ATI™ FireGL™
WORKSTATION GRAPHICS ACCELERATORS

FireGL V3100

- ▸ Built on ATI's native PCI Express x16 lane architecture

- ▸ Outstanding entry-level workstation performance and highest quality utilizing 4 pixel pipelines and 2 geometry engines

- ▸ 128 MB DDR unified graphics memory

- ▸ Dual display support via DVI and VGA outputs

- ▸ Optimized and certified for professional workstation applications based on OpenGL® and Microsoft® DirectX® 9.0

- ▸ Windows® and Linux® support

- ▸ Three year warranty with tollfree advanced technical support

PCI EXPRESS®

▸ PCI Express Innovation Has Arrived

The FireGL™ Visualization series of workstation graphics accelerators is designed specifically for the new, high-bandwidth PCI Express™ bus, and is architected to deliver unprecedented speed and image quality for real-time visualization. True cinematic quality rendering of complex geometry is now available for compelling animation, visual effects, mechanical design and leading-edge business communication.

▸ Two Way Acceleration With ATI's Single-Chip PCI Express Solution

The bridgeless, single-chip design of the FireGL native PCI Express graphics processor fully provides all of the benefits of this interconnect standard in the safest, most cost effective, and reliable transition from AGP. Unlike 'bridged' PCI Express implementations, ATI's FireGL PCI Express products deliver full bandwidth in both upstream and downstream directions, doubling the capabilities of previous products.

Image courtesy of ICEM

▸ Compatibility And Stability

ATI's FireGL cards — whether PCI Express x16 lane or AGP 8X — are designed to accelerate 3D workstation applications based on OpenGL® and Microsoft® DirectX® 9.0. With full certification on the leading computer aided design (CAD), architecture/engineering/construction (AEC) and digital content creation (DCC) applications, FireGL is the high performance choice for graphics professionals working on Windows® or Linux® based systems.

▶ ATI FireGL™ Workstation Graphics Accelerators

PCI EXPRESS®	MEMORY			VPU		OUTPUT			3D PERFORMANCE	
	SIZE	INTERFACE	BANDWIDTH	GEOMETRY ENGINES	PIXEL PIPELINES	DUAL SCREEN	DUAL LINK	STEREOSCOPIC	VERTICES PER SEC.	PIXELS PER SEC.
FireGL V3100	128MB	128-bit	6.4GB/sec	2	4	DVI + VGA	-	-	200M	1.6G
FireGL V3200	128MB	128-bit	12.8GB/sec	2	4	DVI + DVI	-	Yes	250M	2.0G
FireGL V5000	128MB	128-bit	13.6GB/sec	6	8	DVI + DVI	Yes	Yes	637M	3.4G
FireGL V5100	128MB	256-bit	22.4GB/sec	6	12	DVI + DVI	-	Yes	675M	5.4G
FireGL V7100	256MB	256-bit	28.8GB/sec	6	16	DVI + DVI	Yes	Yes	750M	8.0G

AGP ACCELERATED GRAPHICS PORT	MEMORY			VPU		OUTPUT			3D PERFORMANCE	
	SIZE	INTERFACE	BANDWIDTH	GEOMETRY ENGINES	PIXEL PIPELINES	DUAL SCREEN	DUAL LINK	STEREOSCOPIC	VERTICES PER SEC.	PIXELS PER SEC.
FireGL T2-128	128MB	128-bit	10.2GB/sec	2	4	DVI + VGA	-	-	200M	1.6G
FireGL X2-256t	256MB	256-bit	22.0GB/sec	4	8	DVI + DVI	-	-	412M	3.3G
FireGL X3-256	256MB	256-bit	28.8GB/sec	6	12	DVI + DVI	Yes	Yes	750M	5.4G

FireGL Graphics Technology
- Powered by ATI's scalable FireGL workstation Visual Processing Units (VPU)
- Up to 256-bit high bandwidth memory architecture
- Up to 6 parallel geometry engines
- Up to 16 parallel pixel pipelines
- 128-bit full floating point precision
- 32-bits per RGBA component displays beyond 16.7M colors

BUS Technology
- PCI Express® x16 native support[1]
- AGP 8X support[2]

APIs and Operating Systems
- OpenGL® 1.5 + extensions
- OpenGL Shading Language
- Microsoft® DirectX® 9.0
- DX9 HLSL
- Windows® XP/Windows XP64/ Windows 2000
- Linux® 32/Linux 64

Display Support
- Dual DVI-I supports any combination of digital and analog displays[3]
- Maximum resolution of 2048x1536 per display (dual display mode)
- 3840 x 2400 support (dual link[4])
- Independent resolution and refresh rate selection for any two connected displays
- Dual integrated 10-bit per channel 400 MHz DACs

- Integrated 165 MHz TMDS transmitter (DVI & HDCP compliant)

Graphics Features
Hardware acceleration of the following:
- Anti-aliased points and lines or full scene anti-aliasing (2X, 4X, 6X)
- 3D lines and triangles
- Stipple points
- Two-sided lighting
- Up to 8 light sources
- Directional and local lighting
- OpenGL overlay planes
- Occlusion culling
- 6 user defined clip planes
- OpenGL polymode functions
- 32-bit (24+8-bit stencil) Z Buffer
- Fast Z and color clears
- Full DX9 vertex shader support with up to 6 vertex units
- Quad-buffered stereoscopic 3D support[5]

System Requirements
- Intel® Pentium® 4/Xeon™, AMD Athlon®/Opteron™ or compatible
- PCI Express bus[1]
- AGP 8X/4X bus[2]
- 128 MB of system memory (256 MB or more recommended)
- Installation software requires CD-ROM drive
- 300 watt or greater power supply (recommended)

Smartshader™ Technology
- Programmable pixel and vertex shaders
- 16 textures per pass
- Pixel shaders up to 160 instructions with 32-bit floating point precision for each RGBA component
- Multiple render target support
- Shadow volume rendering acceleration
- High precision 10-bit per channel frame buffer support

Hyper Z™
- 3-level Hierarchical Z-Buffer with early Z test
- Lossless Z-Buffer compression (up to 24:1)
- Fast Z-Buffer Clear

Smoothvision™ Technology
- 2X/4X/6X anti-aliasing modes
- High performance adaptive algorithm with programmable sample patterns
- 2X/4X/8X/16X anisotropic filtering modes
- Adaptive algorithm with bi-linear (performance) and tri-linear (quality) options

Warranty and Support
- 3-year limited product repair/replacement warranty
- Workstation level technical support via email and phone
- Advanced parts replacement option

▶ Learn More:

Visit: www.ati.com/FireGL

ATI – Creating The Ultimate Visual Experience.

1 FireGL Visualization series supports PCI Express x16 lane bus.
2 FireGL T2-128, FireGL X2-256t and FireGL X3-256 support AGP 8X bus.
3 All FireGL boards have dual DVI-I connectors except FireGL T2-128 and FireGL V3100 which have one DVI-I and one VGA connector.
4 Dual link available on FireGL X3-256, FireGL V5000 and FireGL V7100 only.
5 Stereoscopic support available on FireGL X3-256, FireGL V3200, FireGL V5000, FireGL V5100 and FireGL V7100.

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