C AD 5122

SERIES 5000

CardModules

Dual CVBS to SDI Decoder and Frame Sync (12 bit)

LYNX

Conversion

CONVERSION C AD 5122

Description

Featuring two independant channels of high quality 12 bit A-D conversion with 5-line adaptive comb filtering the C AD 5122 is an excellent choice for composite to SDI decoding for the most demanding broadcast applications. The C AD 5122 utilizes the very latest analog and digital signal processing technology to provide unmatched performance and feature sets. The integrated frame synchronizer with 8 frames of programmable delay is ideal for timing asynchronous composite analog sources into digital switchers, routers or other downstream digital equipment.

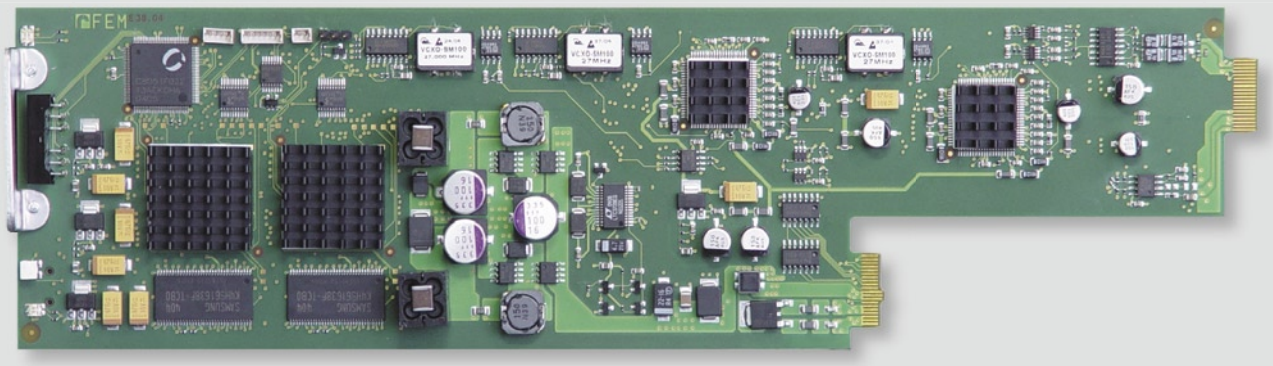
Flexible genlock capability provides high quality VCXO genlock for broadcast quality sources but also has a mode for lower quality consumer grade sources video (such as VHS and DVD). Combine this with the multi-standard capability (PAL/NTSC) makes this the most flexible converter for use in any application with almost any composite video source.

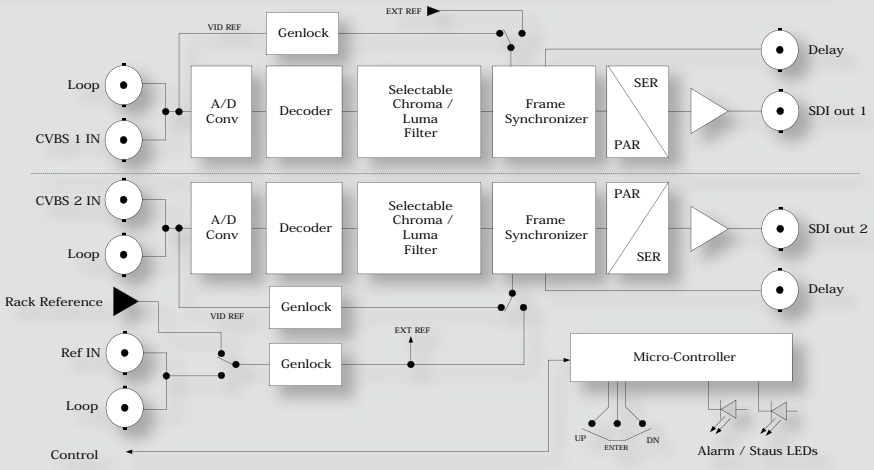
The new CTI feature dramatically improves decoded image quality by improving chrominance transitions. When combined with the 5-line adaptive comb filter, practically all composite cross color artifacts are removed from the conversion.

Microprocessor control and on board flash ram enable configurations and settings to be stored within the module (through power cycles and module removal). Local control capability is provided via the integrated alphanumeric display and control switch. Access to extended feature sets, remote control, status monitoring and error reporting is possible when using the LYNX control system.

Features

- Two independant high Quality 12 bit A/D conversion channels.
- PAL / NTSC modes of operation - Auto detect
- Integrated frame synchronizer / TBC with pixel, line and frame adjustments (delay output provided for external audio sync)
- 54 MHz sampling (4x oversampling)
- 3.5 lines to 8 frames of delay in 37ns increments
- CVBS inputs (with passive loop through)
- 10 bit SDI outputs SMPTE 259M-C
- Selectable Luma / Chroma filters
- Selectable 5 line Comb and Adaptive filters
- VXCO Genlock, selectable external or internal reference plus low sensitivity genlock mode (suitable for consumer grade composite sources)
- Proc amp with adjustable Gain, Saturation, Pedestal and Hue
- New CTI mode to improve chrominance transitions
- Integrated alphanumeric display and menu system for local configurations
- Microprocessor controlled with internal flash ram for storing configuration
- Remote control, status monitoring and error reporting possible when used with LYNX control system
- Full SNMP support when used with master controller option
- Hot Swappable





Backplane

C AD 5122

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Dual CVBS to SDI Decoder and Frame Sync (12 bit)

Specifications

Note. Specifications are for a single channel. The module provides two identical channels of conversion.

