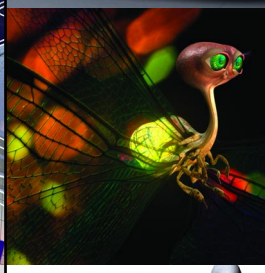
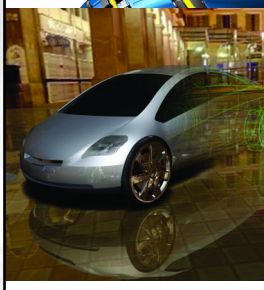
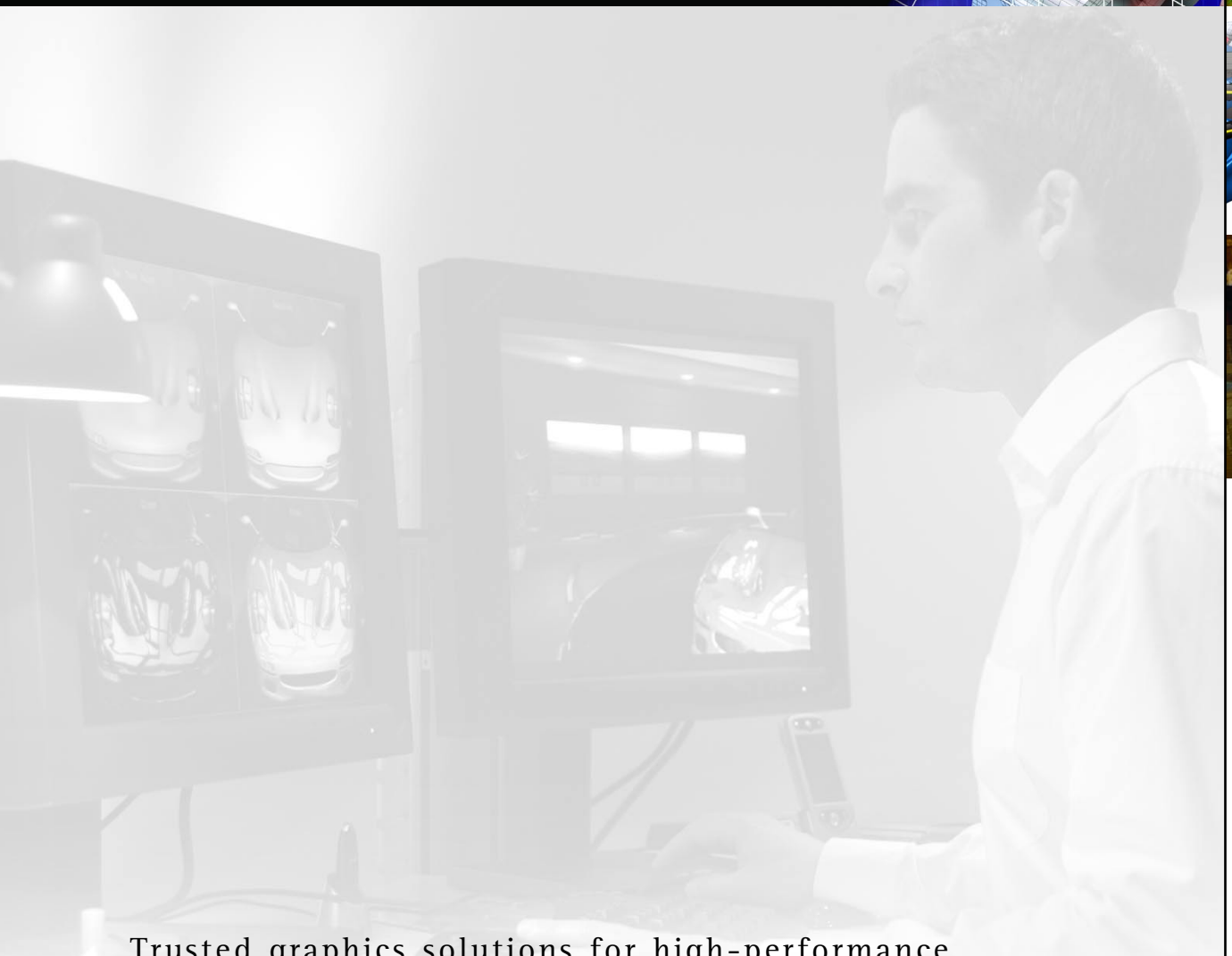
ATI™ FIREGL™

WORKSTATION GRAPHICS ACCELERATORS







Trusted graphics solutions for high-performance workstations – *past, present and future*

AGP ACCELERATED GRAPHICS PORT

PCI EXPRESS™

Next Generation FireGL™ Graphics T

PCI EXPRESS™

ATI FireGL Visualization Series

- *Built on ATI's native "single-chip" PCI Express x16 lane architecture*
- *Optimized and certified for professional workstation applications based on OpenGL® and DirectX® 9.0*
- *Stunning visual quality and real-time performance with up to 16 pixel pipelines and 6 geometry engines*
- *Up to 256 MB DDR unified graphics memory*
- *Dual Link available for ultra-high resolution output*
- *Quad-buffered stereo 3D output*
- *Windows® and Linux® support*

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 is now available for compelling animation, visual effects, mechanical design and leading-edge business communication.

