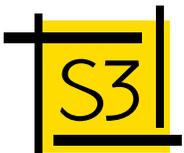# Savage4

**AGP 4X
for the
Volume
Mainstream
PC Markets**

S3

Savage4™ delivers the highest level of 2D, 3D and DVD performance and functionality available for the volume mainstream PC markets. With a complete 3D feature set, an advanced AGP 4X implementation and comprehensive flat panel monitor support, Savage4 provides the graphics capabilities OEMs need to build award-winning desktop systems.

Photorealistic 3D Graphics

Savage4 delivers superior 3D performance with an 8 million triangles/second setup engine and a 140 million pixels/second rendering engine. Combining this raw 3D rendering power with single-pass multi-texturing, AGP 4X support and advanced DirectX® 6.0 features, including S3 texture compression (S3TC™), Savage4 provides benchmark-winning performance and photorealistic image quality for gaming and productivity applications.

Industry-First Mainstream AGP 4X Solution

Driving the transition to next-generation AGP technology, Savage4 provides highly advanced AGP 4X support. When combined with its other advanced 3D technology, the Savage4's AGP 4X implementation delivers photorealistic image quality and higher application performance for a stunning end-user experience. Additionally, based on its cost-sensitive price points, Savage4 allows PC manufacturers to quickly bring this experience to the volume mainstream PC markets.

### Advanced Flat Panel Monitor Support

Based on S3's innovative TMDS solution, Savage4 provides industry-leading flat panel monitor capabilities. With the ability to handle all resolutions up to 1600x1200, advanced mode centering and expansion functionality and comprehensive panel support, Savage4 delivers a complete flat panel monitor solution for next-generation desktop PC users.

Savage4 Offers Multiple Display Options

Ideal solution for commercial desktop.

Ideal solution for consumer and home user.
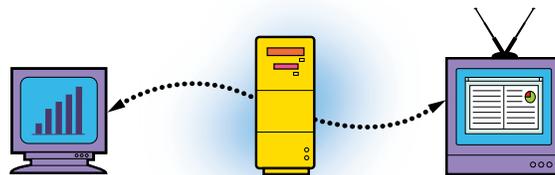
High-Performance 3D Acceleration

- Floating point triangle setup engine
- Single cycle 3D architecture
- 8M triangles/second setup engine
- 128-bit rendering pipeline
- 140M pixels/second trilinear fill rate
- Full AGP 2X/4X, including sideband addressing and execute mode
- S3 texture compression (S3TC)

High Speed Memory Bus

- 125/143MHz memory interface
- 2 to 32MB frame buffer
- 1Mx16 or 2Mx32 or 4Mx16 SDRAMs
- 512Kx32 or 256Kx32 SGRAMs
- SO-DIMM memory upgrade
- Block write support

## Flat Panel Desktop Monitor Support

- 24-bit digital interface for flat panel encoders
- Auto-expansion and centering for VGA text and graphics modes
- Support for all resolutions up to 1600x1200

3D Rendering Features

- Single-pass multiple textures
- Hardware bump mapping
- Full scene anti-aliasing
- Anisotropic filtering
- 8-bit stencil buffer
- Single cycle trilinear filtering
- True color rendering
- Specular lighting and diffuse shading
- Alpha blending modes
- MPEG-2 video textures
- Vertex and table fog
- 16- or 24-bit Z-buffering
- Sprite anti-aliasing, reflection mapping, texture morphing, shadows, procedural textures and atmospheric effects


Unreal courtesy of Epic MegaGames, Inc.
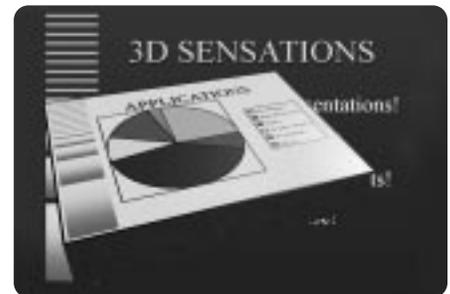
3D Sensations courtesy of Crystal Graphics.

Savage4 Delivers High-Performance with AGP 4X and S3 Texture Compression (S3TC)

① Compressed textures use 1/6th of the bus bandwidth and system memory space.

② Compressed textures in combination with AGP 4X support provides the highest performance.

③ On-the-fly texture decompression enables high resolution textures for photorealistic 3D scenes.

SAVAGE 4
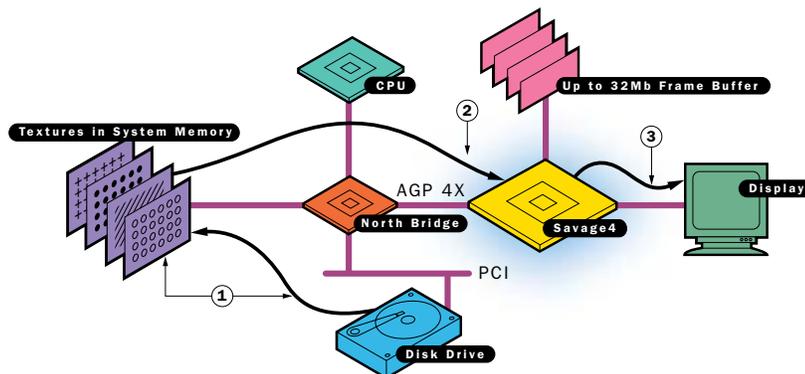
Motion Video Architecture

- High quality up/down scalar
- Planar to packed format conversion
- Motion compensation for full speed DVD playback
- Hardware subpicture blending and highlights
- Multiple video windows for video conferencing
- Contrast, hue, saturation, brightness and gamma controls
- 60MHz VIP video port allows HD0 HDTV resolutions
- Digital port for NTSC/PAL TV encoders

2D Acceleration Features

- Highly optimized 128-bit graphics engine
- Full featured 2D engine for acceleration of BitBLT, rectangle fill, line draw, polygon fill, panning/scrolling and hardware cursor
- 8, 16, and 32 bpp mode acceleration

Full Software Support

- Windows® 9x display drivers
- Windows NT® 4.0/5.0 display drivers
- Windows 3.x and OS/2® 2.1/3.0 (Warp™)
- Direct3D®, DirectDraw® and DirectShow™
- OpenGL™ ICD for Windows 9x and NT
- Comprehensive SDK, utilities and ISV tools
- ISV and bundling programs

Additional Features

- 300MHz RAMDAC with gamma correction
- I^2C serial bus and flash ROM support
- ACPI and PCI power management
- Hardware and BIOS support for VESA timings and DDC monitor communications
- PCI 2.2 bus support including bus mastering
- 27x27mm PBGA with 336 balls
- 2.5V core with 3.3V/5V tolerant
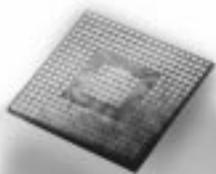
Part Numbers

- 86C397   Savage4 Pro
- 86C396   Savage4 Pro-M
- 86C395   Savage4 GT
- 86C394   Savage4 LT

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