openGear

Model 9018

Quad Monitoring Converter Card
SDI 4:2:2 to
Analog Composite Video

Owner's Manual

9018 Owner's Manual

The Cobalt Digital 9018 is a high performance Quad 4:2:2 SDI to analog composite converter card. The card is 100% compatible with openGear™ frames. Through the use of the DashBoard Lite software, which can be found at the openGear™ website, the 9018 will report parameter status to any computer on the same network as the openGear™ frame. The DashBoard Lite software also allows for remote resetting of the video lines and hardware firmware upgrades. For more information on openGear™ frames and other cards in the openGear™ family see the openGear™ website at http://www.opengear.tv.

Gain pots, status LEDs 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 properly clock output). Four status LEDs indicate the state of each converter. A solid LED indicates signal lock. A flashing LED indicates no lock to input signal. A dark, non-flashing LED indicates a fault condition (i.e. power lost to board).

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. The Cobalt Digital 8310 openGear™ 2RU frame can easily supply and cool 10 9018 cards, allowing 40 channels of conversion, with 60 composite output BNCs.

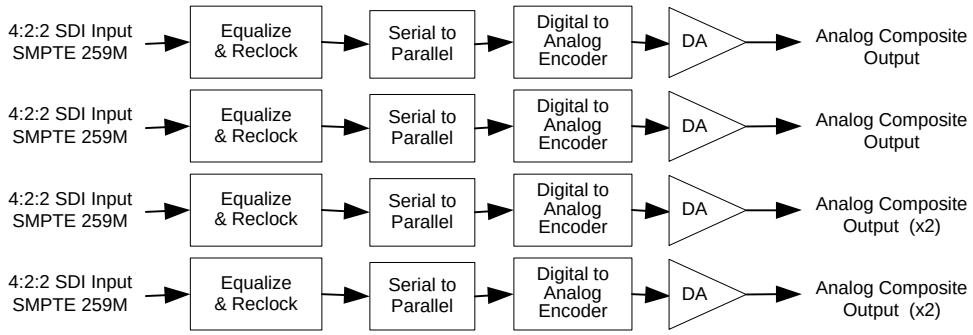

Fig. 1: 9018 Quad SDI to Analog Composite

The Cobalt Digital 8310 openGear™ frame provides a total of 10 BNC connectors per card. I/O configuration is shown in Fig 2.

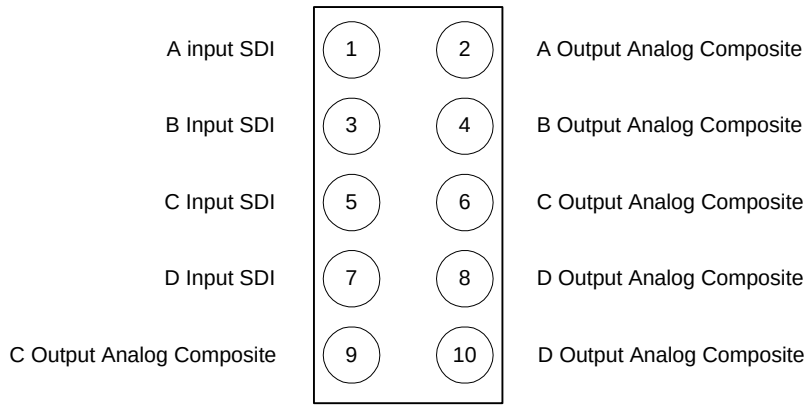

Fig. 2: Rear view of Frame BNC connector panel.

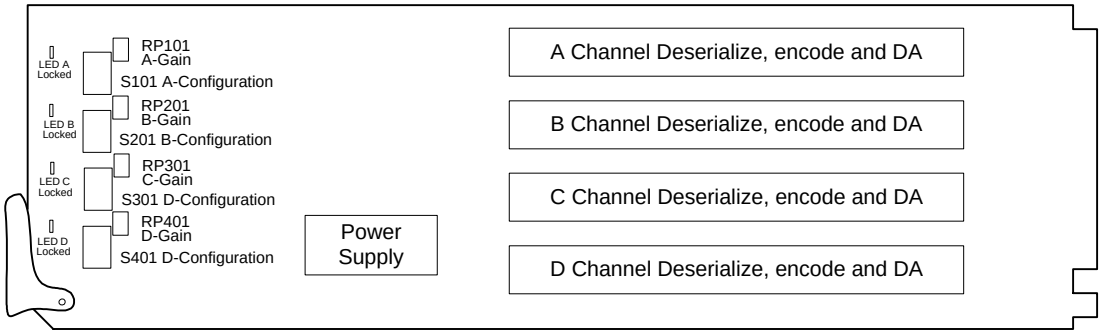

Fig. 3: 9018 Switch and Potentiometer Locations

Configuration Dip Switch Settings

The 9018 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 9018 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).

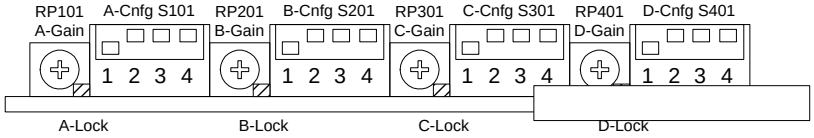

Fig. 4: Configuration Switches and Output Gain Control

Segment	Function
1	Color Bar Test Pattern: ON (up) (requires valid SDI input)
2	VBI Enable: ON at all times regardless 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, "B " for the "B" converter, etc. Turning the adjustment clockwise increases the output amplitude, while counter-clockwise rotation reduces the output amplitude.

9018 Owner's Manual

Specifications:

Input:

Number of Inputs	4
Input Standard	4:2:2 SDI 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	6 (A:1, B:1, C:2, D:2)
Format	Analog Composite video tracking input line standard
Line Standard	Auto-detecting 525/625
Video Level	100 IRE +5 / -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 (+12V)	7.5 Watts
Negative Rail(-7.5V)	0.3 Watts

Temperature range: 40-120 degrees F. ambient (non-condensing).
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 Digital Inc.
2406 E. University Ave.
Urbana, IL 61802
Ofc: 217 344-1243
Fax: 217 344-1245
sales@cobaltdigital.com
www.cobaltdigital.com