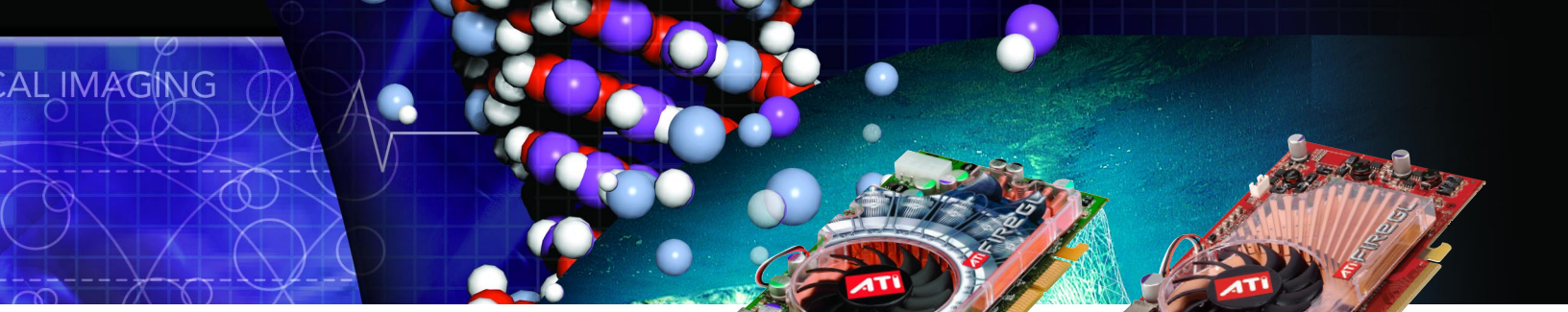
Leveraging ATI's graphics technology leadership, the FireGL V3100, FireGL V3200, FireGL V5100 and FireGL V7100 are built on a robust, scalable and extensive graphics architecture that takes full advantage of the powerful PCI Express standard.

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 engages all of the benefits of this interconnect standard in the safest, most cost-effective, and most reliable transition from AGP. Unlike other '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.

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 in Windows® and Linux®.



echnology

FireGL X2-256t
(AGP 8X)

FireGL V5100
(PCI Express x16 lane)

ATI OFFERS A COMPLETE LINE OF HIGH-PERFORMANCE GRAPHICS ACCELERATORS FOR PCI EXPRESS AND AGP BASED WORKSTATIONS.

FEATURE-RICH PERFORMANCE WITHIN BUDGET

FireGL products are loaded with high-end features, and deliver unprecedented levels of performance, without the high price tag. All FireGL boards offer dual display support with many in the new Visualization series featuring a stereo 3D connector and support for quad-buffered stereo 3D output. In addition, the new high-end FireGL V7100 delivers superb image quality through a dual link connection that will support 9 Mpixel displays. All FireGL products include a comprehensive three-year warranty and product support delivered by a dedicated level-three workstation team.

