High-Performance Integrated 2D/3D Graphics and Video Accelerators

- 64-bit 2D/3D graphics engine
- Integrated 170 MHz RAMDAC and clock synthesizer
- S3® Streams Processor™ technology
- Pin and software compatible solutions
- ViRGE/GX™ accelerator supports SDRAM/ SGRAM/EDO DRAM memory. ViRGE/DX™ accelerator supports EDO DRAM memory

Improved S3d™ Graphics Engine Performance

- High performance 2D acceleration
- Flat and Gouraud shading for 3D
- High quality 3D texture mapping
  - Perspective correction with a parallel processing perspective engine
  - Bi-linear and tri-linear texture filtering using S3's new SmartFilter™ technology
  - MIP-Mapping
  - Depth cueing, fogging, alpha blending
  - Video texture mapping
  - Z-buffering

Improved S3 Streams Processor Features

- Supports on-the-fly stretching and blending of primary RGB stream and RGB or YUV (video) secondary stream
- Each stream can have different color depths
- High-quality video playback with horizontal and vertical interpolation
- Support for Indeo™, Cinepak™, and software and hardware-accelerated MPEG-1 video
- Brightness, hue, saturation controls

Glueless PCI 2.1 Local Bus Support

PCI Bus Mastering for Display List Processing and Video Capture Support

High-Performance Memory Support

- 64-bit 1-cycle EDO DRAM & SDRAM/SGRAM memory interface
- 1-, 2- and 4-MByte EDO DRAM and SDRAM/SGRAM video memory

Improved S3 Scenic Highway™ Interface

- Industry standard video digitizers and S3 Scenic/MX2™ MPEG-1 audio/video decoder
- Odd/even field detection
- Improved horizontal decimation

Other Multimedia Support Hooks

- I^2C serial communications bus
- 8-bit bi-directional feature connector

Non-x86 CPU Support

- Big endian/little endian byte ordering
- Relocatable addressing

Full Software Support

- Drivers for major operating systems and APIs: [Windows© 95, Windows 3.11, Windows NT™, OS/2© 2.1 and 3.0 (Warp™), Direct 3D™, BRender™, RenderWare™, OpenGL™]
- Popular games supported with 3D acceleration
- ISV and marketing programs to ensure abundant title support
- Software fully backwards compatible with ViRGE. Enhanced software available for enhanced ViRGE/DX & GX features.

Green PC/Monitor Plug and Play Support

- Full hardware and BIOS support for VESA Display Power Management Signaling (DPMS) monitor power savings modes
- DDC monitor communications

Extensive Static/Dynamic Power Management

Industry-Standard 208-pin PQFP package

S3 Incorporated

The S3 ViRGE/DX & GX integrated 3D video/ graphics accelerators enable development of compelling interactive entertainment, education, and presentation applications for the mainstream personal computing world.

Enhancements to the Popular ViRGE™ Accelerator

- 170 MHz integrated RAMDAC
- Synchronous memory support in the ViRGE/GX
- Improved S3d Engine performance
- Streams Processor provides improved video playback quality with vertical interpolation
- Improved video input features and decimation

64-bit S3d Engine

The enhanced S3d Engine provides improved 2D acceleration for excellent Windows applications performance and a full-featured high-performance 3D rendering engine for realistic user experience in games and other interactive 3D applications.

Advanced features of the S3d Engine include S3's high performance parallel processing perspective engine, enhanced triangle processing and the new SmartFilter technology for high quality, adaptive textures. These new features provide excellent quality scenes at high frame rates to expand the boundaries of games and desktop applications.

Streams Processor

The S3 Streams Processor technology provides the stretching and YUV color space conversion features required for full screen video playback with both software CODECs and hardware MPEG-1 sources.

The Streams Processor allows simultaneous display of graphics and video of different color depths. For example, it is possible to display 24 bpp-equivalent video on top of an 8-bit graphics background. This saves memory bandwidth and storage capacity while permitting higher frame rates.

The ViRGE/DX & GX Streams Processor supports enhanced features such as vertical interpolation for high quality video playback and color controls.

S3 Scenic Highway

The S3 Scenic Highway allows lowest cost direct connection to S3's Scenic/MX2™ MPEG-1 audio and video decoder as well as industry-standard video digitizers such as the Philips© SAA7110/SAA7111.

High Screen Resolution (Non-interlaced) Support

Resolutions Supported	DRAM/SDRAM/SGRAM Size		
	1 MB	2 MB	4 MB
640X480X4	✔	✔	✔
640X480X8	✔	✔	✔
640X480X16	✔	✔	✔
640X480X24	✔	✔	✔
640X480X32		✔	✔
800X600X4	✔	✔	✔
800X600X8	✔	✔	✔
800X600X16	✔	✔	✔
800X600X24/32		✔	✔
1024X768X4	✔	✔	✔
1024X768X8	✔	✔	✔
1024X768X16		✔	✔
1024X768X24 (IL)			✔
1280X1024X4		✔	✔
1280X1024X8		✔	✔
1280X1024X16 (IL)			✔
1600X1200X4		✔	✔
1600X1200X8		✔	✔

Memory Support	DX	GX
256Kx16 EDO DRAM	✔	✔
256Kx16 SDRAM		✔
256Kx32 SDRAM/SGRAM		✔

Pin Compatibility	DX	GX
S3 Trio64V+™ and S3 ViRGE accelerators	✔	
S3 Trio64V2/DX™ accelerator	✔	
S3 Trio64V2/GX™ accelerator		✔