Overview

Welcome to the new mainstream benchmark with an unprecedented combination of power, longevity and cinematic quality imagery. Radeon® 9600 PRO delivers maximum programmability and entertainment value to the most devoted gamer and demanding professional alike.

GET IN THE GAME: Choose Radeon®
Give your high performance workstation a graphics boost, don't settle for entry-level visuals. Immerse yourself in a world of cinematic quality that overpowers benchmarks and puts you right in the action. Radeon® 9600 PRO is available as an affordable option with every Power Mac® G5. With four independent rendering pipelines and support for the AGP 8X standard, Radeon® 9600 PRO brings the most detailed 3D worlds to life with highly programmable cinematic shaders, geometry and texture engines.

MAXIMUM 3D
From casual enthusiasts to demanding professionals, Radeon® 9600 PRO owners will benefit from improved interactivity, optimized 3D graphics and unequalled Mac® OS X and Quartz™ Extreme integration. There's simply no comparison when it comes to driving the highest frame rates. The Radeon® 9600 PRO is the best low-cost upgrade you can request with your Power Mac G5. Only the Radeon® 9800 Pro can offer more.

REDEFINING REALISM
Savour a 3D experience with the sharpest, clearest picture quality imaginable, thanks to SmoothVision™ 2.1 and its latest anti-aliasing and texture filtering technologies.
SmartShader™ 2.0 technology sets a new standard for visual realism with 128-bit full floating point precision that brings hyper-realistic imagery to the screen with billions of color variations.

EXTRA LIFE
Radeon® 9600 PRO's architecture is stable, reliable and represents the industry's only cinematic Visual Processing Unit (GPU) in its 2nd generation. Years of research, engineering and the consistent integration of new, backwards-compatible technologies, like OpenGL® ensure that ATI remains the leader in graphics technology for creative applications and gaming entertainment.

Features

3D Graphics Features

- Four parallel rendering pipelines process up to 1.6 billion pixels per second
- Two parallel geometry engines process up to 175 million transformed and lit polygons per second
- High precision 10-bit per channel frame buffer support

SmartShader™ 2.0

- Full support for OpenGL® 2.0 programmable pixel and vertex shaders in hardware
- 2.0 Pixel Shaders support up to 16 textures per rendering pass
- 2.0 Vertex Shaders support vertex programs up to 1024 instructions with flow control
- New 128-bit per pixel floating point color formats
- Shadow volume rendering acceleration

SmoothVision™ 2.1

- State-of-the-art full-scene anti-aliasing
  - New technology processes up to 15.6 billion anti-aliased samples per second for unprecedented performance
  - Supports 2x, 4x, and 6x modes with programmable sample patterns
- Advanced anisotropic filtering
  - Supports up to 16 bilinear samples (in performance mode) or trilinear samples (in quality mode) per pixel
  - Bandwidth-saving algorithm enables this feature with minimal performance cost

HYPERZ™ III

- Hierarchical Z-Buffer and Early Z Test reduce overdraw by detecting and discarding hidden pixels
- Lossless Z-Buffer Compression and Fast Z-Buffer Clear reduce memory bandwidth consumption by over 50%

Video Features

- DVD and QuickTime™ Acceleration
- Seamless integration of programmable pixel shaders with video data
- Integrated MPEG-2 decode
- Hardware accelerated iDCT, motion compensation, and color space conversion
- Top quality DVD and DTV/HDTV decode with low CPU overhead

Display Features

- Dual Digital display controllers
- Drive any combination of 2 Digital or analog displays with independent resolutions and refresh rates
- Dual integrated 10-bit per channel palette DACs operating at up to 400MHz
- Dual 165MHz TMDS transmitter (DVI 1.0 compliant)
- ADC and DVI-I connectors

General Features

- 8X AGP support
- High performance quad-channel DDR memory interface with 64MB memory
- Optimized for Mac® OS X and Power PC ALTIVEC processor instructions

Specifications

System Requirements

- Available standard or as an upgrade with the Power Mac® G5 from Apple.

Visual Processor

- Radeon® 9600 PRO Visual Processing Unit

Memory Configuration

- 64MB of double data rate memory

Display Support

- Apple® flat panel
- CRT monitor*
- Digital flat panel monitor
- Dual digital flat panel monitor support**
- Apple Cinema display and CRT

**DVI-I to VGA adapter is provided.*
***Dual ADC display support requires one Apple DVI to ADC adapter*

Analog monitor display modes *
Resolutions, and maximum refresh rates (Hz) in thousands and millions of color settings

Resolution	Hz
640 x480	120
800 x 600	120
1024 x 768	120
1152 x 870	75
1280 x 960	75
1280 x 1024	85
1600 x 1024	76
1600 x 1200	85
1792 x 1344	75
1856 x 1392	75
1920 x 1080	72
1920 x 1200	76
1920 x 1440	75
2048 x 1536	75

** Actual available display modes are dependent upon monitor selection.*

Digital Flat Panel Maximum resolution and refresh rate:

	Monitor Resolution
16.7M colors	1920x1200

**1920 x 1200 flat panel resolution available through use of reduced blanking interval.*