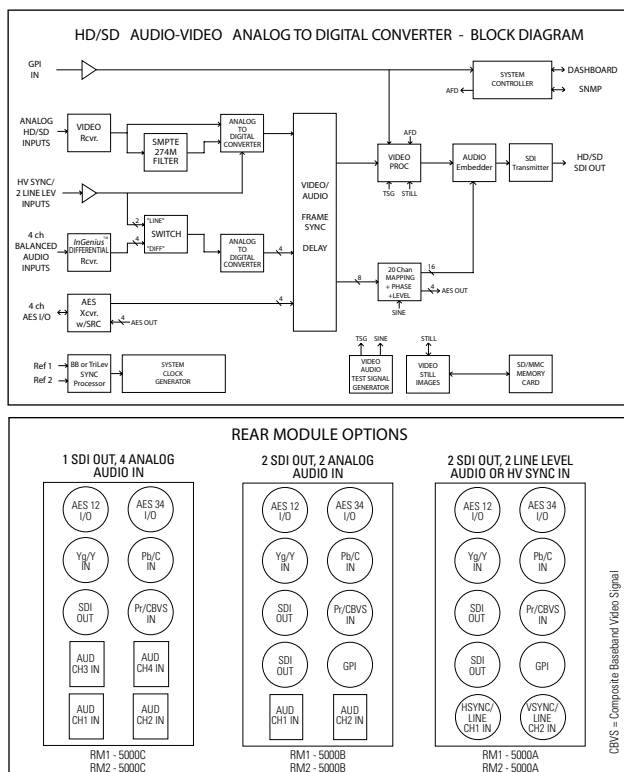


Specifications



Analog Video Inputs:

Connectors: 3 BNC, 75 ohm
 HD: Component YPbPr and RGB
 SD: Component YPbPr (SMPTE, Betacam, MLI) and RGB, Y/C, Composite
 Graphics: RGBHV
 Input Analog Filter: SMPTE 274M
 Insertion Loss: 0 - 30MHz = +/- 0.05dB
 Attenuation: at 37.125MHz > 12dB
 at 43.5MHz > 40dB
 Group Delay: 0 - 20MHz = +/- 1 ns
 20 - 28MHz = +/- 1.5ns
 Quantization: 12 bits 4:4:4 (SD = 4X oversampling)
 SNR Unweighted: -65 dB (Luma Flat Field),
 -64 dB (Luma Ramp)
 Freq Response: Wideband: 70 MHz
 HD-Y/PbPr: 30MHz/15MHz +/- 0.25dB,
 SD-Y/PbPr: 5.8MHz/2.9MHz +/- 0.25dB

Analog Audio Inputs:

Connectors (balanced): 4 Terminal Block "Weco"
 (unbalanced): alternate 2 BNC
 Impedance (balanced): > 25K
 (unbalanced): > 20K
 CMRR (balanced): > 70dB (InGenius® receiver)
 Level (balanced): +4dBu w/20 dB Headroom
 (24dBu => 0 dBFS)
 (unbalanced): -10dBv (LINE level) w/20dB Headroom
 Quantization: 24 bits 48kHz synchronous to video
 Frequency Response: 20Hz to 22kHz +/- 0.035dB
 Signal to Noise Ratio: -114dB A-weighted,
 -111dB unweighted
 THD+Noise: -105dB

AES Audio I/O:

Connectors: 2 BNCs, 75 ohm transformer coupled
 Input Level: 0.2 to 2.5Vpp
 Output Level: 1 Vpp

SDI Outputs:

Connectors: BNC, 75 ohm
 Level: 800 mVpp
 Signal: 2.970 Gb/s, 1.485 Gb/s, 270 Mb/s
 Timing jitter: HD < 0.3UI, SD < 0.2UI

Genlock Reference:

Connectors: 2 BNCs, Hi-Z, On Frame
 Signals: Bi-Lev (Black Burst), Tri-Level

Control:

Remote: RJ-45 Ethernet connector on frame
 Software: Dashboard

Memory Card:

Type: MMC, SD, SDHC

Power:

< 10 watts

Warranty:

5 years parts and labor

Specifications subject to change without notice.
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Cal Media's cards are 100% designed and manufactured in the USA.



California Media Engineering (Cal Media) is an active participant in the openGear consortium, manufacturing openGear platform cards that may be mixed and matched with a multitude of other vendors' cards providing powerful and customizable solutions. The founders of Cal Media Engineering have many years of experience designing and manufacturing professional audio/video analog and digital equipment used in film, television/radio broadcast, video production and post production. Cal Media Engineering brings a proven track record of excellent service and matching its customers' needs with the right product features.

For more information, please visit our website at www.calmedia.com.