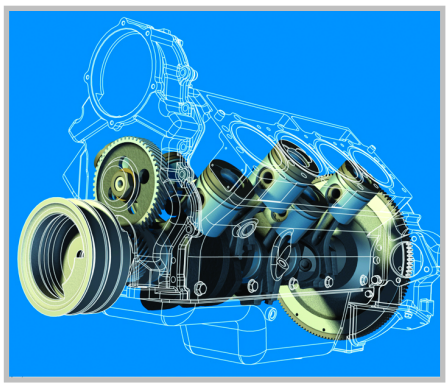
APPLICATION CERTIFICATIONS

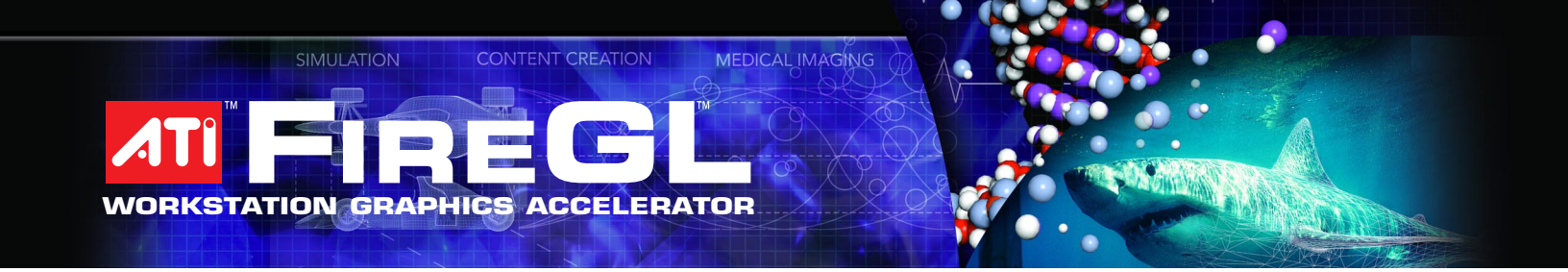
PROFESSIONAL CAD

Alias™ StudioTools™
Altair Hyperwork
ANSYS DesignSpace
ANSYS Multiphysics
Autodesk® AutoCAD®
Autodesk® Inventor™
Autodesk® Mechanical Desktop®
Bentley MicroStation®
Co|Create™ OneSpace Designer
Dassault Systemes CATIA®
Dassault Systemes Enovia
DELCAM PowerSHAPE
EDS I-deas® NX
EDS® Solid Edge™
EDS Unigraphics® NX
GNS Animator3
ICEM Surf
EUKLID Quantum
Megatech MegaCAD Evolution
MSC.Software® MSC.Patran
MSC.Software® MSC.VisualNastran
Nemetschek Allplan
PTC® Pro/ENGINEER® Wildfire
SolidWorks®
Tebis
T-Systems Medina

PROFESSIONAL DCC

Adobe After Effects
Adobe Audition
Adobe Encore
Adobe® Premiere®
Alias™ Maya®
Discreet® 3ds max™
Discreet® combustion®
MAXON CINEMA 4D
MAXON BODYPAINT 3D
NewTek LightWave 3D
Side Effects Software™ Houdini™
SOFTIMAGE®|XSI®





	Memory			VPU		Output			3D Performance	
PCI EXPRESS	Size	Interface	Bandwidth	Geometry Engines	Pixel Pipelines	Dual Screen	Dual Link	Stereo 3D	Vertices / Sec	Pixels / 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 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										
FireGL T2-128	128MB	128-bit	10.2GB / sec	2	4	DVI + VGA	-	-	200M	1.6G
FireGL Z1-128	128MB	256-bit	19.8GB / sec	4	4	DVI + DVI	-	-	300M	1.3G
FireGL X1-128	128MB	256-bit	19.8GB / sec	4	8	DVI + DVI	-	-	300M	2.6G
FireGL X2-256t	256MB	256-bit	22.0GB / sec	4	8	DVI + DVI	-	-	412M	3.3G

FireGL GRAPHICS TECHNOLOGY
- Powered by ATI's scalable FireGL workstation Visual Processing Units (VPU)
- Up to 256-bit high bandwidth memory architecture
- 2, 4 or 6 parallel geometry engines
- 4, 8 or 16 parallel pixel pipelines
- 128-bit full floating point precision
- 24-bits per RGBA component displays beyond 16.7M colors

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

API AND OPERATING SYSTEM SUPPORT
- 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 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 4 vertex units
- Quad-buffer stereo support[5]

SYSTEM REQUIREMENTS
- Intel® Pentium® 4/Xeon™, AMD Athlon®/Opteron™ or compatible CPU
- PCI Express bus[1]
- AGP 8X/4X bus[2]
- 128MB of system memory (256MB 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
- Dedicated workstation level-three technical support via email and tollfree hotline

Learn More:
Visit: www.ati.com/FireGL

ATI FireGL. Proven graphics solutions for today's and tomorrow's high-performance workstations

1 FireGL Visualization series supports PCI Express x16 lane bus.

2 FireGL T2-128, FireGL Z1-128, FireGL X1-128, and FireGL X2-256t 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 V7100 only.

5 Stereo 3D available on FireGL V3200, FireGL V5100 and FireGL V7100.

ATI TECHNOLOGIES INC.
1 Commerce Valley Drive East
Markham, Ontario, Canada L3T 7X6
Telephone: (905) 882-2600
Facsimile: (905) 882-2620
www.ati.com

ATI TECHNOLOGIES SYSTEMS CORP.
4555 Great America Parkway
Suite 501, Santa Clara, CA
95054-1208
Telephone: (408) 572-6500
Facsimile: (408) 572-6305

ATI TECHNOLOGIES (EUROPE) GMBH
Keltenring 13
D-82041 Oberhaching, Germany
Telephone: +49 89 665 15-0
Facsimile: +49 89 665 15-300

ATI TECHNOLOGIES (JAPAN) INC.
Kojimachi Nakata Bldg 4F
5-3 Kojimachi, Chiyoda-Ku
Tokyo 102-0083, Japan
Telephone: +81 35275-2241
Facsimile: +81 35275-2242

ATI TECHNOLOGIES LTD.
9F, No. 2, Sec. 3, Min-Chuan E. Road,
Taipei 104, Taiwan, R.O.C.
Telephone: +886-2-2516-8333
Facsimile: +886 2 2518 8797