

See what your home theater's been missing



# Vision

Video Processor

The Lumagen Vision™ Video Processor provides a cornerstone for the ultimate home theater experience. It is designed to adapt to the unique requirements of each home theater, rather than having the designed-in limitations commonly found in today's video processors.

The Vision's deinterlacing circuitry converts standard television video to a progressive format. Digital processing then enhances the image and scales the resolution to the optimal size for the HDTV or projector.

Together these yield a substantial improvement for home theaters, which are frequently marred

by the poor deinterlacing and scaling provided by many HDTVs and projectors.

Along with image quality, flexibility is a defining feature for the Vision Video Processor. It provides comprehensive programmability and calibration features. These include programmable output resolution, refresh rate, aspect ratio, and video format, plus cropping, black-level, contrast, color, hue and chroma-phase adjustments.

These features make the Vision a perfect match for those who demand both the best quality and the best value.

## Product Overview:

The Vision™ Video Processor provides exceptional deinterlacing and scaling. Unlike many video processors which are limited to a single, or a few, output resolutions, it allows output timing to be precisely tuned to the projector's, or High-Definition Television's (HDTV), optimal configuration.

Most projectors and HDTVs provide a good picture for high-definition sources, but they often fall short for standard definition (SDTV) sources. The Vision Video Processor corrects this shortcoming and makes SDTV sources look great on these displays.

The deinterlacer converts interlaced video input to progressive video using four input fields to determine the contents of each frame. For progressive material, the original frames are reassembled using 3:2, or 2:2, pull-down reconstruction. For video material, interlace-video artifacts are detected on a per-pixel basis. Using the result of this artifact detection, the source pixels are merged, or blended, into the best possible progressive image.

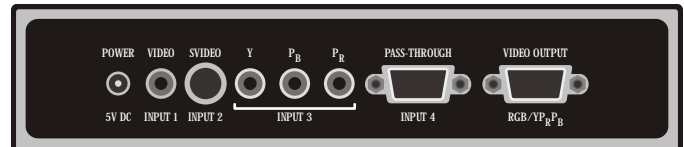
Proprietary detail-enhancing algorithms are used to scale the progressive video to the optimal resolution. The video is over-sampled to enhance the image quality. Video oversampling provides the same benefit that audio oversampling does for CDs. That is, it produces the most-accurate reproduction of the video signal possible.

When processing is completed, the digital video is converted to analog using three over-sampled 10-bit digital-to-analog converters.

Progressive output is supported from 480p to 1080p in scanline increments, at up to 75 Hertz. Interlaced output is supported at 1080i. In addition, the output vertical-refresh-rate and the aspect ratio are programmable.

Each input has two unique input calibrations and, optionally, two independent output configurations.

A pass-through input is provided for high definition sources. The pass through video is buffered using high-bandwidth video amplifiers. For displays that require a specific sync polarity, discrete sync signals can optionally be converted to the same polarity as the internally generated sync outputs.



Rear Panel

## Key Features:

### Inputs:

- \$ Composite, SVideo, and Component video
- \$ Pass-through, with 300 MHz bandwidth
- \$ Studio quality TV decoder with 10-bit A/D
- \$ Adaptive comb-filter (3 or 4 line) for reduction of cross-luma and cross-chroma artifacts
- \$ Automatic selection of NTSC (M, Japan, 4.43), PAL (B, D, G, H, I, M, N, Nc) or SECAM (B, D, G, K, K1, L) for composite and SVideo.

### Video Processing:

- \$ Film pull-down reconstruction (3:2 and 2:2)
- \$ Per-pixel motion-adaptive video deinterlacing
- \$ Detail-enhancing resolution scaling
- \$ Programmable cropping for each input memory
- \$ Black-level, contrast, color and hue calibration
- \$ Chroma-phase calibration
- \$ Source aspect ratio selection of 4:3, letter-box and 16:9, with two zoom levels each
- \$ Two memories per input, for input calibration and, optionally, output setup

### Output

- \$ Programmable output resolution from 480p to 1080p in scanline increments, plus 1080i
- \$ Programmable vertical refresh rate from 48 to 75 Hertz, in steps of 0.01 Hertz
- \$ Programmable output aspect ratio from 1.33 to 2.35, in steps of 0.01
- \$ 10-bit oversampled digital-to-analog conversion
- \$ RGBHV, RGBS, RGsB, or Y<sub>P</sub>R<sub>P</sub>B<sub>P</sub> output format
- \$ Embedded bilevel or trilevel sync
- \$ Discrete RGB sync polarities are programmable

### Miscellaneous

- \$ Infrared remote
- \$ Menu-based setup with on-screen display
- \$ Configuration save with undo and lock
- \$ Supply range of 100 to 240 volts at 47 to 63 Hz.
- \$ Case: 8x2x9 inches (203x51x23 mm)
- \$ Silent operation (no fan)

For additional information:

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