumer systems. See [www.amd.com/eyefinityfaq](http://www.amd.com/eyefinityfaq) for full details.
4. Support for OpenCL 1.2 enabled today; conformance expected. AMD plans to release OpenCL 2.0 drivers for AMD FirePro™ professional graphics cards in Q4 2014; conformance testing will be completed at that time.
5. AMD FirePro™ W9100 delivers 2.62 TFLOPS peak double precision floating point performance, and Nvidia's highest performing card in the market as of April 2014 is the Quadro K6000 with 1.72 TFLOPS peak double precision. Visit [http://www.nvidia.com/content/PDF/line\\_card/6660-nv-prographicsolutions-linecard-july13-final-lr.pdf](http://www.nvidia.com/content/PDF/line_card/6660-nv-prographicsolutions-linecard-july13-final-lr.pdf) for Nvidia product specs. FP-88.

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