COBALT

Model 5018

Quad Monitoring Converter
Serial Digital 4:2:2 to
Analog Composite Video

Owner's Manual

5018 Owner's Manual

The Cobalt Digital 5018 is a high perfomance Quad 4:2:2 SDV digital to analog composite converter card that is compatible with Leitch**™** 6800 series digital frames.

Gain, status LED and configuration switches are all mounted on the board edge to allow adjustments and configuration without having to remove the board from the frame. Output gain control for analog composite is adjustable +5 / -10 IRE. Configuration switches allow for Setup On/Off (NTSC Only); Color On/Off; and Test Color Bars On/Off (requires a 270 mbit input to clock bars). Status LED, one per converter, indicates a digital input lock by solid on indication. The Status LED flashes on/off when input digital stream is lost. A dark, non-flashing satus LED indicates power loss.

Other features include true sync output levels of -300 mV, on board resetable fuses and low power (per converter) consumption enabling a large number of conversions per frame. Cooling fans are recommended for fully loaded frames.
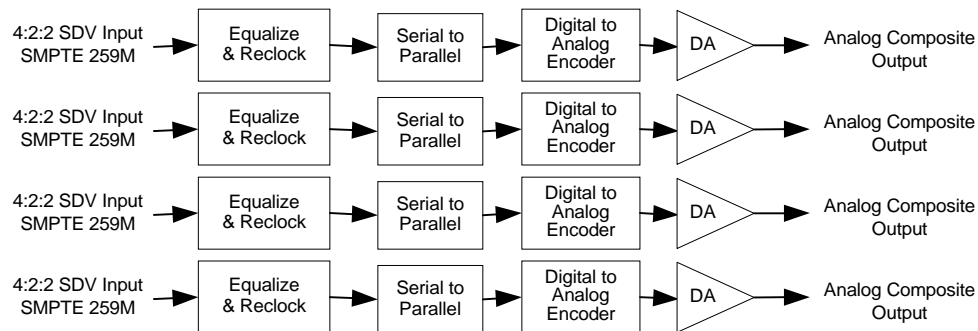

Fig. 1: 5018 <u>QUAD</u> SDV to Analog Composite

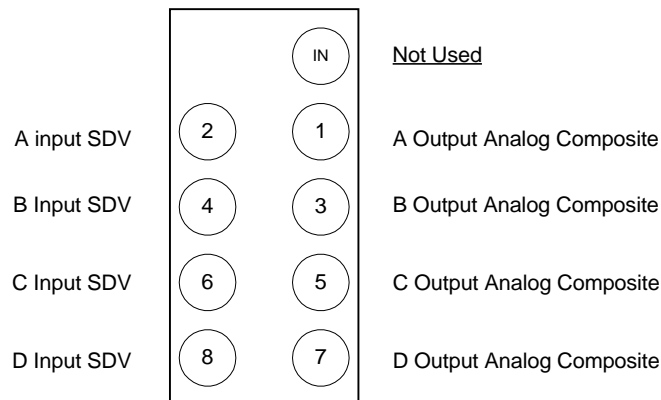The Leitch^{TM} frame provides a total of 9 BNC connectors per card. I/O configuration is shown in Fig 2.

Fig. 2: Rear view of Frame BNC connector panel.
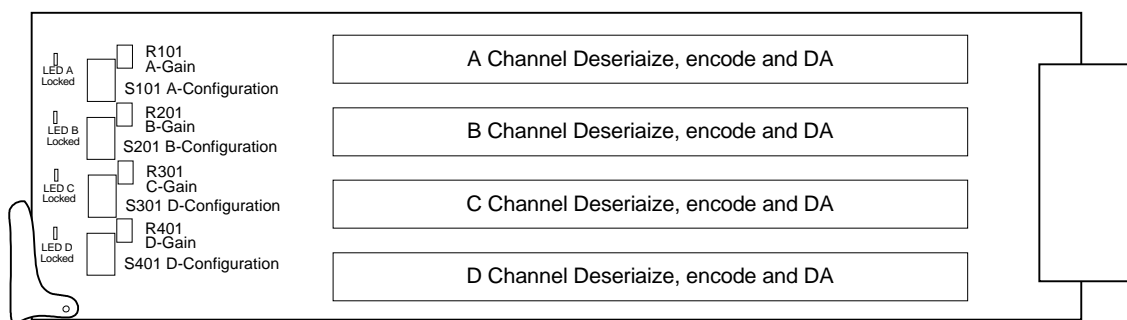
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Fig. 3: 5018 Switch and Potentiometer Locations

Configuration Dip Switch Settings

The 5018 has four 4 segment dip switches mounted on the forward edge of the PCB (Fig 4.); one for each converter. These configuration switches provide the capability to set the 5018 converter to display a color bar test pattern, turn setup on or off, and turn the chroma on or off. The switches work identically for each converter and function as follows (Fig. 5).
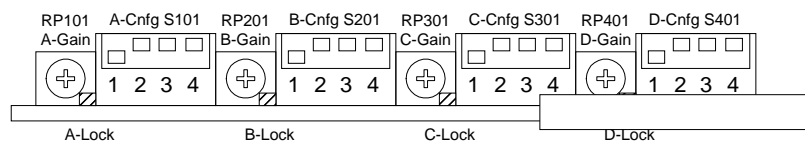

Fig. 4: Configuration Switches and Output Gain Control

Segment	Function
1	Color Bar Test Pattern: ON (up) (requires valid SDV input)
2	VBI Enable: ON at all times regardess of Switch setting
3	Setup: ON (up) or OFF (valid when in NTSC only)
4	Color Enable: ON - turns Chroma on, OFF = Chroma off

Note: ON is defined as the "UP" position furthest away from the board.

Fig. 5: Configuration Settings

Output Analog Video Gain Adjustment

To adjust the output amplitude of the analog composite output, use the potentiometers located on the front of the card next to the 4 position configuration switches (Fig. 4). Each converter has one adjustment potentiometer labeled "A" for the "A" converter and "B " for the "B" converter, etc. Turning the adjustment clockwise increases the output amplitude, while counter-clockwise rotation reduces the output amplitude.

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Specifications:

Input:

Number of Inputs	4
Input Standard	4:2:2 SDV 525 or 625 line SMPTE 259-C
Equalization	Auto to 1000' Belden 1694 (typical)
Return Loss	>15 dB at 270 Mbit

Output:

Number of outputs	4
Format	Analog Composite video tracking input line standard
Line Standard	Auto-detecting 525/625
Video Level	100 IRE +/- 10 IRE (user adjustable)
Sync	- 300 mV +/- 75 mV
Frequency Response	0-5 mHz +/- 0.25 dB
K-Factor	<1.5%
Differential Gain	<1%
Differential Phase	<1%
Noise	<70 dB
Chroma Luma Delay	<2 nSec
SCH Phase	<2 degrees
Quantizing	8 bit input converted internally to drive 10 bit DACs
Setup	User selectable on/off for NTSC (Fixed off for PAL)
Return Loss	>35 dB at 5 MHz

Power:

Positive Rail	7.5 Watts
Negative Rail	0.5 Watts

Temperature range: 40-120 degrees F. ambient (non-condensing). Cooling fans recomended for loaded frames. Internal component limit 75 degrees C.

Indicators: Data lock indicator one per converter

Notes: Specifications subject to change without notice. This product is not authorized for use in life support systems. Product liability limited only to the replacement of this unit. Cobalt Digital Inc. does not assume any liability for loss of use due to failure of this component.

COBALT

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