



AMD FIREPRO™ W8100

AMD FirePro™ W8100 Workstation Graphics

Take your projects further, faster by
adding best-in-class GPU compute to
your workstation¹



Key Features:

- Application optimizations and certifications
- 2nd generation AMD GCN GPU architecture
- 2,560 stream processors (40 CUs)
- 4.2 TFLOPS peak single precision
- 2.1 TFLOPS peak double precision
- 8 GB GDDR5 Memory
- 512-bit memory interface
- 320 GB/s memory bandwidth
- Multi-GPU support (up to 4x)
- DirectGMA and SDI Support
- Framelock/Genlock
- AMD Eyefinity multidisplay technology
- Four discrete DisplayPort 1.2 Outputs
- Six display engines
- 4K display resolution (up to 4096x2160)
- AMD HD3D Pro Support³ (via stereoscopic 3-pin mini DIN)
- PCIe® 3.0 compliant, x16 bus interface
- OpenCL™, DirectX® and OpenGL support
- 220 W maximum power consumption
- Discreet active cooling solution
- Full height/full length dual-slot form factor
- Planned minimum three-year lifecycle
- Limited three-year warranty
- Support for Microsoft Windows® 10, Windows® 8.1, Windows® 7 and Linux (32-/64-bit)
- FCC, CE, C-Tick, BSMI, KCC, UL, VCCI, RoHS and WEEE compliance

The new AMD FirePro™ W8100 workstation graphics card packs up to 4.2 TFLOPS of compute power to accelerate your projects beyond just graphics. Handle your ever-growing datasets with ease and at the same time rely on the massive parallel processing power of the GPU to accelerate all your compute-intensive tasks. With the AMD FirePro™ W8100 workstation graphics card you can take your projects further, faster.

Best-in-class GPU Compute Power¹

The AMD FirePro™ W8100 is ready for OpenCL™ 2.0 and packs up to 4.2 TFLOPS of peak single-precision compute performance into a desktop workstation and 2.1 TFLOPS of double-precision compute power for simulations that require maximum numerical accuracy. Accelerate compute-intensive workflows with single and multi-GPU configurations beyond just graphics and turn your next-generation workstation into a personal supercomputer.

Best-in-class Memory Configuration²

Equipped with 8 GB ultrafast GDDR5 onboard memory and a 512-bit memory interface for 320 GB/s of memory bandwidth, you can load entire datasets into internal memory to help improve overall workflow speed and responsiveness of the system.

Future-ready Multidisplay Capabilities

With discrete connectivity for four 4K displays via DisplayPort 1.2 and AMD Eyefinity technology,³ the new AMD FirePro™ W8100 is the right multidisplay solution for your high-resolution and ultrahigh-resolution workflows.

Cutting-edge Graphics Performance

AMD FirePro™ W8100 is equipped to handle all of your high-performance graphics needs by providing you with 2560 stream processors, allowing you to manipulate geometry-intensive designs with high frame rates and in ultrahigh resolution. Workstations based on the AMD FirePro™ W8100 will deliver the graphics and rendering performance needed to ensure your projects meet the requirements of the new 4K visualization era.

Features	Benefits
2nd Generation AMD Graphics Core Next (GCN) GPU architecture	Performs graphic and arithmetic instructions in parallel. Compared to the AMD FirePro W8000, it now features four times as many compute engines (eight instead of two ACEs), resulting in significantly more computational performance.
8 GB GDDR5 memory	Allow users to work at a whole new level of speed and responsiveness. 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 the fly, or load massive assemblies and data sets and manipulate them in real time.
Error Correcting Code (ECC) memory	Helps ensure the accuracy of your computations by correcting any single or double bit error as a result of naturally occurring background radiation. ECC support enabled on the external GDDR5 memory only.
Multi-GPU support	Combine up to four AMD FirePro W8100 workstation graphics cards in a single desktop system and leverage the combined processing power for personal supercomputing or to work with multiple 4K video streams in real time, layer in effects, make color corrections and edits on the fly.
4.2 TFLOPS of peak single-precision compute performance	Helps speed up time required to complete single-precision operations used within Video Effects and Rendering, Signal Processing, Transcoding and Digital Rendering applications where high performance takes precedence over accuracy.
2.1 TFLOPS of peak double-precision compute performance	Helps speed up time required to complete double-precision operations used within Computational Fluid Dynamics (CFD), Structural Mechanics, Reservoir Simulation and Aerodynamics applications, where numerical precision is mission critical.
½ rate double precision	Unlike competing cards that are not optimized for double precision, the AMD FirePro W8100 offers the most double-precision performance in its class, completing compute-intensive tasks faster than ever before.
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	Ensures accurate and consistent video synchronization to external sources or multiple GPUs in different systems (requires ATI FirePro™ S400 synchronization module).
AMD Eyefinity multidisplay technology	Industry-leading multidisplay technology enabling highly immersive and unrivaled multitasking experience across up to four displays, powered by a single AMD FirePro™ W8100 graphics card. ²
Future-ready for 4K	With four discrete DisplayPort 1.2 outputs and six display engines, the AMD FirePro W8100 can drive three 4K displays at 60 Hz and connects directly to four 4K displays at 30 Hz. With DisplayPort1.2 MST hubs, the AMD FirePro W8100 can even drive up to six 4K displays (at 30 Hz). ²



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1. AMD FirePro™ W8100 delivers 2.1 TFLOPS peak double-precision floating point performance, while the closest competing solution from Nvidia (as of August 2015) is the Quadro M5000 which offers only 0.134 TFLOPS (per <http://www.anandtech.com/show/9096/nvidia-announces-quadro-m6000-quadro-vca-2015>). FP-161
2. AMD FirePro™ W8100 offers 8GB GDDR5 memory and delivers 320 GB/s memory bandwidth. Nvidia's competing card in the market as of August 2015 is the Quadro M5000 with only 211 GB/s memory bandwidth. Visit http://images.nvidia.com/content/quadro/product-literature/line-card/12611_ProGraphicsLineCard_GENERIC_JUN15_US_FNL_HR.pdf for Nvidia product specs. FP-162
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 for full details
4. 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.

