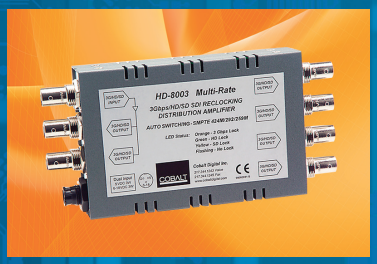
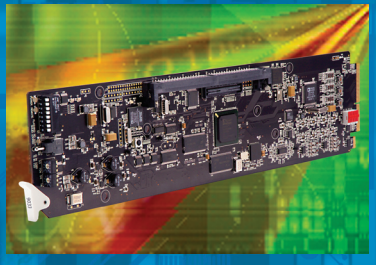
Conversion Products

Cobalt COMPASS





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Cobalt Digital Inc.

2007

Product Selection Guide

	8090	8024	8022	8021	8020	8003	8002	6590	6546	6540	6081	6040	5821	5590	5540	5040	5018	5016	5015	5002	5001	4040	4030	4020	4012	4010
D to A		•	•	•	•				•	•		•	•		•	•	•	•	•			•	•	•	•	•
A to D	•							•			•			•												
Up Conversion		•	•	•																						
Down Conversion		•	•	•									•													
Cross Conversion		•	•	•																						
Aspect Ratio Conversion		•	•	•									•													
Audio De-embedding AES and Analog									•																	
Distribution Amplifier		•	•	•	•	•	•		•	•			•		•	•		•	•	•	•					
Reclocking		•	•	•	•	•	•		•	•		•	•		•	•	•	•	•	•		•	•	•	•	•
Composite	•	•	•	•	•			•	•	•	•	•	•	•	•	•	•	•	•			•	•		•	•
RGB	•	•	•	•	•				•	•		•			•	•						•		•		
YPbPr	•	•	•	•	•			•	•	•		•		•	•	•	•					•		•		
Y/C	•	•	•	•	•			•	•	•		•		•	•	•	•					•	•			
HD/SD SDI Dual Rate	•	•	•	•	•	•	•						•													
HD/SD SDI Dual Rate - 3Gig						•																				
HD/SD Analog Dual Rate	•	•	•	•	•																					
Differential Inputs	•													•												
Active Loop		•	•	•	•	•	•		•	•			•		•	•		•	•	•	•				•	
Proc Control	•	•	•	•				•	•	•			•	•	•											
Frame Sync																										
Number of Channels	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	3	2	1	1	1	1	1	1	1
Color Framing										•					•											
Dejitter Filter	•	•	•	•	•			•	•	•	•		•	•	•											
Overlay Reticules		•	•	•	•								•													
3:2 Insertion		•	•	•									•													
8-Bit						•	•									•	•	•	•	•	•	•	•	•	•	•
10-Bit	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•					•	•					
12-Bit	•	•	•	•	•																					

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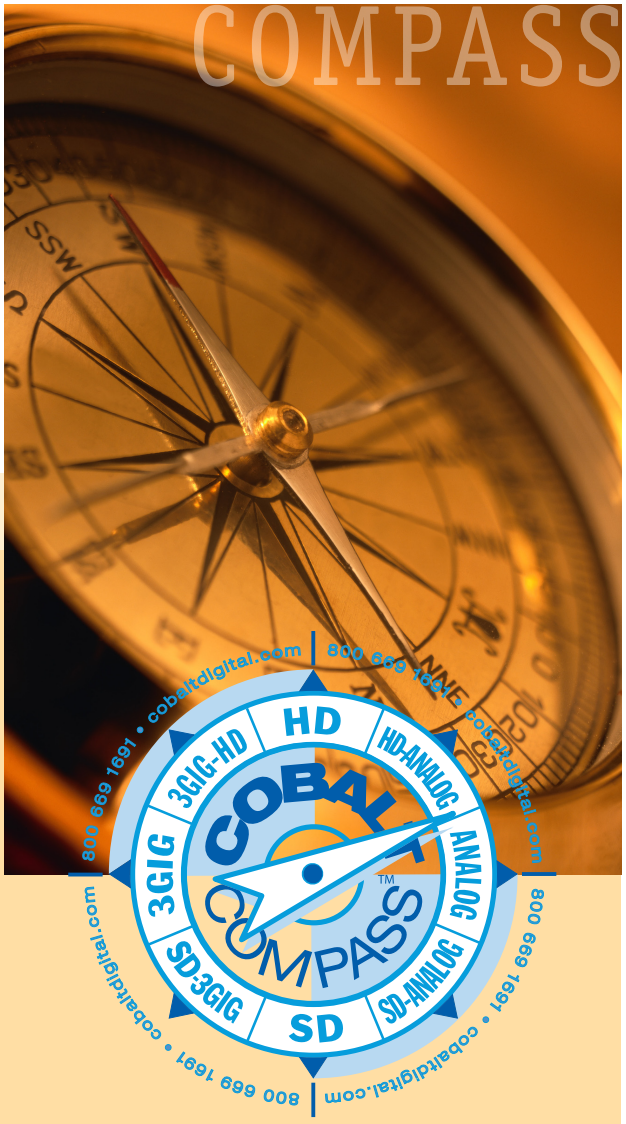
Cobalt COMPASS™
cards for the openGear™ Frame

The Cobalt **COMPASS**™ line is a fully featured, multi-purpose range of HD/SD cards designed specifically to offer solutions to broadcast end-users who have entered the digital world. The **COMPASS**™ range of products offer first class engineering and at the same time provide competitive pricing to the end-user.

The **COMPASS**™ cards offer a true guide through the digital jungle with quality A/V processing, Up/Down/Cross Conversion, Frame Synchronization, Audio Embedding/De-embedding, Audio Delay and Dolby Decoding, and much more!

The **COMPASS**™ line of products will continually expand to meet the changing challenges of this new digital world.



Product Category	Page No.

TV TECHNOLOGY STAR 2007 — Superior Technology Award Recipient

The Cobalt COMPASS™ line

The preferred route to digital conversion™

Easy access to our products through the hyperlinks on this page

Table of Contents

openGear™

The openGear™ Story

The openGear™ standard is the next generation solution for video and audio processing terminal equipment. openGear™ is based on the open-architecture 2RU openGear™ modular frame designed by Ross Video™ and adopted by other leading terminal equipment manufacturers.

Revolutionary Standardization

Handles both SD and HD video processing cards plus audio processing cards from multiple manufacturers in the same frame.

The openGear™ format takes application flexibility to new levels with its ability to handle both SD and HD video processing cards plus audio processing cards from multiple manufacturers in the same frame. The lightweight all-aluminum construction and heavy-duty hinged front door is designed for maximum durability and long term reliability is assured with the front mounted cooling fans and optional redundant power supply. External connectivity for future flexibility includes: dual distributed frame references; integrated SMPTE alarm monitoring and Ethernet-ready connectivity. openGear™ processing cards take advantage of the new format by routing power and frame level communication away from signal processing to maximize the performance for all signal types.

When customers choose the openGear™ frame, they have the unique opportunity to select their video and audio processing cards from different manufacturers without having to invest in multiple frame standards. The family of openGear™ cards now available from Cobalt Digital, offering solutions for the most demanding applications. Additional cards will be added in the near future.

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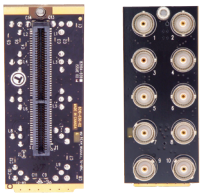
openGear™ Frame

Ten Card Slot 2RU Frame

openGear™ frame
part number 8310

Back View



Modular Rear I/O

The 2RU openGear™ modular frames are designed to accommodate up to ten openGear™ cards and provide maximum application flexibility. The 8310-C-BNC frame has the simplicity of a fixed rear connector frame with 100 BNC connectors. This eliminates the need for separate slot-dependent rear modules and simplifies pre-wiring and system expansion. Any openGear™ card using BNC connectors can be installed into any slot. Unused slots can be pre-wired into a facility, and additional cards can be installed at any time without accessing the rear of the frame.

The 8310-C frame on the other hand has the flexibility of independent rear modules for applications where other types of I/O connections (such as twisted-pair audio or fiber interfaces) are necessary. The frame also supports slot-dependent rear I/O modules. Rear modules can be ordered with card modules and are quick and easy to install.

The openGear™ frames have been designed with an advanced cooling architecture and include front-door mounted fans provide forced air cooling for all cards and additional cooling for the power supplies. The intelligent fan controller adjusts fan speed with changes in frame power loading or temperature. Particular attention has been paid to frame acoustics in order to keep fan noise to a minimum.

Two looping reference inputs are buffered and distributed to all card slots. A frame mounted Ethernet port allows a network control module to be added without occupying a module slot.

A SMPTE 269M alarm monitoring connection is also provided.

The frame can accommodate two front-loaded power supplies. Although a single supply can fully power a loaded frame, the addition of a second (optional) supply gives the frame full power redundancy. Each supply is fed by a separate power cord with a PowerLock cord retainer to guard against accidental power loss. Each power supply contains an independent cooling fan, status LED and a front-mounted power switch. One PS-8300 power supply is standard with each openGear™ frame.

Features

- 8310-C-BNC frame has fixed 100-BNC rear panel
- 8310-C has modular I/O panels for connector flexibility
- Two independent looping reference inputs feed all module slots
- SMPTE alarm interface for simple monitoring
- Robust 150 watt power supply with integral cooling fan
- Optional redundant power supply is hot-swappable for 24/7 operation
- Power switch is accessible from the front of the rack frame
- Power supplies replaceable from the front of the frame
- Separate power cords to each supply for power feed redundancy
- Power lock cord retainer guards against accidental power loss
- Fan fail and error indicator LEDs on front of the frame
- Optional Ethernet based frame controller (MFC-8310-N) for remote setup, monitoring, and control
- Heavy duty hinged front door panel lowers to allow easy card insertion
- The frame and electronics have a five year warranty, the fans and power supplies have a one year warranty

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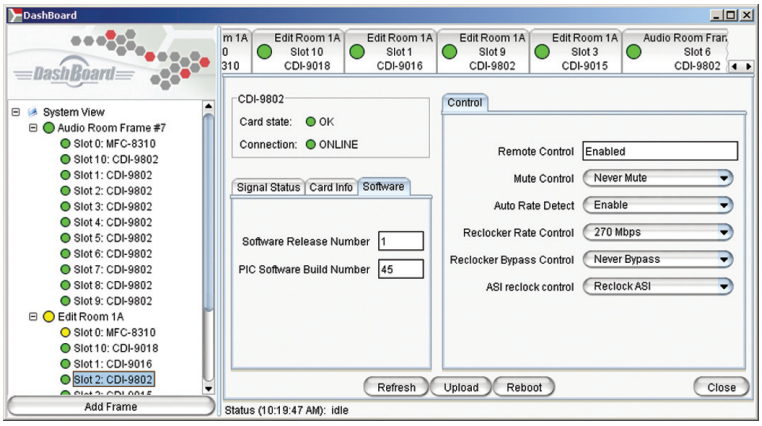
DASHBOARD Network Card

DASHBOARD Control and Monitoring

The 8310 openGear™ frame offers remote control and monitoring with the combination of MFC-8310-N, network interface card, and DASHBOARD, GUI application. This allows users to remotely monitor and control parameters on openGear modules that support remote control.

Remote control simplifies the setup of numerous modules in a large installation and offers the ability to centralize monitoring. The control system is built on Ethernet and TCP/IP, which allows remote access across both LAN and WAN architectures.



Monitoring

A network of frames and cards can be monitored allowing end users to quickly isolate and correct potential problems from a central monitoring station.

Three levels of monitoring/alarms are available. Severity of alarm is defined by varying color:

- Green: System is performing with no errors.
- Yellow: Minor alarm indicating potential problem.
- Red: Major alarm.

Control

The control system offers real-time control of module parameters. Parameter types may vary dependent on module functionality.

DASHBOARD

DASHBOARD is a free control and monitoring application for the openGear™ platform.

It allows users to view all frames on a network with control and monitoring for all populated slots inside a frame. Control and monitoring is defined by the card under control and therefore will vary based on the implementation and functionality available.

