SAPPHIRE WORKSTATION

ATI STREAM TECHNOLOGY

Next generation GPU technology

ULTIMATE COMPUTE PERFORMANCE

240 GFLOPS double precision performance

1.2 TFLOPS single precision performance

AMD FireStream™ 9270 compute accelerator

- Unsurpassed double precision floating point performance
- 2GB GDDR5 memory
- Typical 150 watts power consumption (<220 watts peak)
- PCIe Gen 2 x16 plug-in board

AMD's ATI Stream computing group utilizes mainstream GPU technology developed for the gaming community and repurposes it for high performance computing needs.
The result is a standard PCIe plug-in board using established commodity components for a low cost, reliable compute engine for the HPC community.

AMD FireStream™ 9270: Designed with ultimate compute performance in mind

Scientists, researchers, and designers seeking unsurpassed double precision performance have found it in the ATI RV770 GPU at the heart of the AMD FireStream 9270. With a theoretical 240 GFLOPS DP-FP at your disposal, complex computations are solved in a fraction of the time required with multicore CPUs. Combined with 2GB of on-board GDDR5 memory, large compute intensive problems are well suited to the AMD FireStream 9270's hardware architecture.

How ATI Stream Computing Helps

ATI Stream computing provides industry-leading performance and support so that you can tackle the hardest of HPC applications.

- **Industry-leading performance profile** delivering over 5 GFLOPS per watt (single precision) with 2GB of GDDR5 memory
- **Commodity GPU technology** for affordable TFLOPS performance
- **Multiple software development paths** from high level languages and libraries to low level performance tuning via the ATI Stream SDK
- **Solution scalability** through combinations of AMD CPUs and GPUs matching specific problem needs
- **Support from AMD engineers and partners** throughout your development process*

Technology Need	AMD FireStream Solution
Double precision floating point	• Industry-leading 240 GFLOPS double precision floating point performance at a typical 150 watts
High performance per watt	• Over 5 GFLOPS per watt single precision performance
Open systems architecture	• Familiar 32- and 64-bit Linux and Microsoft® Windows® environments • OpenCL®ready technology • High level tools from multiple third party developers
Scalable solutions	• ATI Stream software supports multiple AMD FireStream 9270s per system

For More Product Details, Please Visit: workstation.sapphiretech.com

For More Stream Technology Information, Please Visit: www.amd.com/stream

AMD
The future is fusion

ULTIMATE COMPUTE PERFORMANCE

AMD FireStream™ 9270 / 9250 compute accelerator

ATI Stream SDK

An open systems approach

ATI Stream SDK leverages open systems technology to provide a C-like development environment on 32/64-bit Linux (RHEL 5.1 and SUSE 10 SP1) and 32/64-bit Microsoft® Windows®.

Developers can begin with Brook+, an AMD-enhanced and supported implementation of Brook, the popular open-source C-level language and compiler. Math functions can be implemented using a new release of AMD Core Math Library for the GPU (ACML-GPU). Tools like GPU Shader Analyzer and AMD Code Analyst help identify and correct performance issues.

AMD's Compute Abstraction Layer (CAL) provides low level access to the GPU for development and performance tuning. AMD's open systems approach allows developers access to all key APIs and specifications, enabling performance tuning at the lowest level and development of third party tools.

AMD FireStream™ Technical Specification

Model Name	AMD FireStream 9270	AMD FireStream 9250
Number of GPUs	1	1
Stream Processor Units	800	800
On-board Memory	GDDR5 2GB SDRAM	GDDR3 1GB SDRAM
Single Precision	1.2 TFLOPS	1 TFLOPS
Double Precision	240 GFLOPS	200 GFLOPS
Floating Point Precision	IEEE 754 Single & Double Precision	IEEE 754 Single & Double Precision
Power Consumption	< 220W peak, 160W typical	< 120W peak, 100W typical
System Interface	PCI-E X16 Gen. 2	PCI-E X16 Gen. 2
Memory Interface	256-bit	256-bit
Auxiliary power connectors	Two 6-pin	One 6-pin
Form factor	"112X242mm" Dual Slot	"112X242mm" Single Slot
Programming environment	ATI Stream SDK	ATI Stream SDK
Cooling	Active Fan Cooling	Active Fan Cooling
Output	Single DVI	Single DVI

Industries and Applications

Financial Analytics

Increase Black-Scholes speed-to-results through the highly parallel architecture of the Stream process

Energy, Oil and Gas

Seismic analysis on larger or more granular geographies to help quickly identify regions of high discovery probability

Life Sciences

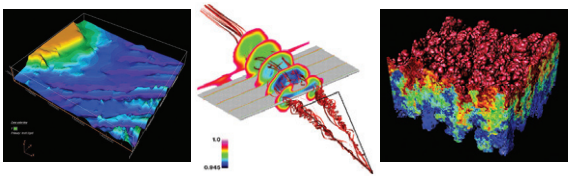
Protein folding, sequencing and alignment investigations, combinatorial chemistry, Hidden Markov Models, and more, are ideal problems for the highly parallel ATI Stream computing architecture

Computer Aided Engineering (CFD, FEA etc.)

Fast results with existing model DoF or higher number of variables (finer mesh) within existing calculation time frames

Consumer

High definition video and gaming benefit from the integration of GPU and CPU from AMD



SAPPHIRE WORKSTATION

About Sapphire Technology

Sapphire Technology Ltd designs, manufactures and distributes the most complete range of ATI Radeon™ based video graphics accelerators worldwide. Additionally Sapphire produces mainboards based on AMD chipset technology. Sapphire is based in Hong Kong with two ISO9001 and ISO14001 manufacturing facilities in Dongguan, China. The factories have a total capacity of 1.8 million graphics boards per month. Sapphire currently employs over 3000 employees worldwide with local representation in North America, Europe, South Africa and Asia Pacific.

2007, Sapphire has been authorized to be the exclusive partner of AMD ATI FirePro™, FireGL™ Workstation Graphics in APAC except Japan. This great affirmation shows Sapphire's achievement and offering, Sapphire will provide best service to professional customer with the best workstation products.

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