Additional openGear Cards

5000 HD/SD Audio-Video Delay System

Concerned about wardrobe malfunctions, obscenities, or extreme violence being broadcast? Do you need a powerful solution for large video displays used in stadium or concert settings that need to be synchronized with delayed audio? The 5000 has proven to be a successful, low cost answer for all of these problems and more. From live events being broadcast on major networks, to live concerts featuring major superstars, Cal Media Engineering has been the chosen solution.

5010 HD/SD AV SYNC+

The 5010 is a professional broadcast audio/video full frame synchronizer for high definition and standard definition signals. Audio embedding and de-embedding are standard features along with proc amp controls, color correction, test signals, still capture and storage. This card also supports an alternative split rear module configuration for SDI only with no AES, using only 1 slot position in the 20 slot frame.

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5200 High Performance Analog-to-Digital Converter



Superior Analog Front End

- SMPTE compliant HD input filters
- InGenius® balanced audio inputs for high CMRR
- 12-bit 4:4:4 analog video conversion
- 24-bit analog audio conversion
- Composite 3D comb filter & 3DNR

Additional Features

- Cutting edge 3 Gb/s SDI technology
- RGBHV (computer graphic) input
- Professional balanced audio or line-level inputs
- AES audio inputs / outputs
- Audio embedder with 16ch mapping
- Audio/Video full frame synchronizer
- Audio/Video delay for lip sync correction
- AFD code inserter
- Video proc amp / audio level controls
- Video test pattern / audio tone generator (20+ patterns)
- Still image store and display
- Both analog & AES audio + video in just one slot

These features are unique to Cal Media Engineering's 5200 model

**Multiple products in one card
 for one price!**



About the 5200

Cal Media's 5200 openGear card is a professional broadcast quality HD/SD analog-to-digital converter with an audio embedder and full frame synchronizer. Engineered for high performance, the analog front end utilizes advanced video filtering and professional audio processing.

SMPTE-Compliant Hi-Def Analog Filters

Analog video filtering is necessary to prevent sampling artifacts such as herringbone patterns and amplitude flutter caused by high frequency noise on the input signal. The 5200 conforms to the SMPTE-274M specification which ensures proper filtering without introducing degrading artifacts. The analog filtering can be disabled when capturing from wide bandwidth sources such as computer graphic cards. Additional 4x over-sampling is used for all standard definition inputs.

3-Dimensional Comb Filter

3D motion adaptive comb filtering and 3DNR noise reduction are used for superior composite video decoding. In composite video, the color information occupies the same frequencies as the luminance information, so a comb filter is necessary to differentiate the luminance detail from the chroma detail. Traditional five-line adaptive comb filters only process neighboring lines of video, and may produce undesirable artifacts when there is vertical detail. The 5200's 3D motion adaptive comb filtering provides superior results by utilizing neighboring frames of video, preserving the vertical detail.

InGenius® Audio Receivers

With balanced audio inputs, it may often be difficult to reject hum and interference due to mismatched impedances caused by all sorts of imperfections in cabling and connectors. THAT Corporation's patented InGenius® technology, utilized in the 5200 card, significantly improves over traditional noise and interference canceling techniques, producing an exceptionally high Common Mode Rejection Ratio (CMRR).

Highest Quality Digital Conversion

The 5200 uses 12 bit 4:4:4 digital conversion for component video inputs. Additional digital filtering is applied to produce highly accurate 10 bit 4:2:2 output formats. 24-bit analog audio conversion utilizes the maximum dynamic range that is possible for AES and SDI audio formats.

Video Processing

The input video's brightness, contrast, saturation and hue may be adjusted with the proc amp controls.

Audio Processing

Converted audio and/or AES audio inputs may be embedded and mapped to any of the 16 possible SDI channels, with individual level and phase controls for each channel. When an AES port is configured as an output, then the converted analog audio may also be mapped to the AES digital output. High-end transformer coupling is used on the AES I/O ports for noise and hum rejection.

Additional Features

- 3G SDI technology is ready for future updates supporting 4:4:4 color formats and 1080p
- Alternate line level inputs support prosumer audio
- Still image storage and retrieval through SD/MMC memory card interface
- Fast and easy firmware updates through SD/MMC memory card interface
- Five year warranty



About openGear

openGear is supported by an ever growing consortium of vendors supporting a single platform. The openGear 2RU frame is configurable with redundant power supplies and a capacity for up to 20 hot swappable openGear cards. Powerful ethernet-based remote control and monitoring capability is provided through the free JAVA-based Dashboard™ software that runs on Mac™, Linux®, or Windows™ platforms.

Cal Media Engineering cards may be mixed and matched with a multitude of other vendors' cards providing your own powerful and customizable solutions.

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Linux® is a registered trademark of Linus Torvalds in the US and other countries

Windows™ is a registered trademark of Microsoft Corp.

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