Features

- Dashboard is a free application
- 10/100 Mbit Ethernet control, future proofed
- Multiple frames can be connected to multiple control and monitoring stations
- Automatic discovery of cards
- Software and firmware upgrades via Ethernet/ Dashboard
- SNMP agent software available as an option

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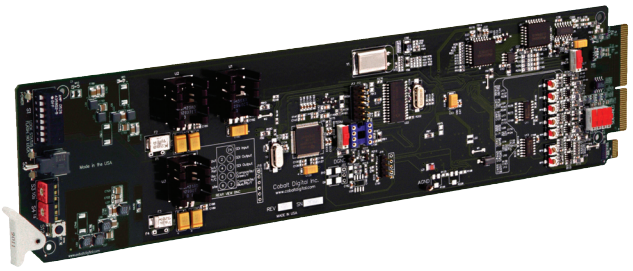
TOC

9011

Standard Definition D/A 10-bit SDI to Analog Composite, Y/C and Component

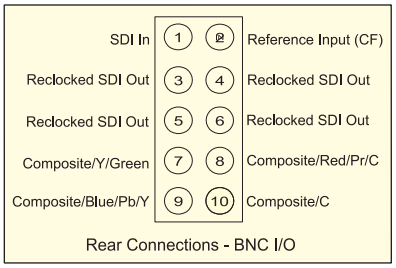


The 9011 is a full-featured, openGear™ frame compliant high-quality 10-bit SDI SMPTE 259M-C to analog composite, Y/C and component YPbPr and RGB. The 10-bit encoding engine over samples 4:2:2 to 4:4:4 for internal processing and then 4x over samples the outputs to 16:16:16 for improved signal performance. An internal VCXO with de-jitter loop filter to 2Hz reduces digital jitter prior to encoding, improving burst stability on composite and Y/C signals. A reference circuit, color frames the 9011 for timed environments with full user digital proc. control.

Features

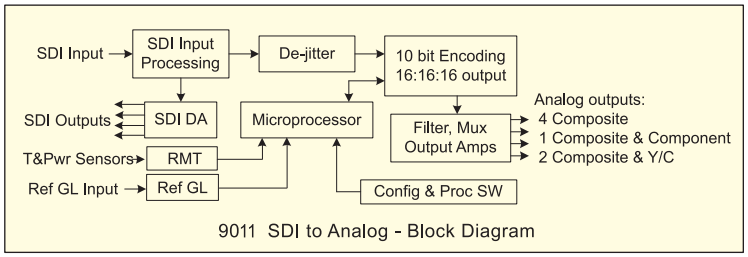
- High quality 10-bit digital to analog conversion
- Four user configurable analog outputs: composite, component, (YPbPr & RGB) and Y/C outputs
- Remote monitoring
- Supports component BetaCam™, MII™ and SMPTE/N10
- Encoding to 16:16:16 over sampled outputs
- 10-bit digital video path
- Internal de-jitter filter to 2Hz
- Four reclocked SDI outputs
- Internal color bar generator
- User configuration switches on board edge
- User proc. configuration control of video levels
- DNR and gamma control
- Five year warranty

9011 Rear Connection



Rear Connections - BNC I/O

9011 Block Diagram



9011 SDI to Analog - Block Diagram

Specifications

Input
270-Mbit SMPTE 259M-C

Digital Output
Four reclocked SDI

Analog Output
Four outputs user configurable: all composite, composite & component or composite with Y/C YPbPr or RGB

Output Jitter
Internal digital de-jitter filter to 2Hz

D/A Process
4x or 2x over-sampled (16:16:16 or 8:8:8)

Frequency Response
5 MHz +/- 0.15 dB, 0-6.75 MHz+/- 0.25 dB

K-Factor
< 0.7%

S/N
> 70 dB

Proc. Control
Digital control of gain, DC, saturation & hue, filtering, gamma correction and DNR with user values saved and factory presets

Power
5.5 watts positive rail; 0.5 watts negative rail

Size
12.9" x 3" (330mm x 76mm)
For use with openGear™ frames

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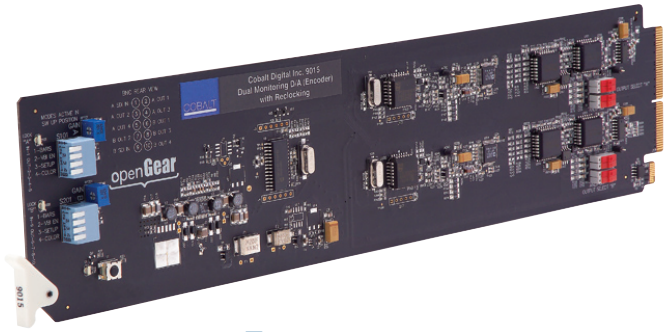
TOC

9015

Dual Monitoring Converter
SDI to Analog Composite with Reclocked SDI

The 9015 is a high performance dual SDI video to analog composite and reclocked SDI converter card used in openGear™ frames. The end user can select analog or digital output configuration as needed for a given application.

The 9015 has two digital to analog encoders. A and B SDI to analog encoders. Each has four outputs that can be user configured analog or reclocked SDI on an output by output basis. Composite output gain control and user configurations are adjustable from the card edge.



Specifications

Input
(2) 270 Mbit SMPTE 259M-C

Output
8 outputs: 4 on A converter and 4 on B converter

Digital Output
Up to 4 per converter, user selectable

Analog Output
Up to 4 per converter, user selectable

Setup
User selectable on/off for NTSC

Power
Positive rail 4.5 watts; negative rail 0.3 watts

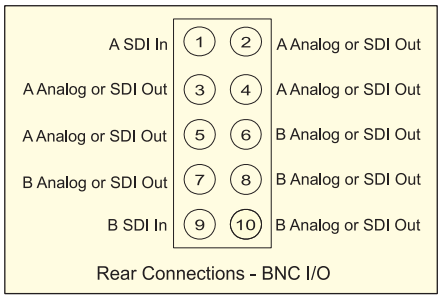
Indicators
Two data lock indicators (one per converter)

Size
12.9" x 3" (330mm x 76mm)
For use in openGear™ frames

Features

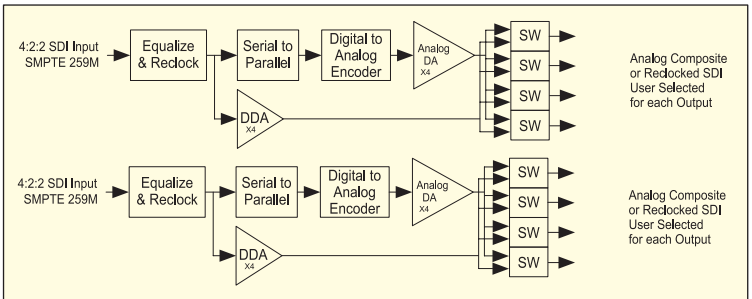
- Two conversions on one card (SDI-SMPTE 259M-C)
- Remote monitoring via PC (Including power and temperature)
- Four user selectable composite or SDI outputs per converter
- 8-bit data path, 10-bit DAC
- Automatic configuration NTSC/PAL
- Input signal presence indicator
- Built-in color bar generator (analog outputs only)
- Video gain control accessible on card edge
- Four reclocked SDI outputs
- Color encoding user selectable to B&W
- Data-lock indicator
- VBI blanking on/off
- Five year warranty

9015 Rear Connection



Rear Connections - BNC I/O

9015 Block Diagram

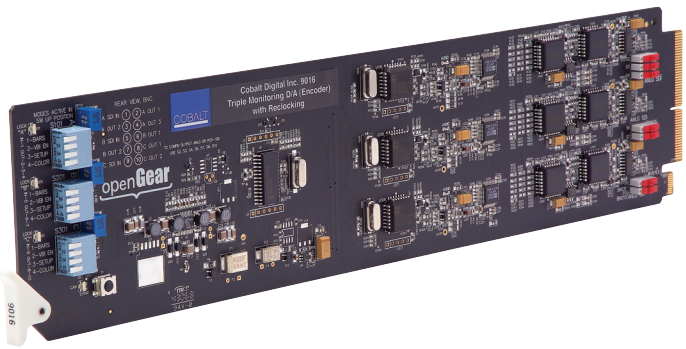


9015 DUAL SDI to Analog Composite and SDI Reclocking Distribution Amplifier

TOC

9016

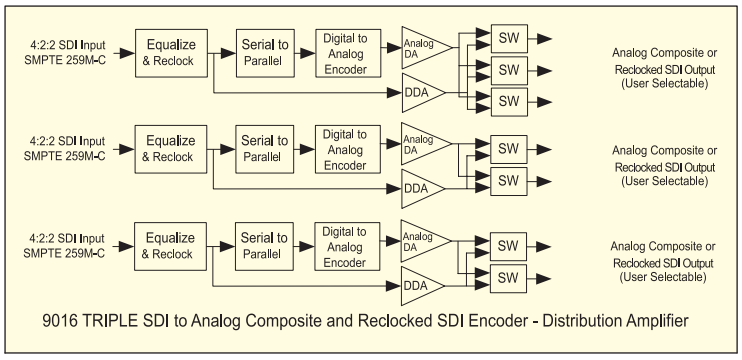
Triple Monitoring Converter
SDI to Analog Composite with Reclocked SDI



The 9016 is a high performance triple SDI to analog composite encoder with reclocked SDI card for use in the openGear™ frame. The end user can select analog or digital output configuration as needed for a given application.

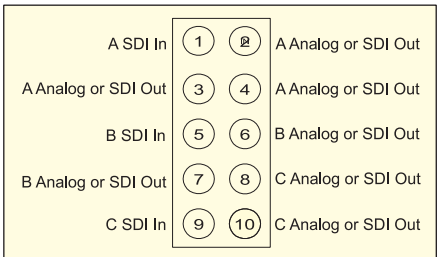
The 9016 has three SDI encoders. There are three outputs on the A converter, two on the B and two on the C. Each output is user selectable to be either analog or digital. Analog output gain control for composite is adjustable from the card edge as well as configuration switches for each of the three converters.

9016 Block Diagram



9016 TRIPLE SDI to Analog Composite and Reclocked SDI Encoder - Distribution Amplifier

9016 Rear Connection



Rear Connections - BNC I/O

Features:

- Three conversions on one card (SDI SMPTE 259M-C)
- Remote monitoring via PC (Including power and temperature)
- User selectable analog composite or SDI outputs
- 8-bit data path,10-bit DAC
- Automatic configuration NTSC/PAL
- Color encoding user selectable to B&W
- Input signal presence indicator
- Built-in color bar test generator (analog outputs only)
- Video gain control accessible on card edge
- Data-lock indicator
- VBI blanking on/off
- Five year warranty

Specifications

Input
(3) 270-Mbit SMPTE 259M-C

Output
7 outputs: 3 on A, 2 on B, 2 on C user selectable.

Digital output
Reclocking – Up to 2 on A, 2 on B, 2 on C converter (User switchable with composite analog)

Analog Output
Up to 2 on A, 2 on B, 2 on C converter user selectable

Power
Positive rail 6.5 watts; negative rail 0.5 watts

Indicators
Three data lock indicators (one per converter)

Size
12.9" x 3" (330mm x 76mm)
For use with openGear™ frames

TOC

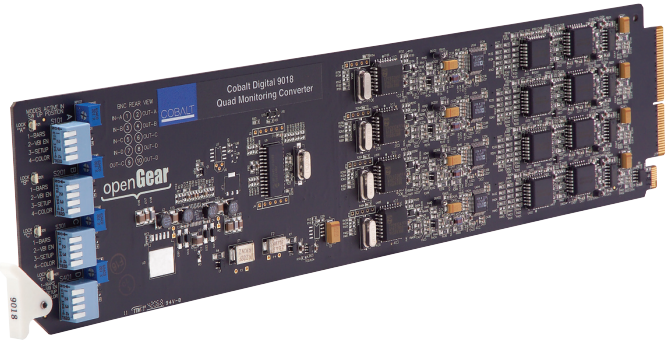
9018

Quad Monitoring Converter

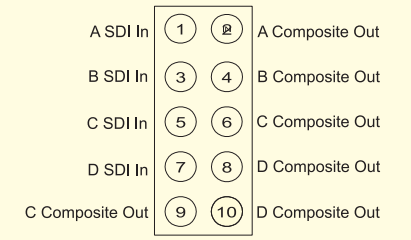
SDI to Analog Composite with Reclocked SDI

The 9018 is a high-performance quad 4:2:2 serial digital video to analog composite converter card for use with openGear™ 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. Configuration switches allow for setup on/off (NTSC only), VBI blanking on/off and test color bars on/off (requires 270 Mbit to clock bars). Other features include: true sync output levels of -286mV and low power consumption plus remote monitoring (Including power and temperature) via PC through Dashboard software.

