C DA 5011

SERIES 5000
CardModules

10 bit SDI to Analog Converter with Line Sync

Description

Featuring 10 bit D-A conversion with 4x oversampling and a choice of component video, composite and S-Video outputs, the C DA 5011 provides a flexible and cost effective solution for the most demanding broadcast D-A conversion applications.

Multiple output configurations enable the converter to be used as a SDI to YUV (or RGB) converter with a simultaneous composite and YC output. Or It can be configured to YUV (or RGB) with 3 simultaneous composite outputs. If the application is purely composite video then the configuration can be changed to 3 composite outputs and 3 reference outputs (black burst)

The integral line synchronizer with 3 lines of programmable delay makes this ideal for applications with asynchronous video inputs.

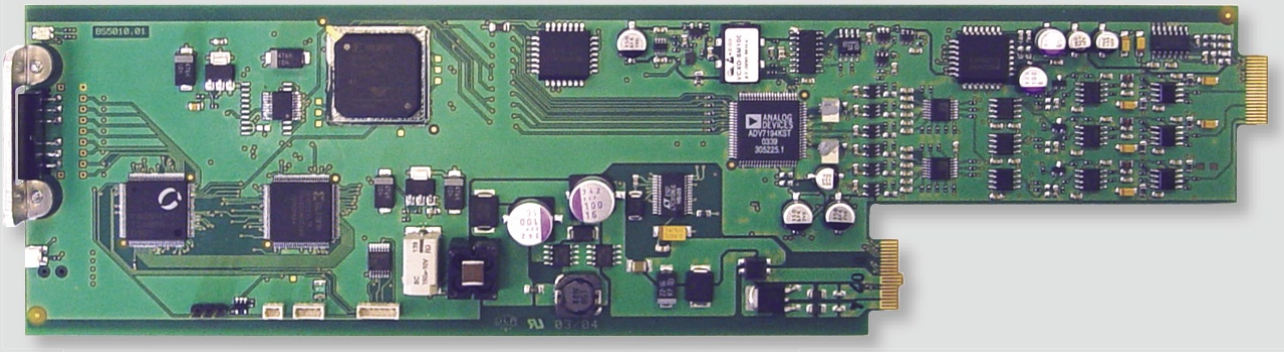
10 bit digital processing throughout combined with 4 x oversampling preserves the highest level of quality possible. The Internal color bar test pattern generator and automatic default to bars (or black) if the input is lost adds to module flexibility.

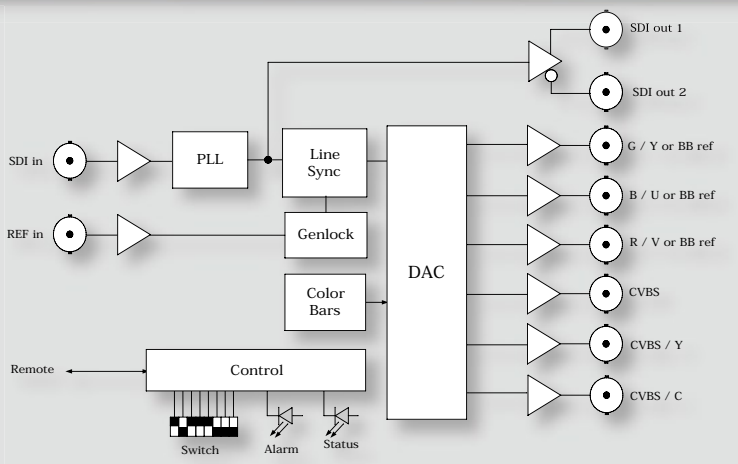
When used with a LYNX controller a host of additional features are available (see over) this includes a powerful video proc amp with adjustable Y gain / U gain / V gain / Brightness / Hue / Sharpness and 2 Gamma curves plus a variety of filters.

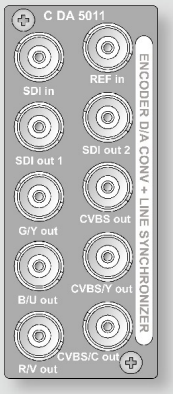
Microprocessor control and on board flash ram provide basic local control capability via the integrated configuration switch and alphanumeric display. Full remote control, status monitoring and error reporting is possible when using the LYNX control system.