Video Inputs	
Signal Type	NTSC (MN) according to SMPTE 170M. PAL (B/D/G/H/I/M/N) according to CCIR624 .
Input coupling	AC differential
Input Detection	Automatic or Manual (Selectable)
No. Of inputs	1 (with passive loop through)
Connector	75 Ohm BNC
Return Loss	>35 dB to 5.5 MHz
Reference Input	
Signal Type	SMPTE 170M (525 line) or CCIR624 (625 line)
Connector	75 Ohm BNC with passive loop through
Return Loss	> 35 dB to 5.5 MHz
Reference Sources	3 (Selectable). Input video, external reference or common rack reference. (same external reference for both channels)
Genlock capability	High quality VCXO plus a mode for low quality source material (selectable)
Digital Video Outputs	
No. Of Outputs	1
Signal Type	Serial component digital video conforming to SMPTE 259M-C
Connector	75 Ohm BNC Connection
Return Loss	>15dB to 270MHz
Jitter	< 0.2ui
Delay Output	
Signal	TTL pulse duty cycle equals total delay from input to output
Connector	BNC
Impedance	75 Ohms
Performance	
AD Quantization	12 bits for Chrominance and Luminance
Sampling	54 MHz (4 x Over sampling)
Digital Processing Accuracy	12 bit digital Proc Amp Processing
Filters	5 Line adaptive comb filter (for Chroma and Luma) plus various fixed luminance and chrominance filter profiles (selectable)
Chroma Transient filter	CTI mode which improves chroma transient processing (selectable)
Luma (Y) Freq. Response	+/- 0.15 dB to 5 MHz
Chroma (R-Y,B-Y) Response	+/- 0.3 dB to 1.3 MHz
Chroma / Luma Delay	< 2 ns
Luma Non Linearity	+/- 1 LSB
Signal to Noise	< -61 dB (unweighted to 5.75 MHz)
Vertical blanking (VBI)	VBI Filter mode and VBI chroma decode selectable
Internal Test Signals	Full field Color Bars, Color Bars w-red, EQ/PLL Pathological, and Black
Input Video Gain	Automatic gain control (configurable)
Proc Amp Adjustments	Hue, Gain, Pedestal and Saturation
Frame Sync Output Timing	3.5 line to 8 frame delay adjustable in pixels, lines and frames (37ns steps)
Electrical Specifications	
Operating Voltage	12 VDC
Power Consumption	< 10W
Safety	IEC 60950/ EN 60950/ VDE 0805
Mechanical	
Size	283mm x 78mm
Weight	CardModule 120g, connector plate 50g
Ambient	
Temperature	5°C to 40°C Maintaining specifications
Humidity	90% Max non condensing

Specifications subject to change

Settings and Control

Note. Settuings are for a single channel. The module provides two identical channels.

Local Settings Using Alpha Numeric Display and Selection Switch	
Input select	Input 1 / Input 2
Analog input filter selection	Off / Flat / ENH
Input standard select	PAL / NTSC / AUTO
Clamp time constant	Fast / Slow
Genlock	Low Q / High Q
Input AGC	Auto / Man
Line sync reference	Ext / Int / Vid
Delay	Enter Delay in Lines, Pixels and Frames
Luminance filter	Select between 23 preset Luma shaping filters
Chroma filter	0.7M / 1.3M / 1.5M / 1.8M / 2.2M
Luminance comb filter	5H / 3H / Adaptive + 5H / OFF
Chrominance comb filter	5H / 3H / Adaptive + 5H / Adaptive + 3H / OFF
Input luma gain	Auto / Man
Input chroma gain	Auto / Man
Proc amp Gain	Adjustable between 0 – 255 (default 128)
Proc amp Saturation	Adjustable between –42dB to +6dB (default 0dB)
Proc amp Pedestal	Adjustable between – 3dB to +3dB (default 0dB)
Proc amp Hue	Adjustable between -90 degrees to + 90 degrees (default 0 degrees)
CTI improvement	OFF / 1 / 2 /3 / 4
Test	Off / Color Bars / EQ – PLL Pathological / Black
Test Standard	Auto / 525 / 625
Reset	Restore Factory Defaults
Additional Settings Available from Control System	
Output bit depth	10 bit / 8 bit
Luma AGC time constant	Auto / 2s / 1s / 0.2s
Chroma AGC Time constant	Auto / 2s / 1s / 0.2s
Luma AGC mode	None / Video White Peak / Video Average / Freeze Luma Gain
Chroma AGC mode	None / Auto (burst) / Use Luma gain for Chroma / Freeze Chroma Gain
AGC update	Once per Field / One per line
Filter VBI	Active video Only / All lines filtered and scaled
Blank Chroma in VBI	Blank during VBI / Decode during VBI
Chroma timing adjustment	Chroma + 2 pixels / +1 pixel / - 1 pixel / -2 pixels / - 3 pixels / None
Swap Cr/Cb	Yes / No
Brightness average sample	Lines 33 to 270 / Lines 33 to 310
Color kill	On / Off

On Board Indicators / LEDs
PLL Locked / PLL Unlocked
Input Present / Input Missing
PAL / NTSC
General Alarm Indicator – 3 Color

Ordering Information

Model #	Part Number	Description	Includes
C AD 5122	5155001260	Dual CVBS to SDI Decoder and Frame Synchronizer (12 bit)	CardModule, Rear termination Panel, + Mounting Screws, and Reference Manual

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