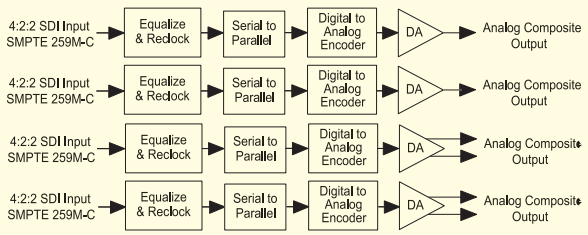


9018 Rear Connection



Rear Connections - BNC I/O

9018 Block Diagram



9018 QUAD SDI to Analog Composite Block Diagram

Features:

- Four conversions on one card (SDI SMPTE 259M-C)
- 8-bit input, 10-bit DAC
- Remote monitoring via PC (Including power and temperature)
- Built-in color bar generator (Requires SDI clocking input)
- Automatic configuration NTSC/PAL
- Color encoding user selectable to B&W
- User gain control in-frame accessible from card edge
- User setup switches in-frame accessible from card edge
- Data-lock indicator
- VBI blanking on/off
- Five year warranty

Specifications

Input
(4) 270 Mbit SMPTE 259M-C

Output
(4) Analog composite video

Frequency Response
0-5 MHz +/- 0.25 dB

K-Factor
2T < 1.5%

Noise
< 70 dB

Chroma Luma Delay
< 2 nS

Power
Positive rail 7.5 watts; negative rail 0.5 watts

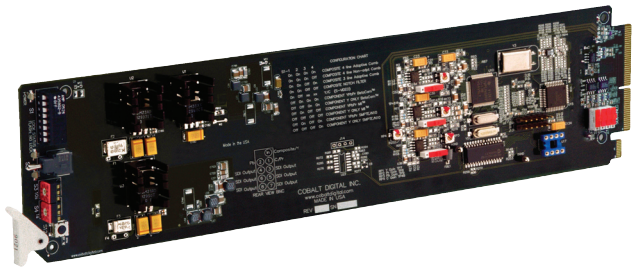
Indicators
Data lock – one per converter

Size
12.9" x 3" (330mm x 76mm)
For use with openGear™ frames

TOC

9021

Standard Definition A/D Analog Composite, Y/C, Component to 10-bit SDI with EDH

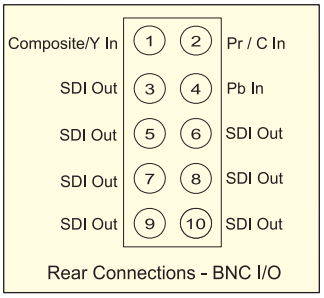


The 9021 is a full featured openGear™ frame compliant high quality analog to 10-bit serial digital converter with EDH. The 9021 accepts composite, Y/C and component YPbPr analog input signals and outputs SMPTE 259M-C 270 Mbit SDI with EDH. Differential inputs are included for ground loop rejection. A 4, 3 or 2-line comb or notch filter is user configurable for Y/C separation in composite mode. All modes have 2X 8:4:4 input over sampling. An output jitter VCXO reduces 270 Mbit jitter down to 2Hz. Full user digital proc. control, with user memory allows digital adjustment of gain, DC offset, saturation and hue.

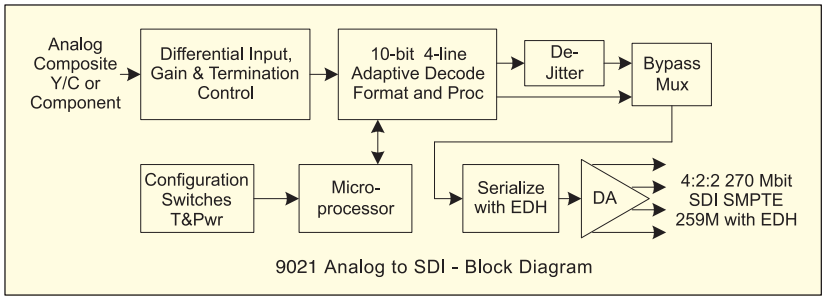
Features

- Composite, component YPbPr and Y/C inputs
- Supports component BetaCam™, MII™ and SMPTE/N10
- Remote monitoring
- Differential inputs for power hum rejection
- 10-bit A to D and digital video path
- User selectable (on/off) 75 ohm termination
- 4 or 3-line adaptive comb filter for composite mode
- Seven 270 Mbit SDI outputs with EDH
- Internal color bar generator
- User configuration switches
- User proc. configuration control
- Manual or automatic input gain control
- Five year warranty

9021 Rear Connection



9021 Block Diagram



Specifications

Input
Composite, Y/C or component (YPbPr)

Output
Seven SDI SMPTE 259M-C with EDH

Input Type
Differential – all inputs

Analog Gain
Auto or manual mode

Output Jitter
< 0.14 UI measured with color bar input

A/D Process
8:4:4 2X over sampled

Frequency Response
5 MHz +/- 0.25 dB

K-2T
< 1 %

S/N
> 52 dB

Comb Filter
4, 3 or 2-line adaptive / non-adaptive
User selectable

Power
6 watts positive rail; 0.5 watts negative rail

Size
12.9" x 3" (330mm x 76mm)
For use with openGear™ frames

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TOC

9031

HD/SD 12-bit Analog to Digital Converter with Universal Inputs

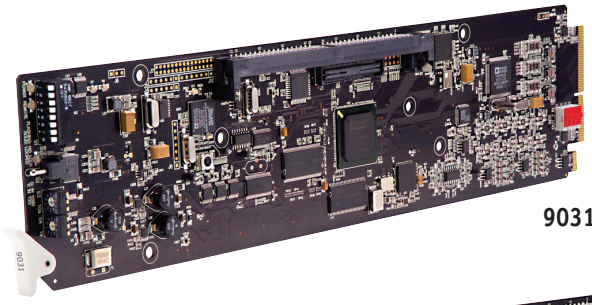
9032

HD/SD 12-bit Analog to Digital Converter with Universal Inputs and Frame Synchronizer

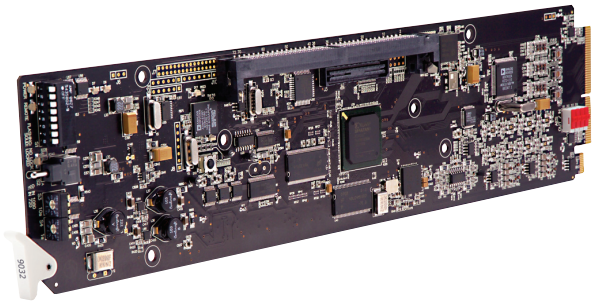
The 9031is a multi-rate HD/SD universal input full featured high quality 12-bit analog to10-bit serial digital converter with EDH. The 9032* adds a frame sync with infinite pixel phasing. Both units accept HD component and SD: component, composite and Y/C.

The analog inputs are differential for common mode noise rejection. A 5-line adaptive comb or notch filter is used for Y/C separation in composite SD mode. SD inputs are over-sampled to 54-MHz and the output circuitry includes a VCXO filter to reduce jitter.

Full user digital proc. control, with user memory allows digital adjustment of gain, DC offset, saturation and hue in both remote and local modes. Factory presets enable a return to factory settings.

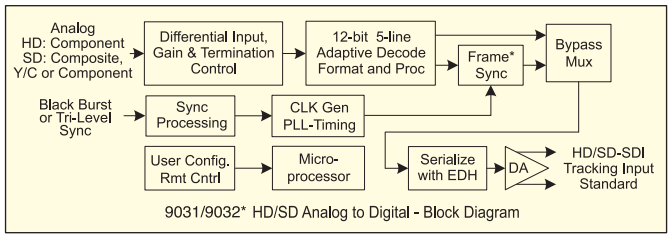


9031



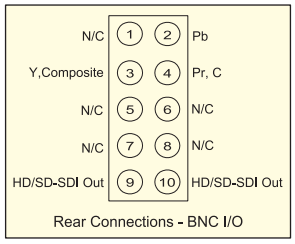
9032

9031/9032 Block Diagram



9031/9032* HD/SD Analog to Digital - Block Diagram

9031/9032 Rear Connection



Rear Connections - BNC I/O

Features

- HD/SD universal analog inputs with 12-bit A/D
- Two HD/SD-SDI outputs with EDH
- SD: Composite, Y/C, component (YPbPr/RGB) HD: Component (YPbPr/RGB)
- Supports component BetaCam™, MII™ and SMPTE/N10
- Differential inputs for power hum rejection
- 5-Line adaptive comb filter for SD-Composite mode
- Frame Sync option (9032*) Infinite pixel phasing
- Internal color bar generator
- Local or remote user configuration & Proc. controls
- Manual or automatic input gain control
- Five year warranty

Specifications

HD Analog Input
YPbPr or GBR SMPTE

SD Analog Input
Composite, Y/C or component RGB (RGB and YPbPr in BetaCam™, MII™ or SMPTE/N10 levels)

HD Frame Rates
1080i 23.98/24/25/29.97/30/50/59.94/60
1080p 23.98/24/25/29.97/30
1080sF 23.98/24
720p 25/29.97/30/50/59.94/60

SD Standards
525 / 625 NTSC (M, Japan, 4.43), PAL (B, D, G, H, I, M, N, Nc) and SECAM (B, D, G, K, K1, L)

Digital Output
Two HD/SD-SDI with EDH

A/D Process
HD: 4:4:4 SD:8:8:8

Resolution
12-bit A to D and 10-bit video data path

SD Comb Filter
5-line Adaptive

Proc. Control
Digital control of gain, DC, saturation & hue with User values saved and Factory presets

Power
7 watts

Size
12.9" x 3" (330mm x 76mm)
For use with openGear™ frames

TOC

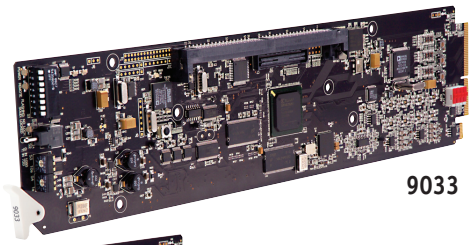
9033

Input Processing Analog to Digital Video with Audio Embedding

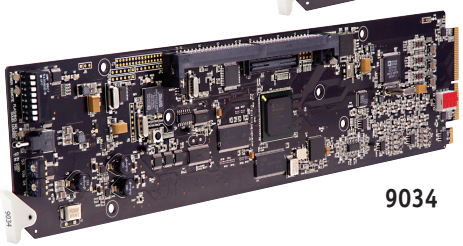
9034

9034-SD now available SD Version only

Input Processing Analog to Digital Video with Audio Embedding and Frame Sync



9033



9034

The 9033 is a HD/SD universal input analog to digital output processing card with audio embedding and audio conversion. The 9034 adds a Frame Sync with infinite pixel phasing.

It has a full featured high quality 12-bit analog to 10-bit serial digital converter, analog and digital audio inputs, audio embedding, audio de-embedding, Frame Sync and user audio/video level controls.

Full user remote and local digital proc. control, with user memory allows digital adjustment of gain, DC offset, saturation and hue, audio levels, audio mapping, Frame Sync controls and factory presets enable a return to factory settings.

Features

- HD/SD universal analog inputs
- Analog and AES audio inputs and AES output
- 24-bit audio embedding
- Frame Sync with tracking audio delay
- Audio channel mapping and level control
- Video level controls
- Differential inputs for power hum rejection
- 5-Line adaptive comb filter for SD-Composite mode
- 24-bit Analog Audio conversion to AES
- Internal color bar generator
- Local or remote user configuration & Proc. controls
- Five year warranty

Specifications

HD Analog Input
YPbPr or GBR SMPTE

SD Analog Input
Composite, Y/C or component RGB (RGB and YPbPr in BetaCam™, MII™ or SMPTE/N10 levels)

SD Standards
525 / 625 NTSC (M, Japan, 4.43), PAL (B, D, G, H, I, M, N, Nc) and SECAM (B, D, G, K, K1, L)

Digital Output
Two HD/SD-SDI with EDH

A/D Process
HD: 4:4:4 SD:8:8:8

Resolution
12-bit A to D and 10-bit video data path

SD Comb Filter
5-line adaptive

Proc. Control
Digital control of gain, DC, saturation & hue and audio levels, mapping and CH inversion presets

Audio

Analog Input
8-CH balanced differential to +24dBu

AES Input
16-CH unbalanced BNC

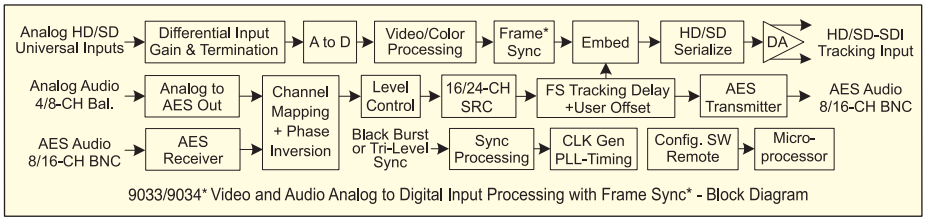
AES Output
16-CH unbalanced BNC

Embedding
16-CH HD/SD

Power
10 watts

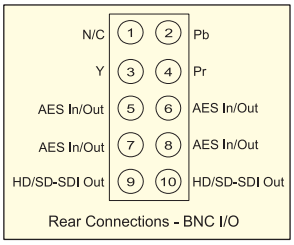
Size
12.9" x 3" (330mm x 76mm)
For use in openGear™ frames

9033/9034 Block Diagram

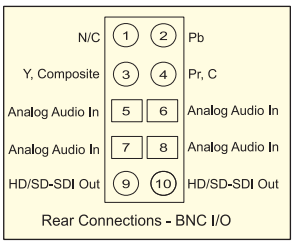


9033/9034* Video and Audio Analog to Digital Input Processing with Frame Sync* - Block Diagram

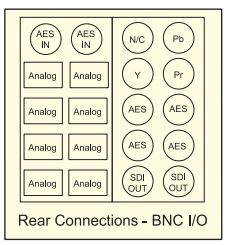
9033/9034 Rear Connections



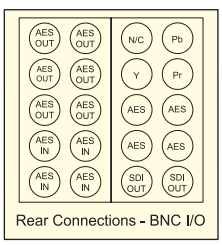
Rear Connections - BNC I/O



Rear Connections - BNC I/O



Rear Connections - BNC I/O



Rear Connections - BNC I/O

TOC

9035

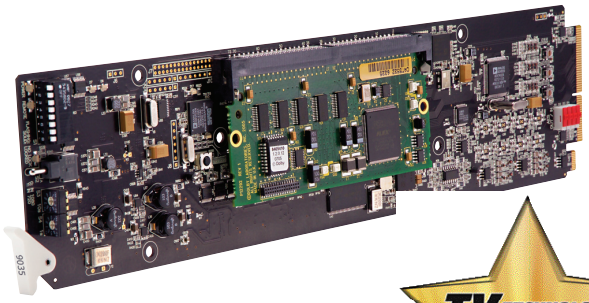
Input Processing HD/SD Analog and Digital Input with Audio Embedding Conversion and Frame Sync - Dolby® Decoding Option

The 9035 is a HD/SD universal input (analog/digital) to digital output input processing card with audio embedding, audio conversion and Frame Sync.

