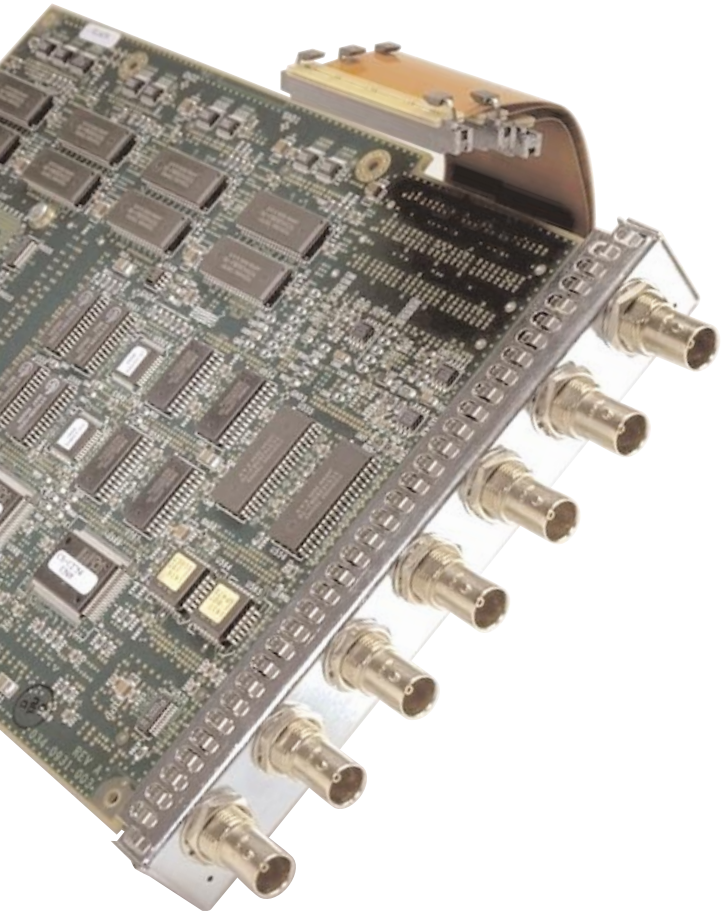
Datasheet

Silicon Graphics® Octane® Digital Video Option

Features

- Professional digital media option for Silicon Graphics Octane
- Multiple streams of uncompressed digital video I/O
- Real-time graphics to video output
- Real-time 3D digital video effects



Professional Video I/O

The Octane Digital Video option turns the Silicon Graphics Octane visual workstation into a professional video platform by providing uncompressed digital video I/O. The board provides two independent input and two independent output channels of SMPTE 259M, CCIR-601 serial digital video with PAL or NTSC timing at 8 or 10 bits per component. The two 4:2:2 inputs or outputs can be combined for a dual-link signal with video and key. All formats support embedded error detection and handling (EDH) to ensure excellent signal quality.

Real-Time Performance

All video streams can be routed directly to and from main memory or the graphics system in real time. Using the built-in Ultra SCSI (40MB per second) interface or an optional Fibre Channel interface board, you can stream video to and from disk in real time. Locking the audio sample clock on the Silicon Graphics Octane internal video reference bus to the board's video reference guarantees synchronized capture and playback of both audio and video.

Support for Multiple Standards and Formats

The board accepts a variety of formats, including packed 24-bit RGB to save storage space (see back). Optional third-party A/D or D/A converters can convert the digital signal to various analog signal formats for compatibility with analog equipment.

Color Space Conversion

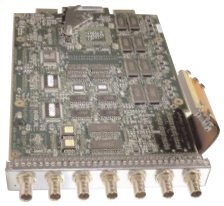
The Octane Digital Video option's built-in color space converter uses a 24-bit internal data path and 15-bit coefficients and incorporates a patent-pending constant hue hardware unit to ensure accuracy. Converting images in the RGB color space to and from the YUV video color space is done with minimal distortion and maintains the highest quality possible.

Full-Bandwidth Graphics and Video Connection

The Octane Digital Video option's direct interface to the graphics system allows a single stream of full frame-rate video with an alpha channel, or two streams of field-rate video, to be texture mapped directly onto a polygon in real time.

Professional Solutions

Since Silicon Graphics Octane can manipulate texture-mapped polygons in real time, users can create an unlimited number of innovative and true 3D digital video effects, such as shattering glass or grains of sand. 3D animation applications can use video texturing to add high levels of detail to a scene, such as live display panel or video billboard. The Silicon Graphics Octane visual workstation is also an ideal platform for rendering on-air graphics in real time as part of a broadcast environment.



Octane Digital Video Option
Technical Specifications

System Compatibility
Octane Digital Video is a single-slot XIO board compatible with all Octane systems with SI, SSI, MXI, SE, SSE, and MXE graphics.

Input Format and Connnectors
- 2 CCIR-601, 75 ohm BNC terminated, unbalanced

Output Format and Connectors
- 2 CCIR-601, 75 ohm BNC terminated, unbalanced

Octane Digital Video Signal Formats

Format	Resolution	Number of Inputs	Number of Outputs	Timing*
4:2:2	8 or 10 bits	2	2	PAL/NTSC
4:4:4	8 or 10 bits	1	1	PAL/NTSC
4:2:2:4	8 or 10 bits	1	1	PAL/NTSC
4:4:4:4	8 or 10 bits	1	1	PAL/NTSC
RP-175	8 or 10 bits	1	1	PAL/NTSC (RGB)

* 525/60 NTSC 13.5 MHz pixel rate and 625/50 PAL 13.5 MHz pixel rate

Input Characteristics
- Return loss 15 dB @ 270 MHz

Output Characteristics
- Amplitude — 800 mV +/-10%
- Rise and fall time — 4 ns to 1.5 ns
- Overshoot — <10% peak to peak
- Clock jitter — <740 ps p/p 10 Hz–10 KHz

Real-Time Features
- Video scaling 1280x1024 graphics to NTSC or PAL at variable scaling rates
- Color space conversion with a peak error rate of .1% for one pass and 4.2% for 100 round-trip conversions
- Graphics screen capture
- Graphics to video output
- Video blender (8 bit)
- M-JPEG compression (when combined with the Octane Compression option)

Genlock
- Genlock to video input signal, external house reference signal, or internal reference

Regulatory Requirements
- FCC Class A

Octane Bundled Software
- Collaboration — InPerson®
- Web tools — Netscape Navigator®, Cosmo Player, OutBox, WebMagic Pro, Adobe Acrobat Reader™
- Presentation — Showcase™
- Digital media tools — SoundTrack, MovieMaker, ImageWorks, MediaPlayer, MediaRecorder, CD/DATPlayer, MediaConvert

Marketing Code
- D9-OCT-DIG-VID

Other Octane Digital Media Products
- Silicon Graphics Octane Personal Video option
- Silicon Graphics Octane Compression option
- SGI™ Digital Audio option

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