COBALT

open**Gear**

Model 9015
Dual Monitoring Converter
SDI 4:2:2 to
Analog Composite Video
and Reclocked SDI

Owner's Manual V1.1

9015 Owner's Manual

The Cobalt Digital 9015 is a high performance Dual 4:2:2 SDI digital 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 9015 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, 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; VBI Blanking and Test Color Bars On/Off (requires a 270-Mbit input to clock bars). A status LED 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 status LED indicates power loss.

Outputs can be user configured to be analog composite or reclocked SDI.

Other features include true sync output levels of -300 mV, on board resettable fuses and low power (per converter) consumption enabling a large number of conversions per frame.
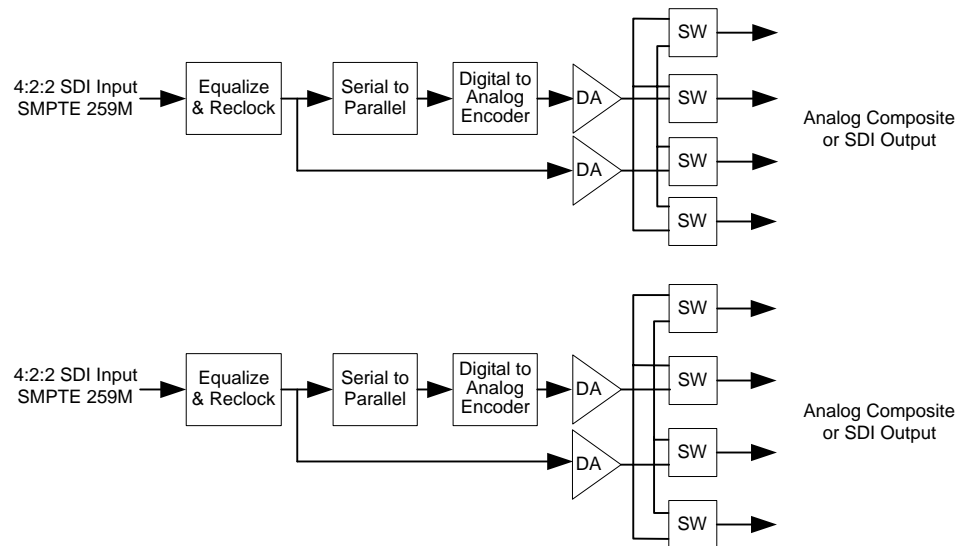

Fig. 1: 9015 DUAL SDI to Analog Composite and SDI Reclocking Distribution Amplifier

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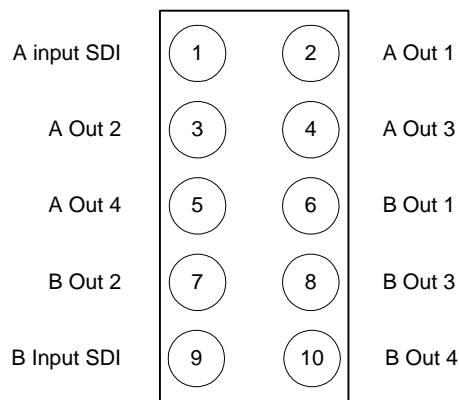

Fig. 2: Rear view of Frame BNC connector panel.
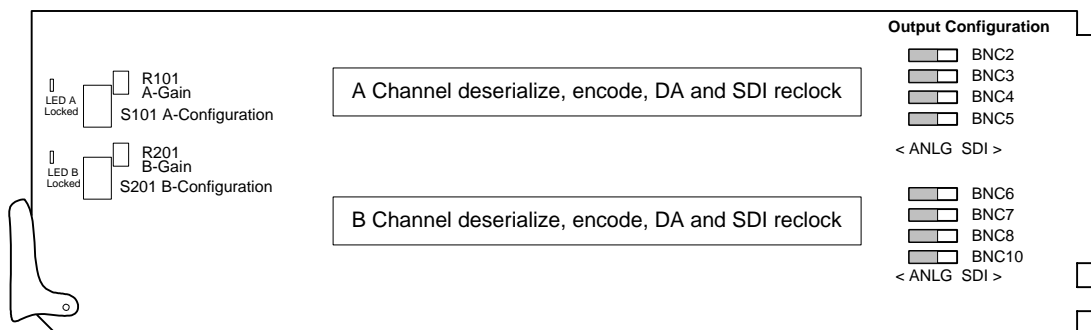
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Fig. 3: 9015 Switch and Potentiometer Locations

Configuration Dip Switch Settings

The 9015 has two 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 9015 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).
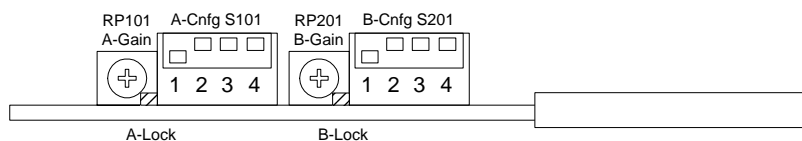
Fig. 4: Configuration Switches and Output Gain Control

Segment	Function
1	Color Bar Test Pattern: ON (up) (requires valid SDI input)
2	VBI Enable: ON = PASS VBI; OFF = Blank VBI
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. 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	2
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

Outputs (Analog):

Number of outputs	8 - User configurable Analog Composite or Reclocked SDI
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

Outputs (Digital):

Number of Outputs	Up to 8 - user configurable and shared with analog outputs above.
Format	Reclocked SDI 270 M-bit
Return Loss	>17 dB at 270 M-bit

Power:

Positive Rail	4.5 Watts
Negative Rail	0.3 Watts

Temperature range: 40-120 degrees F. ambient (non-condensing). Cooling fans recommended 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.