It has a full featured high quality 12-bit analog to 10-bit serial digital converter, an HD/SD-SDI input, analog and digital audio inputs, audio embedding, audio de-embedding, Frame Sync and user audio/video level controls.

Full user remote and local digital proc. control, with user memory allows digital adjustment of gain, DC offset, saturation and hue, audio levels, audio mapping and Frame Sync controls. Factory presets enable a return to factory settings.

Optional Dolby®E Decoder with meta-data ouput.



TV TECHNOLOGY STAR 2007 SUPERIOR TECHNOLOGY AWARD RECIPIENT

Specifications

HD/SD-SDI Input
SMPTE 292 and 259M

HD Analog Input
YPbPr or GBR SMPTE

SD Analog Input
Composite, Y/C or Component (YPbPrBetaCam™, MII™ or SMPTE/N10)

SD Standards
525 / 625 NTSC (M, Japan, 4.43), PAL (B, D, G, H, I, M, N, Nc) and SECAM (B, D, G, K, K1, L)

Digital Output
Two HD/SD-SDI with EDH

A/D Process
HD: 4:4:4 SD:8:8:8

Resolution
12-bit A to D and 10-bit video data path

SD Comb Filter
5-line adaptive

Proc. Control
Digital control of gain, DC, saturation & hue and audio levels, mapping and CH inversion presets

Audio

Analog Input
8-CH balanced differential to +24dBu

AES Input
16-CH unbalanced BNC

AES Output
16-CH unbalanced BNC

Embedding
16-CH HD/SD

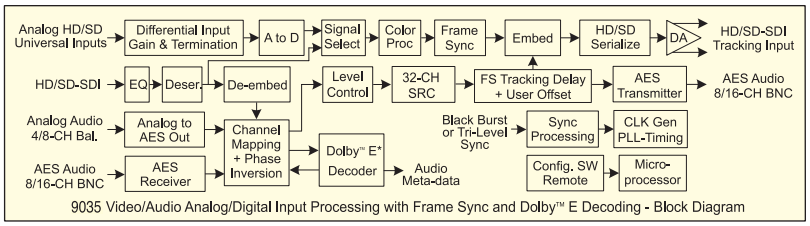
Power
12 watts

Size
12.9" x 3" (330mm x 76"mm)
For use with openGear™ frames
Dolby® Decoder option with meta-data output

Features

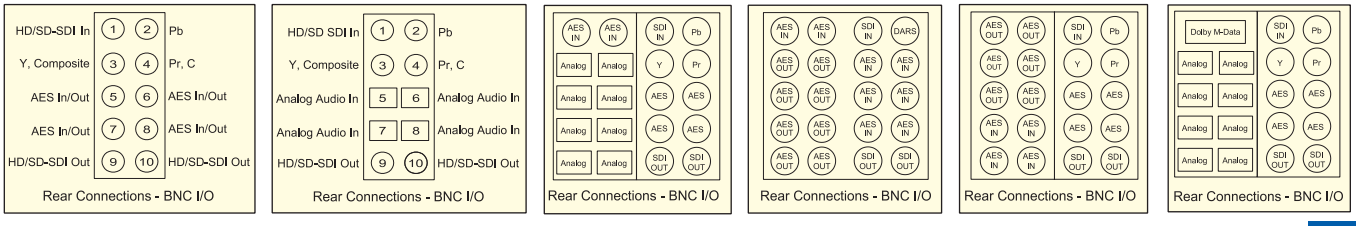
- HD/SD universal analog and digital inputs
- Analog and AES audio inputs and AES output
- 24-bit audio embedding or de-embedding
- Frame Sync with tracking audio delay
- Audio channel mapping and level control
- Video level controls
- Differential inputs for power hum rejection
- 5-Line adaptive comb filter for SD-Composite mode
- 24-bit analog audio conversion to AES
- 24-bit embedding/de-embedding
- Dolby® Decoder option with meta-data output
- User offset to Frame Sync to align E delay
- Internal color bar generator
- Local or remote user configuration & processing controls

9035 Block Diagram



9035 Video/Audio Analog/Digital Input Processing with Frame Sync and Dolby™ E Decoding - Block Diagram

9035 Rear Connections



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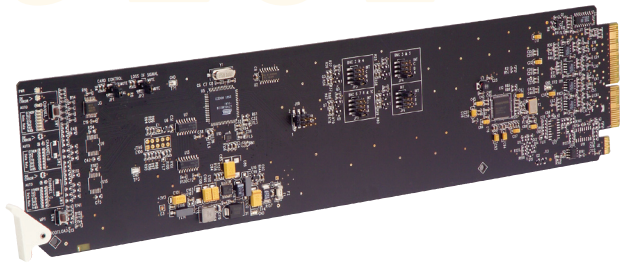
TOC

9201

HD/SD Reclocking Distribution Amplifier

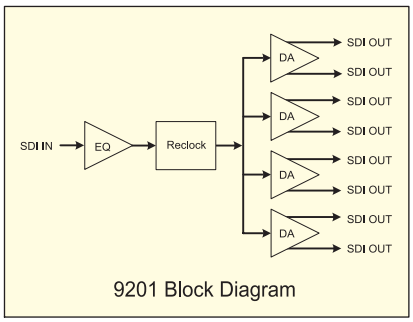


The 9201 is a multi-rate SDI distribution amplifier, capable of equalizing and reclocking both standard definition and high definition signals. An ideal SDI distribution amplifier, the 9201 is compatible with openGear™ frames. The 9201 equalizes the incoming SDI signal (up to 300m of cable at 270 Mbit and up to 100m of cable at 1.485 Gbit) and reclocks it with automatic rate detection for all popular data rates. The 8 SDI outputs faithfully reproduce the incoming signal with excellent jitter and return loss specifications.

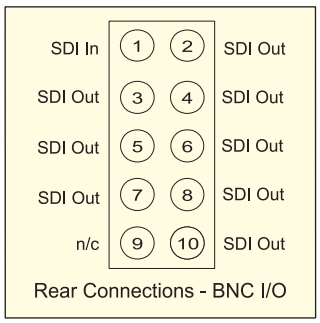
Features

- Eight reclocked SDI outputs
- LED indicators for input signal presence and input data rate
- Auto equalization
- Supports 143 Mbit to 1.485 Gbit signals
- For use in openGear™ frames
- Five year warranty

9201 Block Diagram



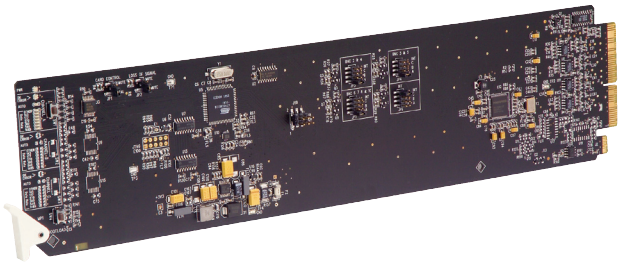
9201 Rear Connection



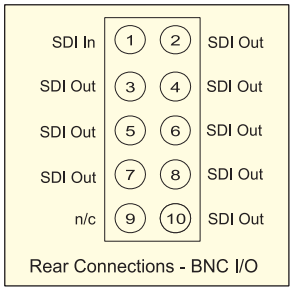
9203

HD/SD Non-Reclocking Distribution Amplifier

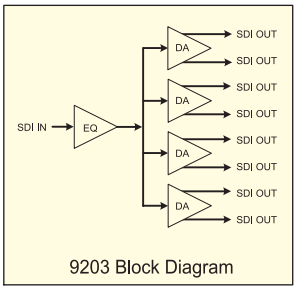
The 9203 is a multi-rate SDI distribution amplifier, capable of equalizing both standard definition and high definition signals. For applications where reclocking is not required, the 9203 is a cost effective SDI distribution amplifier, compatible with openGear™ frames, the 9203 equalizes the incoming SDI signal (up to 300m of cable at 270 Mbit and up to 100m of cable at 1.485 Gbit). The 8 SDI outputs faithfully reproduce the incoming signal with excellent jitter and return loss specifications.



9203 Rear Connection



9203 Block Diagram



Features

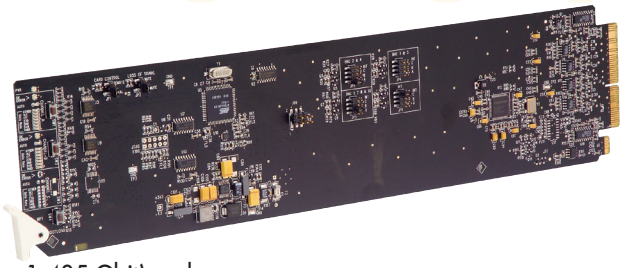
- Eight non-reclocked SDI outputs
- LED indicator for input signal presence
- Auto equalization
- Supports 143 Mbit to 1.485 Gbit signals
- For use in openGear™ frames
- Five year warranty

TOC

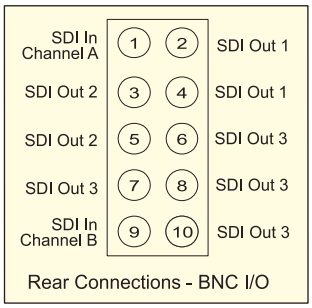
9204

Dual HD/SD Reclocking Distribution Amplifier

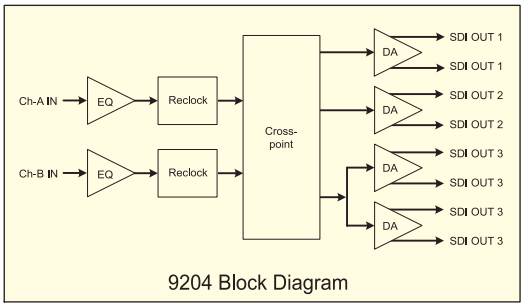
The 9204 is a two channel multi-rate SDI distribution amplifier, capable of equalizing and reclocking both standard definition and high definition signals. With a simple jumper selection the 9204 can be configured as a single channel 1:8, dual channel 1:4 plus 1:4, or dual channel 1:6 plus 1:2. This flexibility makes the 9204 adaptable to a wide range of installations. Each channel is independent and can run at different rates. Compatible with openGear™ frames, the 9204 equalizes the incoming SDI signal (up to 300m of cable at 270 Mbit and up to 100m of cable at 1.485 Gbit) and reclocks it with automatic rate detection for all popular data rates. The SDI outputs faithfully reproduce the incoming signal with excellent jitter and return loss specifications.



9204 Rear Connection



9204 Block Diagram



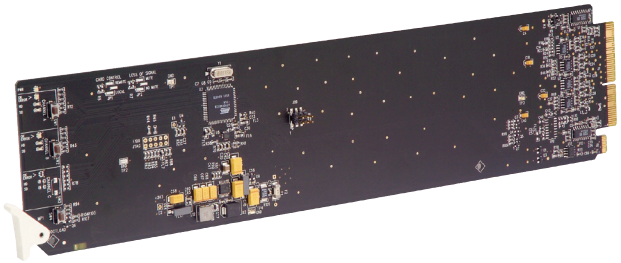
Features

- Two channels of SDI distribution on one card
- Flexible channel configuration (1:8, 1:4 plus 1:4, 1:6 plus 1:2)
- LED indicators for input signal presence and input data rate
- Auto equalization supports 143 Mbit to 1.485 Gbit signals
- For use in openGear™ frames
- Five year warranty

16

9205

Dual HD/SD Non-Reclocking Distribution Amplifier

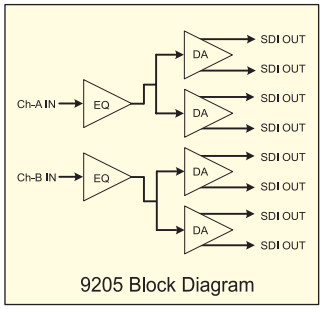


The 9205 is a two channel multi-rate SDI distribution amplifier, capable of equalizing both standard definition and high definition signals. With four SDI outputs for each input, the 9205 is a great choice for high density SDI distribution. Compatible with openGear™ frames, the 9205 equalizes the incoming SDI signal (up to 300m of cable at 270 Mbit and up to 100m of cable at 1.485 Gbit). The SDI outputs faithfully reproduce the incoming signals with excellent jitter and return loss specifications.