Features

- 10 bit digital to analog conversion
- 54 MHz sampling (4x oversampling)
- Integrated line synchronizer with 3 lines of programmable delay in lines and sub pixels. (0.15ns)
- Multiple simultaneous analog output configurations:
  - YUV/RGB + 1 CVBS + 1 YC
  - YUV/RGB + 3 CVBS
  - 3 CVBS + 3 Reference
- 2 re clocked SDI outputs SMPTE 259M-C
- Dual standard operation (PAL/NTSC) - auto detect
- Internal color bars
- Proc amp providing adjustments for Y level / U level / V level / overall Gain / Hue / Sharpness and Gamma (remote only)
- Selectable Luma and Chroma filters (remote only)
- Output to bars or black if input is lost.
- Vertical blanking (VBI) passed or blanked
- 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

LYNX Conversion

C DA 5011 CONVERSION

C DA 5011

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Specifications

Video Inputs	
Signal Type (selectable)	Serial component digital video SMPTE 259M-C (270Mbits)
Input standard detection	Automatic (525/625)
No. Of inputs	1
Connector	BNC
Impedance	75 Ohms
Return Loss	> 15dB (270MHz)
Cable EQ	Automatic up to 250m Belden 8281
Reference Input	
Signal Type	Composite Analog Sync (Black Burst)
Standards	525 / 625 (auto detect)
Connector	BNC
Impedance	75 Ohms
Return loss	> 35dB (5.75 MHz)
Digital Video Outputs	
No. Of Outputs	2
Signal Type	Serial component digital video SMPTE 259M-C (270Mbits)
Connector	BNC
Impedance	75 Ohms
Jitter	< 0.2ui
Analog Video Outputs	
No of Outputs	1 set YUV / RGB (or 3 x Reference - black burst) 3 x CVBS (or 1 CVBS and 1 YC)
Signal Type	Component analog video RGB or YUV Composite analog video (CVBS) NTSC or PAL Y-C component (S-VHS) Reference (Black Burst)
Output Standard	Component 525/625 Composite NTSC (M-N) / PAL (B/D/G/H/I/N/60)
Connector	BNC
Impedance	75 Ohm
Return loss	> 35dB (5.75 MHz)
Performance	
D/A Quantization	10 bits
Sampling	54 MHz (4 x Over sampling)
Filters	Selectable luminance and chrominance filters (remote only)
Line Synchronizer	3 line adjustable delay in lines and sub pixels (0.15ns)
Reference select	Internal (rack ref) / external / Off (video reference)
Video proc functions	Adjustable Y level / U level / V level / overall gain / hue / sharpness and 2 gamma curves (remote only)
Signal to Noise	< -60 dB (unweighted to 5.75 MHz)
Vertical blanking (VBI)	VBI transparent or blanked
Internal test signal	Color bars
Electrical Specifications	
Operating Voltage	12 VDC
Power Consumption	< 7W
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

Local Settings (Using Selection Switch and Alphanumeric Display)	
Component output	RGB / YUV or black (ref)
Composite outputs	3 x CVBS / 1 CVBS + 1 YC
Output when Input lost	Color bars / Black
Reference	Internal / External / Off (vid)
Adjust delay lines	Enter value 0..3
Adjust delay pixels	Enter value 0...1728(PAL) /0...1716 (NTSC) (0.15ns increments)
Set phase of SCHV sequence	Enter value 0...8
Test pattern	Color bars ON/OFF
Test Pattern format	525 / 625 / Auto
Vertical Blanking (VBI)	Transparent / Blanked
Restore factory defaults	Yes / No
Additional Settings Available from Control System	
Input pedestal (525 only)	Yes / No
Auto test pattern on no sync	Yes / No
Y level adjust	On screen control slider (0....15 default 1.0)
U Level adjust	On screen control slider (0....2 default 1.0)
V level adjust	On screen control slider (0....2 default 1.0)
Overall gain (brightness)	On screen control slider (-7.5....+15 default 0)
Hue	On screen control slider (-22 deg....+22deg default 0)
Sharpness	On screen control slider (-4...+4 default 0)
Gamma 1 curve	On screen control slider (0...3 default 1)
Gamma 2 curve	On screen control slider (0...3 default 1)
Y levels	SMPTE / Betacam
UV Levels	700mv / 1000mv
Luma undershoot limiter	-1.5 IRE/-6 IRE/-11 IRE
Luma level clipping	On / Off
Luma output filter	Extended mode / Low Pass / Notch / CIF/QCIE
Chroma output filter	0.65MHz / 1MHz / 1.3MHz / 2.0MHz / 3MHz / CIF / QCIE
Anti alias filter (CVBS and YC only)	Off / Flat on / En1 / En2 / En3
Anti alias filter (component only)	Off / Flat on / En1 / En2 / En3
Chroma kill	Yes / No
Burst off	Yes / No
Active line duration	CCIR REC 601 / ITUB-470
Luma delay	0ns / 74ns / 148ns / 222ns
Chroma delay	148ns / 296ns
Double buffer	Yes / No

On Board Indicators / LEDs
Local Adjustment Enabled
Input Missing
General Alarm Indicator – 3 Color

Ordering Information

Model #	Part Number	Description	Includes
C DA 5011	6155008320	10 bit SDI to Analog Converter and Line Sync.	CardModule, Rear termination Panel, + Mounting Screws, and Reference Manual