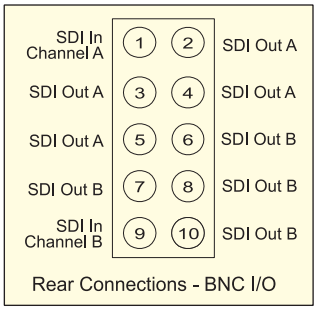
Features

- Two channels of SDI distribution on one card
- Four SDI outputs per channel
- LED indicators for input signal presence
- Auto equalization supports 143 Mbit to 1.485 Gbit signals
- For use in openGear™ frames
- Five year warranty

9205 Block Diagram



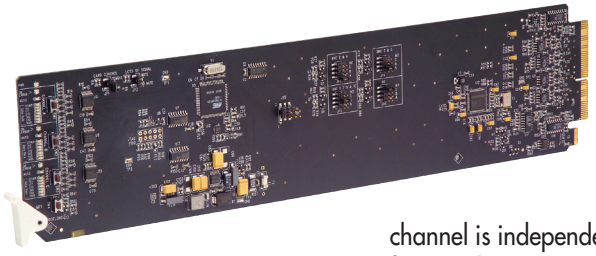
9205 Rear Connection



TOC

9206

Triple HD/SD Reclocking Distribution Amplifier

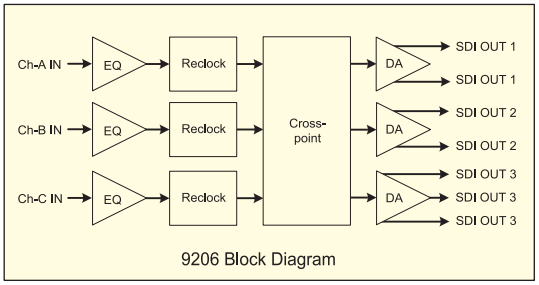


The 9206 is a three channel multi-rate SDI distribution amplifier, capable of equalizing and reclocking both standard definition and high definition signals. With a simple jumper selection the 9206 can be configured as a single channel 1:7, dual channel 1:4 plus 1:3 or 1:5 plus 1:2, or triple channel 1:3 plus 1:2 plus 1:2. This flexibility makes the 9206 adaptable to a wide range of installations. Each channel is independent and can run at different rates. Compatible with openGear™ frames, the 9206 equalizes the incoming SDI signal (up to 300m of cable at 270 Mbit and up to 100m of cable at 1.485 Gbit) and reclocks it with automatic rate detection for all popular data rates. The SDI outputs faithfully reproduce the incoming signal with excellent jitter and return loss specifications.

Features

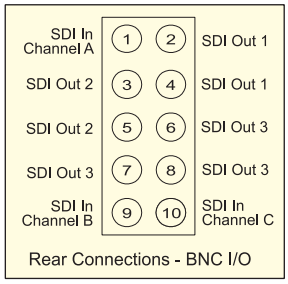
- Three channels of SDI distribution on one card – up to 30 DAs in 2RU
- Flexible channel configuration (1:7, 1:4 plus 1:3, 1:5 plus 1:2, 1:3 plus 1:2 plus 1:2)
- LED indicators for input signal presence and input data rate
- Auto equalization supports 143 Mbit to 1.485 Gbit signals
- For use in openGear™ frames
- Five year warranty

9206 Block Diagram



9206 Block Diagram

9206 Rear Connection

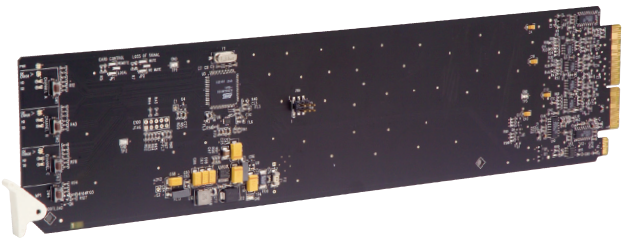


Rear Connections - BNC I/O

9207

Triple HD/SD Non-Reclocking Distribution Amplifier

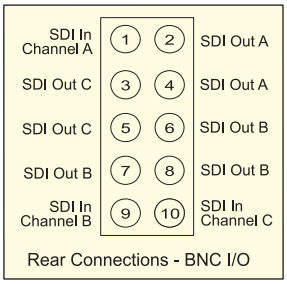
The 9207 is a three channel multi-rate SDI distribution amplifier, capable of equalizing both standard definition and high definition signals. With three SDI outputs on one channel and two SDI outputs on the other two channels, the 9207 is a great choice for high density SDI distribution. Compatible with openGear™ frames, the 9207 equalizes the incoming SDI signal (up to 300m of cable at 270 Mbit and up to 100m of cable at 1.485 Gbit). The SDI outputs faithfully reproduce the incoming signals with excellent jitter and return loss specifications.



Features

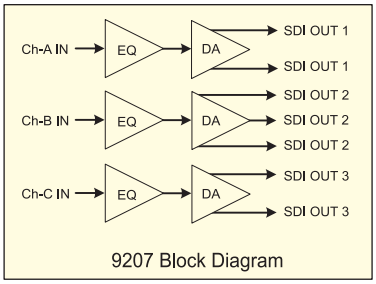
- Three channels of SDI distribution on one card
- Three SDI outputs for one channel, two SDI outputs for other two channels
- LED indicators for input signal presence
- Auto equalization supports 143 Mbit to 1.485 Gbit signals
- For use in openGear™ frames
- Five year warranty

9207 Rear Connection



Rear Connections - BNC I/O

9207 Block Diagram



9207 Block Diagram

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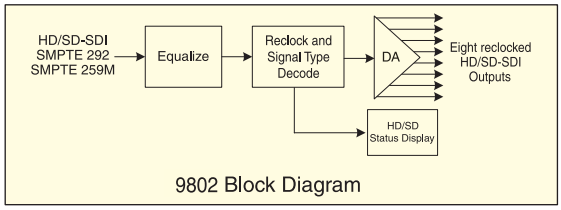
TOC

9802

HD/SD Reclocking Distribution Amplifier with Bit-Rate Status

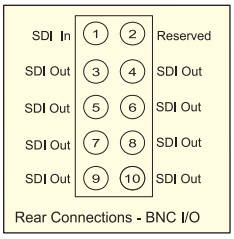
The 9802 is an HD/SD multi rate distribution amplifier that features HD/SD status LEDs for quick identification of the input format type. The 9802 is fully automatic and supports SMPTE 292 and 259M signals. The unit has one input and eight reclocked HD/SD-SDI outputs.

9802 Block Diagram



9802 Block Diagram

9802 Rear Connections



Rear Connections - BNC I/O

Specifications

Input
1.485-Gbit SMPTE 292 or
143-540 Mbit SMPTE 259M

Output
Eight reclocked HD/SD-SDI
Return loss > 15 dB

Power
3.5 watts

Size
12.9" x 3" (330mm x 76mm)

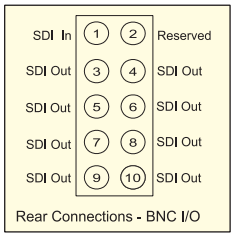
Features

- Eight output reclocking distribution amplifier
- Signal type (HD/SD) status display
- Auto standard detect and configuration SMPTE 292/259M
- For use in openGear™ frames
- Five year warranty

9803

HD/SD Reclocking* Distribution Amplifier with Bit-Rate Status (Supports SMPTE 424M - 3 Gbit)

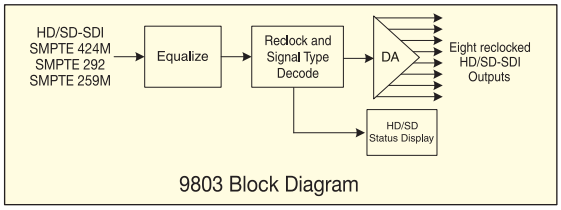
9803 Rear Connections



Rear Connections - BNC I/O

The 9803 is an HD/SD multi rate (to 3Gbit) distribution amplifier that features HD/SD status LEDs for quick identification of the input bit-rate. The 9803 is fully automatic and supports SMPTE 424M/292/259M signals. The unit has one input and eight reclocked HD/SDI outputs.

9803 Block Diagram



9803 Block Diagram

Features

- Eight output reclocking distribution amplifier
- Signal bit rate display
- Auto-standard detect and configuration SMPTE 424M/292/259M
- Reclocking* on SMPTE 424M/292/259M-C inputs
- *EQ on SMPTE 259-A/B/D (143-128-360 Mbit)
- For use in openGear™ frames
- Five year warranty

Specifications

Input
SMPTE 424M- 3Gbit
SMPTE 292 1.485-Gbit
SMPTE 259M 143-360 Mbit

Output
Eight reclocked* HD/SD-SDI
Return loss > 15 dB

Power
3.5 watts

Size
12.9" x 3" (330mm x 76mm)

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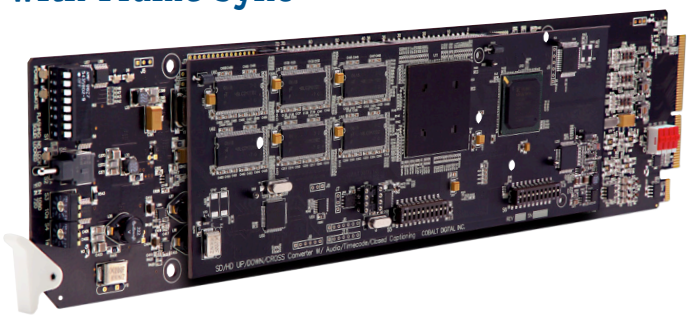
9061

Unit shipping quarter four 2007

TOC

Up/Down/Cross Format Converter, Video/Audio In with Frame Sync



The 9061 is an up/down/cross format converter with universal inputs analog/digital inputs, audio embedding, audio conversion and Frame Sync.

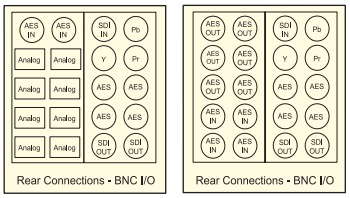
It has a full featured high quality 12-bit analog to 10-bit serial digital converter, an HD/SD-SDI input, analog and digital audio inputs, audio embedding, audio de-embedding, Frame Sync and user audio/ video level controls.

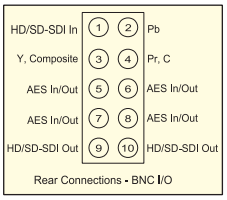
Full user remote and local digital proc. control, with user memory allows digital adjustment of gain, DC Offset, saturation and hue, audio levels, audio mapping and Frame Sync controls. Factory presets enable a return to factory settings.

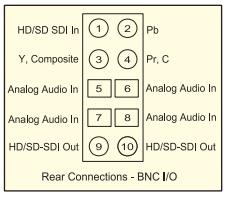
Features

- HD/SD universal analog and digital inputs
- Analog and AES audio inputs and AES output
- Audio embedding or de-embedding
- Frame Sync with tracking audio delay
- Audio channel mapping and level control
- Video level controls
- Differential inputs for power hum rejection
- 5-Line adaptive comb filter for SD-Composite mode
- 24-bit analog audio conversion to AES
- 24-bit embedding
- Internal color bar generator
- Local or remote user configuration & processing controls

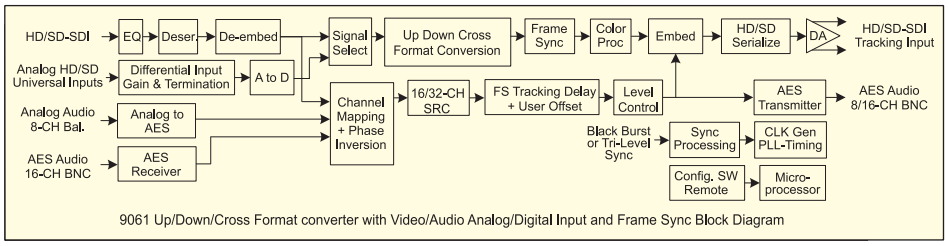
9061 Rear Connections







9061 Block Diagram



9061 Up/Down/Cross Format converter with Video/Audio Analog/Digital Input and Frame Sync Block Diagram

Specifications

HD/SD-SDI Input
SMPTE 292 and 259M

HD Analog Input
YPbPr or GBR SMPTE

SD Analog Input
Composite, Y/C or component RGB
(RGB & YPbPr BetaCam™/MII™ or SMPTE)

SD Standards
525 / 625 NTSC (M, Japan, 4.43), PAL (B, D, G, H, I, M, N, Nc) and SECAM (B, D, G, K, K1, L)

Analog Gain
Auto or manual mode

Digital Output
Two HD/SD-SDI with EDH

A/D Process
HD: 4:4:4 SD:8:8:8

Resolution
12-bit A to D and 10-bit video data path

Freq. Resp.
HD: Y - 0-25MHz +/- 0.3 dB
HD: Pb/B, Pr/R 0-13.5MHz +/- 0.3 dB
SD: 5.2 MHz +/- 0.25 dB

SD Comb Filter
5-line Adaptive

Proc. Control
Digital control of gain, DC, saturation & hue and audio levels, mapping and CH inversion presets

Audio

Analog Input
8-CH balanced differential to +24dB

AES Input
16-CH Unbalanced BNC

AES Output
16-CH unbalanced BNC

Embedding
16-CH HD/SD

SRC
24-CH 142 dB S/N

Audion Conv/Proc.
24 bits all modes

A/D Freq. Resp.
20-20KHz +/- 0.25 dB

Level Control
Mute to +100 dB

Size
12.9" x 3" (330mm x 76mm)
For use in openGear™ frames

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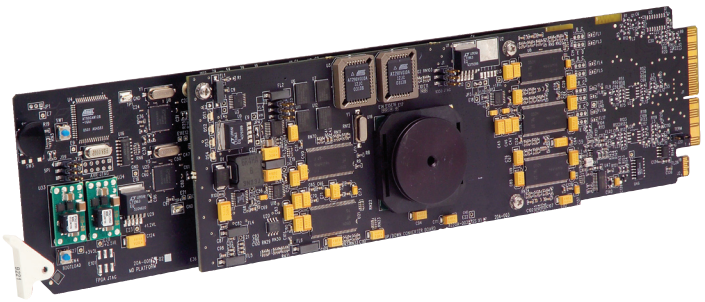
TOC

9225

Universal Up/Down and Cross Format Converter



The 9225 is a universal cross-converter for broadcast use that can provide SD to HD up-conversion, HD to SD down-conversion as well as HD to HD cross-conversion. The 9225 supports all popular standard definition and high definition video formats including 525i, 625i, 720p, 1080i and 1080p/sF. Auto detection of the input video format simplifies system setup.

The 9225 uses advanced video de-interlacing algorithms, dynamic edge detection, adaptive noise reduction circuitry and full 10-bit processing to ensure format conversion with the highest possible picture quality. The built-in flexible aspect ratio converter allows the video to be resized to either preset or user defined aspect ratios.

The 9225 also incorporates a video frame synchronizer, allowing the output video to be timed to a local or frame-wide video reference. A composite NTSC/PAL monitoring output simplifies setup and monitoring.

The Heads-Up menu system can be overlayed on the video and status and operating parameters and settings can be adjusted easily using the card mounted finger joystick.

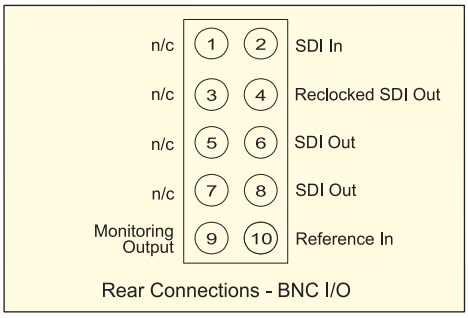
The 9225 preserves ancillary data and delays it to match the video processing delay.

Features

- Converts between all common standard definition (270 Mbit) and high definition (1.485 Gbit) formats
- Automatically detects the incoming video format and converts to a selectable output format
- Advanced video processing algorithms maintain the highest quality cross-conversion
- Flexible aspect ratio control
- Proc. amp controls
- Built-in frame synchronizer for timing to a local or frame-wide reference
- NTSC/PAL monitoring output with Heads-Up display menu system
- One reclocked and two processed SDI outputs
- For use in openGear™ frames
- Five year warranty

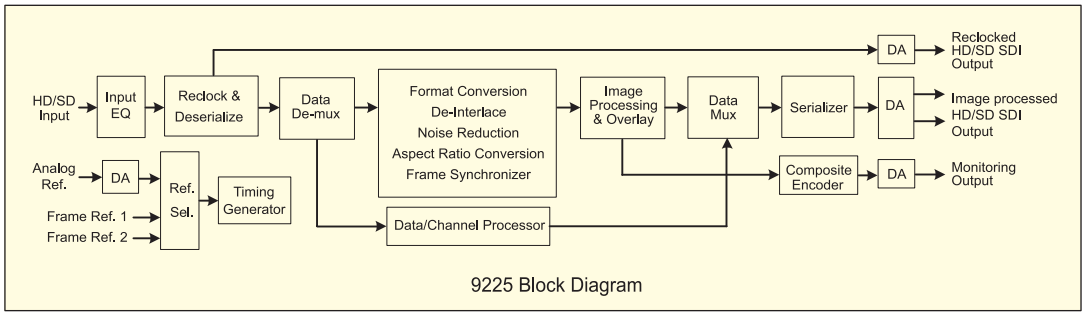
20

9225 Rear Connection



Rear Connections - BNC I/O

9225 Block Diagram

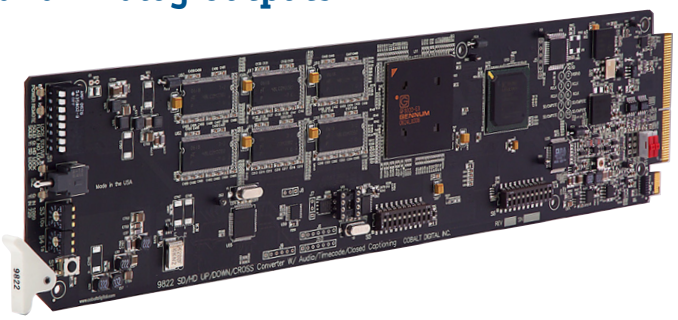


9225 Block Diagram

TOC

9821

HD/SD Downconverter with SD Pass Through and Analog Outputs



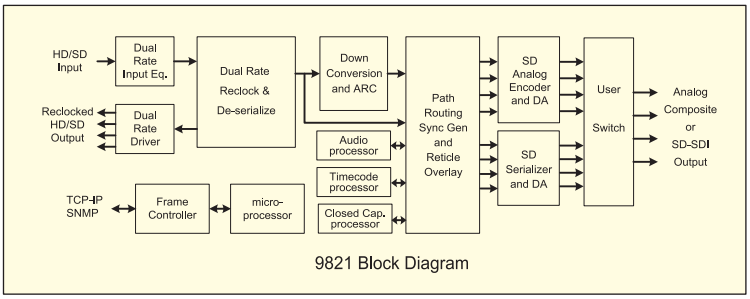
The 9821 is an extremely versatile openGear™ card based HD/SD tool. The 9821 accepts dual rate HD/SD SMPTE-292/259M-C digital inputs and downconverts HD signals with full re-aspect controls and passes SD signals with re-aspect, if needed. Outputs are four user selectable SD-SDI or SD-analog composite outputs. The 9821 can rate convert 23.98 frame video to 59.94 fields, move progressive to interlace and has extensive user programmable reticule overlays. The data path is 10-bit with 12-bit analog encoding.

User setups are by card edge switch controls or by a TCP-IP / SNMP remote interface.

Features

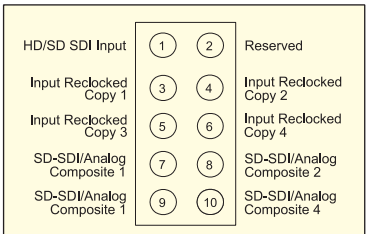
- High quality 10-bit down conversion
- Four relocked HD/SD input copies
- Four user selectable SD-SDI or analog composite outputs
- Auto standard detect and configuration SMPTE 292/259M-C
- Full aspect ratio conversion with pan
- Four user programmable overlays with 4x3 or 16x9 safe area reticules
- 3:2 frame rate conversion 23.98 (i, p, sF) to 59.94i
- Output field alignment for downconverted 720p signals
- Analog SD output over-sampled to 216 MHz
- Full 10-bit video path and 12-bit analog encoding
- User proc. controls
- For use in openGear™ frames
- User presets controllable from card edge
- TCP-IP SNMP remote control
- Embedded audio option
- Timecode processing option
- Closed captioning option
- Five year warranty

9821 Block Diagram



9821 Block Diagram

9821 Rear Connection



Rear Connections - 9821 BNC I/O

Specifications

Digital Input
HD/SD SDI SMPTE-292/259M-C
1080: 59.94/50/30/29.97/23.98 (i,p, sF)
720: p59.94/50/29.97/25 and p23.98
(23.98- encoded in 59.94)
525 and 625 Standard Def

Output
4 – HD/SD relocked input copies
4 – SD-SDI – analog composite user selectable

Aspect Ratio
1/16 – 8x in all modes (independent H/V)

Pan
Full pan in all modes, including off screen (H/V)

Gain Control
User adjustable ±100 mV

Reticules
User programmable with 4x3 and 16x9 defaults, color user selectable black or white

Size
12.9" x 3" (330mm x 76mm)
For use in openGear™ frames

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TOC

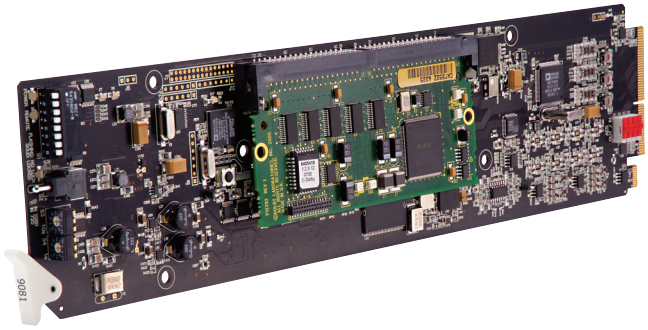
9081

HD/SD Frame Sync Processing Embedded Audio and Dolby®E

The 9081 is a HD/SD Frame Sync and input processing card which offers preservation of embedded audio and Dolby® E decoding.

The 9081 can offer a Dolby® decoder with meta-data output as an option.

Full user remote and local digital processing control, with user memory allows digital adjustment of gain, DC offset, saturation and hue, audio levels, audio mapping, Frame Sync controls and. Factory presets enable a return to factory settings.

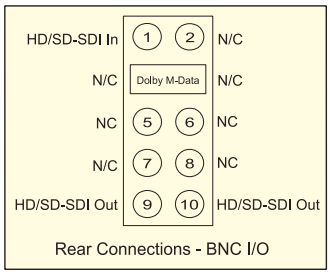


Features

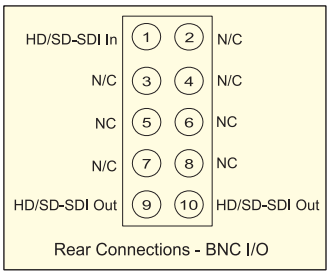
- Frame Sync with tracking audio delay
- Audio channel mapping and level control
- Video level controls
- 24-bit Embedded audio processing
- Dolby® Decoder option with meta-data output
- User offset to frame sync to align Dolby®E delay
- Internal color bar generator
- Local or remote user configuration and processing controls
- Manual or automatic input gain control
- Five year warranty

22

9081 Rear Connections

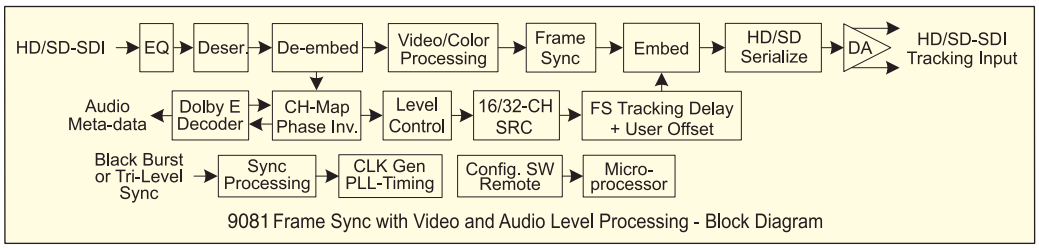


Rear Connections - BNC I/O



Rear Connections - BNC I/O

9081 Block Diagram



9081 Frame Sync with Video and Audio Level Processing - Block Diagram

Specifications

HD/SD-SDI Input
SMPTE 292-C and 259M-C

Digital Output
Two HD/SD-SDI with EDH

D. Return Loss
> 16 dB

Output Jitter
Output jitter to <0.2 UI measured with color bar input

Proc. Control
Digital control of gain, DC, saturation & hue and audio levels, mapping and CH inversion presets

SRC
16-CH 142 dB S/N

Audio Conv/Proc.
24-bit in all modes

A/D Freq Resp.
20-20KHz +/- 0.1 dB

Level Control
Mute to +100 dB

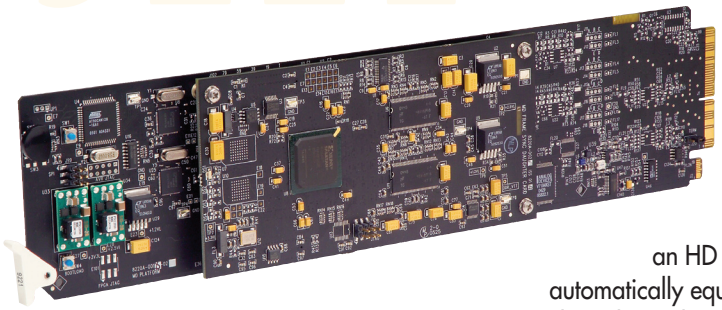
Power
6 watts

Size
12.9" x 3" (330mm x 76mm)
For use in openGear™ frames

9221

HD/SD Frame Synchronizer

TOC



The 9221 is a Frame Synchronizer for both standard and high definition SDI environments. It supports all popular standard definition and high definition video formats including 525i, 625i, 720p, 1080i and 1080p/sF. Auto detection of the input video format simplifies system setup. The 9221 accepts either an HD SDI input (1.485 Gbit) or an SD SDI input (270 Mbit), automatically equalizes for cable loss and provides a reclocked SDI output. The video is then synchronized to either a frame-wide reference or a local reference. For further flexibility in resolving system timing problems, additional fixed delay can be added to the video. Ancillary data (VANC) is protected, and is passed from input to output, ensuring data is not lost during the frame sync operation.

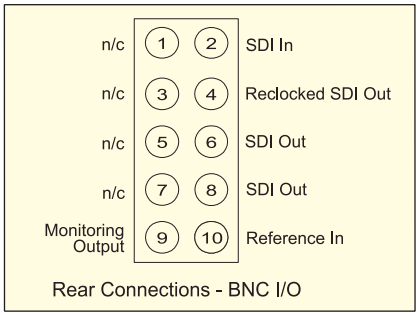
A composite NTSC/PAL monitoring output simplifies setup and monitoring. The Heads-Up menu system can be overlayed on the video and status and operating parameters and settings can be adjusted easily using the card-mounted finger joystick.

Each Frame Synchronizer card can have its own local reference or one of the two frame wide references for additional system timing flexibility.

Features

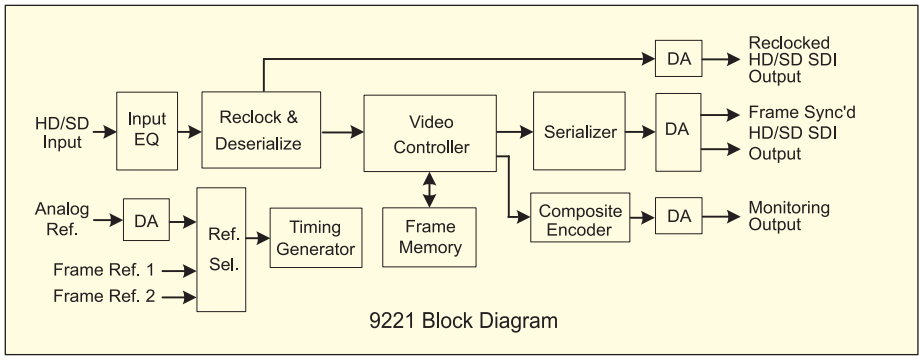
- SDI Frame Sync for HD and SD signals
- Handles all popular formats of SD (270 Mbit) and HD (1.485 Gbit) signals
- Automatically detects the incoming video format
- Re-times incoming video to a local or frame-wide reference signal
- Can also add additional fixed delay to solve system timing problems
- Passes ancillary (VANC) data
- NTSC/PAL monitoring output with Heads-Up display menu system
- One reclocked and two processed SDI outputs
- Five year warranty

9221 Rear Connection



Rear Connections - BNC I/O

9221 Block Diagram



9221 Block Diagram

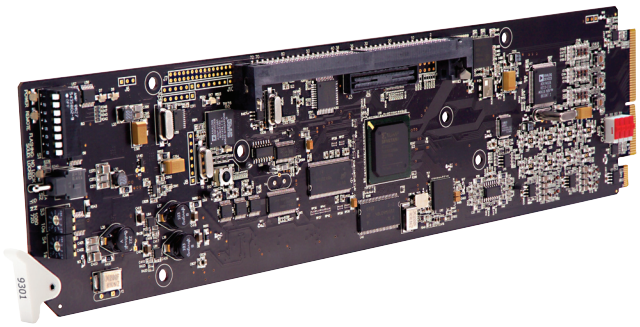
For use in openGear™ frames

TOC

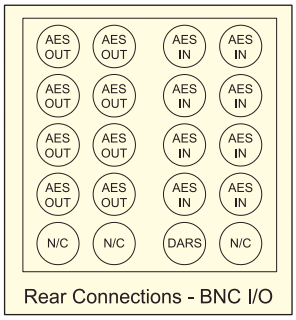
9301
AES Audio Delay

The 9301 is an AES audio delay unit with 16 channels of AES input and output.

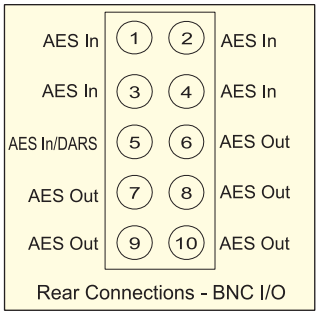
Full user remote and local control of audio levels, audio mapping and audio delay. Factory presets enable a return to factory settings.



9301 Rear Connections



Rear Connections - BNC I/O

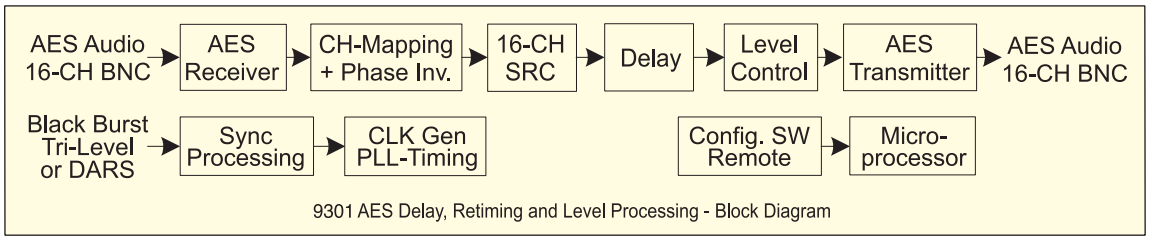


Rear Connections - BNC I/O

Features

- Audio channel mapping and level control
- 16-channels of AES input and output
- Adustable delay to 30 seconds
- Internal tone generator
- Local or remote user controls
- Five year warranty

9301 Block Diagram



9301 AES Delay, Retiming and Level Processing - Block Diagram

Specifications

HD/SD-SDI Input
SMPTE 292 and 259M-C

Digital Output
Two HD/SD-SDI with EDH

D. Return Loss
> 15 dB

Output Jitter
< 0.20 UI measured with color bar input

Processing Control
Digital control of gain, DC, saturation & hue and audio levels, mapping and CH inversion

Audio

AES Output
16-CH Unbalanced BNC

De-embedding
16-CH HD/SD

SRC
16-CH 142 dB S/N

Audio Conv/Proc.
24-bit all modes

Level Control
Mute to +100 dB

Power
7 watts

Size
12.9" x 3" (330mm x 76mm)
For use with openGear™ frames

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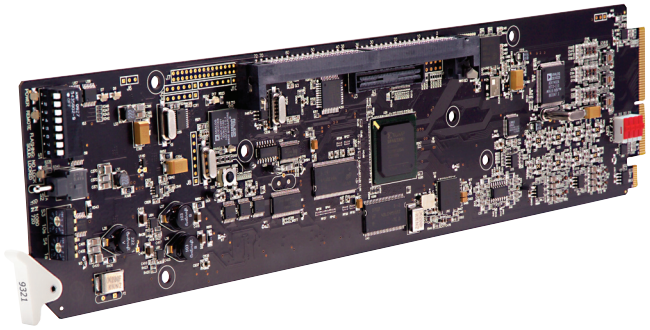
TOC

9321

HD/SD-SDI Audio Embedding with A/V Processing



The 9321 is a HD/SD audio embedder with sixteen channels of AES inputs and eight channels of analog audio input Audio levels, mapping, phase inversion and video input levels can be adjusted both remotely and locally.

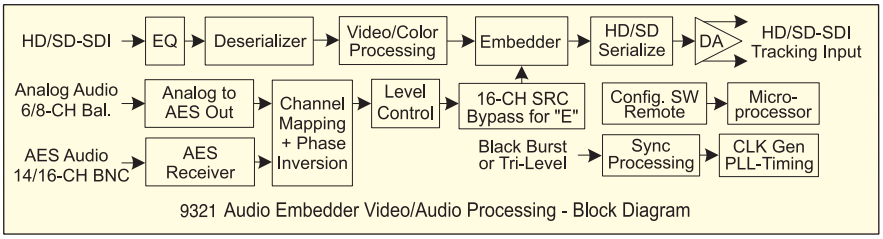
All audio processing and conversion is at 24-bits with sixteen channels of sample rate conversion (SRC). Dolby® E signals bypass the SRC under automatic or manual modes.

The output SDI signal is dejittered.

Features

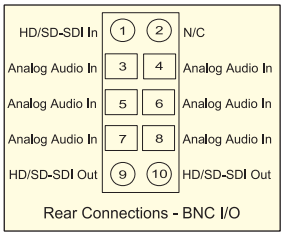
- Sixteen channels of AES embedding
- Eight channels of analog audio embedding
- Sixteen channels of sample rate conversion with Dolby® E detection and bypass
- Audio channel mapping and level control
- Video level controls
- 24-bit audio processing
- Internal tone generator
- Local or remote user configuration and processing controls

9321 Block Diagram

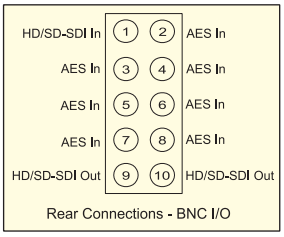


9321 Audio Embedder Video/Audio Processing - Block Diagram

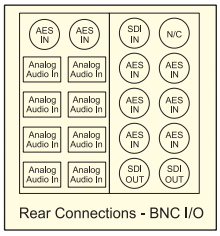
9321 Rear Connections



Rear Connections - BNC I/O



Rear Connections - BNC I/O



Rear Connections - BNC I/O

Specifications

HD/SD-SDI Input
SMPTE 292 and 259M

Digital Output
Two HD/SD-SDI with EDH

D. Return Loss
> 15 dB

Output Jitter
< 0.20 UI measured with color bar input

Proc. Control
Digital control of gain, DC, saturation & hue and audio levels, mapping and CH inversion

Audio

Analog Input
8-CH Balanced differential to +24dBu

AES Input
16-CH Unbalanced BNC

Embedding
16-CH HD/SD

SRC
24-CH 142 dB S/N

Audio Conv/Proc.
24-bit in all modes

A/D Freq Resp.
20-20KHz +/- 0.25 dB

Level Control
Mute to +100 dB

Power
7 watts

Size
12.9" x 3" (330mm x 76mm)
For use with openGear™ frames

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TOC

9322

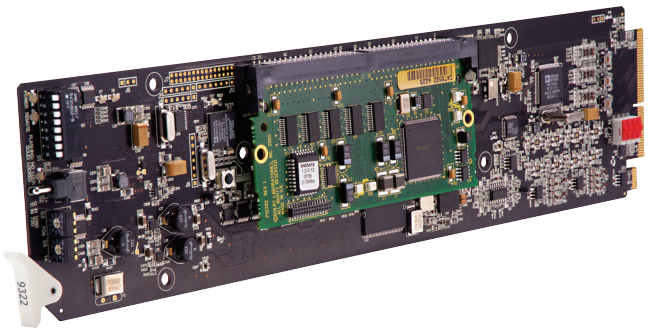
HD/SD Audio De-Embedder with A/V Processing and Dolby®E Option*

The 9322 is a HD/SD audio de-embedder with audio level, phase, mapping and video level controls.

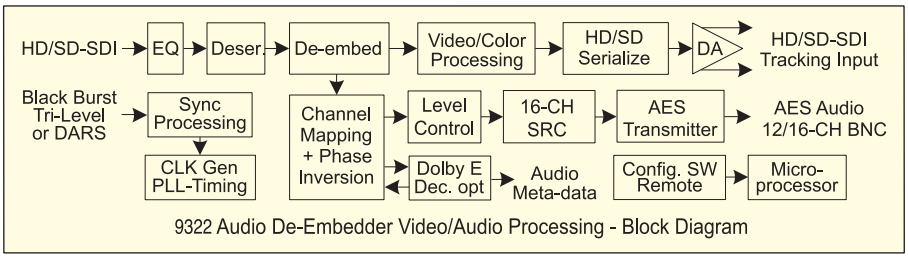
The de-embedding and audio processing is at 24-bit with sample rate coversion or SRC bypass for Dolby® E de-embedding. A Dolby® E decoder is available as an option.

Full user remote and local digital processing control, with user memory allows digital adjustment of gain, DC offset, saturation and hue, audio levels and audio mapping. Factory presets enable a return to factory settings.

* A Dolby® E decoder is available as an option.

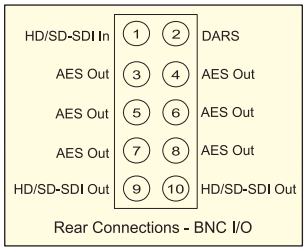


9322 Block Diagram

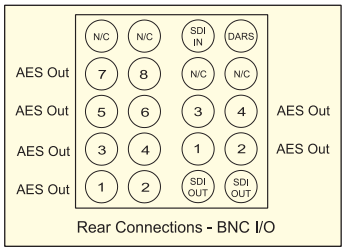


9322 Audio De-Embedder Video/Audio Processing - Block Diagram

9322 Rear Connections



Rear Connections - BNC I/O



Rear Connections - BNC I/O

Features

- Sixteen channels of audio de-embedding
- Audio channel mapping and level controls
- Video level controls
- 24-bit embedded audio processing
- Dolby® decoder option with meta-data output*
- Internal color bar and tone generator
- Local or remote user controls
- Five year warranty

26

Specifications

HD/SD-SDI Input
SMPTE 292 and 259M-C

Digital Output
Two HD/SD-SDI with EDH

D. Return Loss
> 15 dB

Output Jitter
< 0.20 UI measured with color bar input

Processing Control
Digital control of gain, DC, saturation & hue and audio levels, mapping and CH inversion

Audio

AES Output
16-CH Unbalanced BNC

De-embedding
16-CH HD/SD

SRC
16-CH 142 dB S/N

Audio Conv/Proc.
24-bit all modes

Level Control
Mute to +100 dB

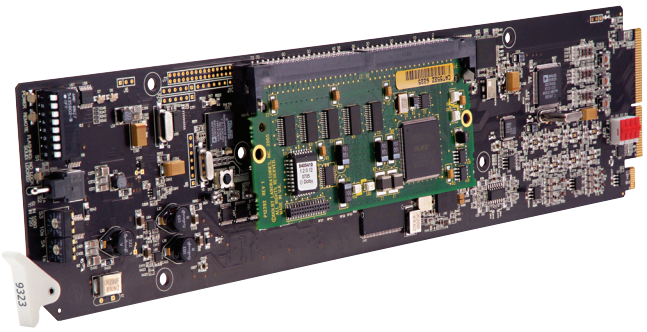
Power
7 watts

Size
12.9" x 3" (330mm x 76mm)
For use with openGear™ frames

9323

HD/SD Embedding / De-Embedding A/V Processing and Dolby®E

TOC



The 9323 is a HD/SD embedder/de-embedder with sample rate conversion, audio level, channel phase inversion, channel mapping and video level controls.

Audio processing is at 24-bit audio processing with sixteen AES inputs, eight analog audio inputs, sixteen AES outputs with sixteen channels of audio de-embedding and embedding, with sixteen channels of SRC allowing retiming of the audio.

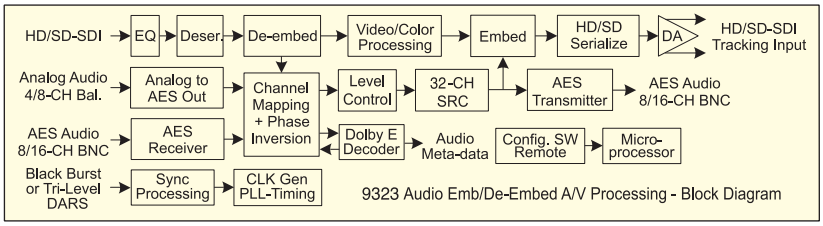
Full user remote and local digital proc. control, with user memory allows digital adjustment of gain, DC offset, saturation and hue, audio levels, audio mapping and audio phase inversion. Factory presets enable a return to factory settings.

* A Dolby® E decoder is available as an option.

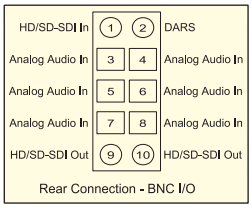
Features

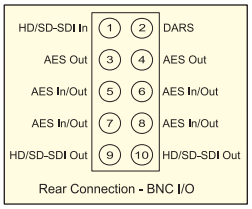
- HD/SD universal Digital inputs
- Sixteen channels of de-embedding and embedding
- Eight analog audio inputs with 24-bit conversion
- 24-bit embedded audio processing
- Audio channel mapping phase inversion and level control
- Sixteen channels of sample rate conversion
- Dolby® E decoder option with meta-data output*
- Video level controls
- Internal color bar and tone generator
- Local or remote user controls
- Five year warranty

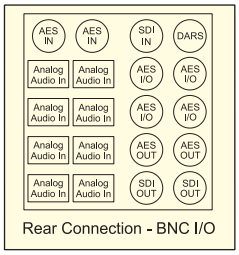
9323 Block Diagram

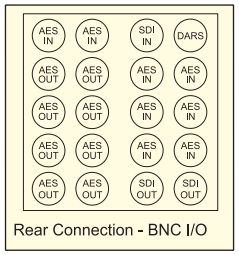


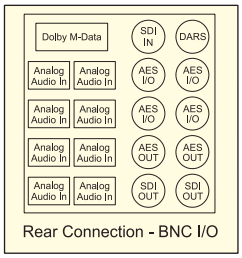
9323 Rear Connections

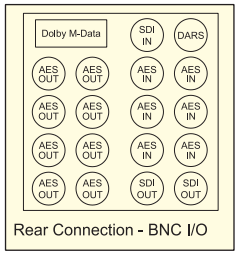












Specifications

HD/SD-SDI Input
SMPTE 292 and 259M

Digital Output
Two HD/SD-SDI with EDH

Return Loss
> 15 dB

Output Jitter
< 0.20 UI measured with color bar input

Proc. Control
Digital control of gain, DC, saturation & hue and audio levels, mapping and CH inversion

Audio

Analog Input
8-CH balanced differential to +24dB

AES Input
16-CH unbalanced BNC

AES Output
16-CH unbalanced BNC

Embedding
16-CH HD/SD

SRC
32-CH 142 dB S/N

Audio Conv/Proc.
24 bits all modes

A/D Freq Resp.
20-20KHz +/- 0.25 dB

Level Control
Mute to +100 dB

Power
8 watts

Size
12.9" x 3" (330mm x 76mm)
For use with openGear™ frames

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TOC

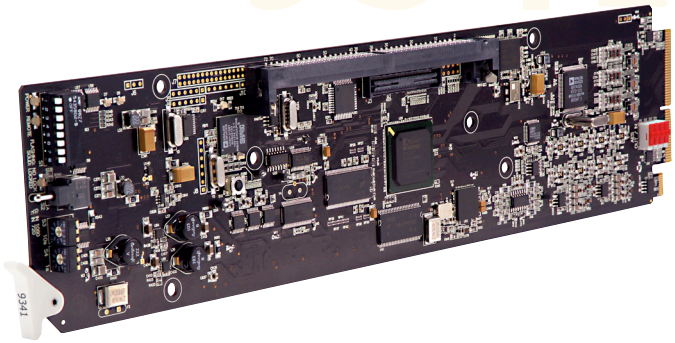
9341

Analog Audio to AES A to D Converter

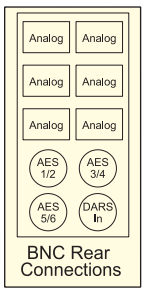
The 9341 is an analog audio to AES converter supporting up to eight analog balanced inputs and eight unbalanced AES/EBU outputs.

The 24-bit audio conversion is sixteen times oversampled and supports audio levels to +24dB.

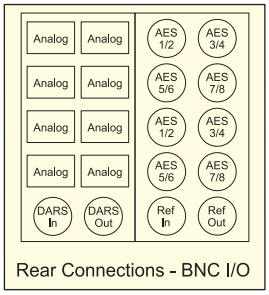
Full user remote and local control of audio level, channel mapping and channel inversion. Factory presets enable a return to factory settings.



9341 Rear Connections



BNC Rear Connections

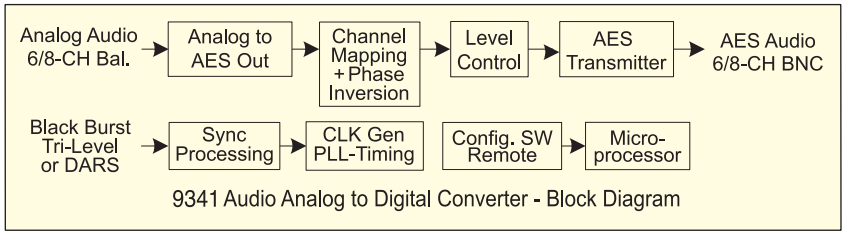


Rear Connections - BNC I/O

Features

- Eight analog audio input channels
- Balanced inputs to +24dB
- 24-bit audio conversion
- Remote and local audio level and mixing
- Remote/local control of mapping and Inversion
- Internal tone generator
- Five year warranty

9341 Block Diagram



9341 Audio Analog to Digital Converter - Block Diagram

Specifications

Audio Input
Analog 8-channel balanced differential

Input Level
+24dB max

AES Output
8-CH x2 unbalanced BNC

Audio Conv/Proc.
24 bits all modes

A/D Freq Resp.
20-20KHz +/- 0.25 dB

THD
0.01% at max input

Level Control
Mute to +100 dB

Power
4 watts

Size
12.9" x 3" (330mm x 76mm)
For use in openGear™ frames

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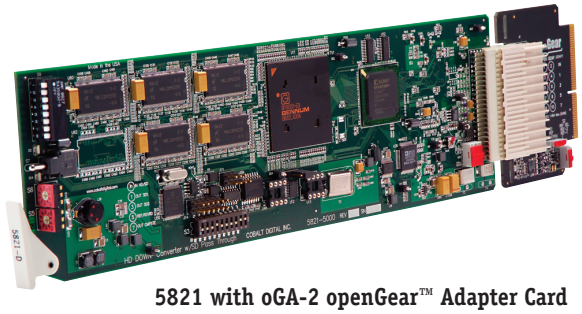
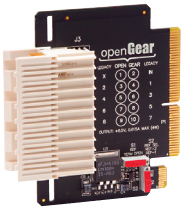
TOC

oGA-1/oGA-2

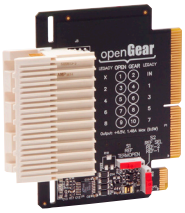
openGear™ Adapter Cards



5821 with oGA-2 openGear™ Adapter Card



oGA-1 openGear™ Adapter Card



oGA-2 openGear™ Adapter Card

Features

- Adapts Cobalt 5000 series, Ross 8000* series and Leitch 6800* series cards to the openGear™ format
- oGA-1 supports loads up to four watts per card
- oGA-2 supports loads up to ten watts per card
- Select switch for frame reference 1 or 2
- Five year warranty

The openGear™ Adapter Cards allow the use of Cobalt Digital 5000 series cards in an openGear™ frame. In addition, legacy cards such as the Ross 8000* series and the Leitch 6800* series can be adapted to the openGear™ frame with the openGear™ Adapter Cards. The oGA-1 linear adapter supports loads up to four watts per card while the oGA-2 high efficiency adapter supports loads up to ten watts per card.

** Ross 8000 series is a trademark of Ross Video Limited. Leitch 6800 series is a trademark of Leitch Technology Corporation.*

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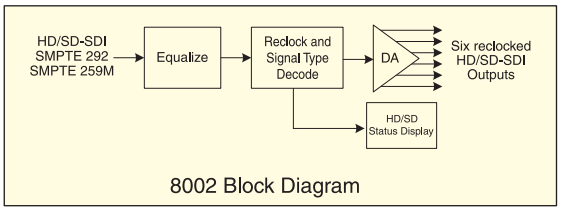
TOC

8002

HD/SD Reclocking* Distribution Amplifier with Bit-Rate Status

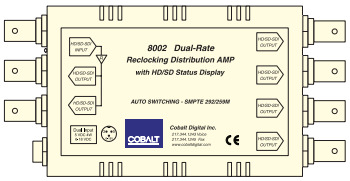
The 8002 is a compact HD/SD multi-rate distribution amplifier that features HD/SD status LEDs for quick identification of the input bit rate. The 8002 is fully automatic and supports SMPTE 292 and 259M signals. The unit has one input and six reclocked HD/SD-SDI outputs.

8002 Block Diagram



8002 Block Diagram

8002 Configuration



Specifications

Input
1.485-Gbit SMPTE 292 or
143-540 Mbit SMPTE 259M

Output
Six reclocked HD/SD-SDI

Return Loss
> 15 dB

Power
5-18 VDC @ 3.5 watts

Requires Power Supply
PS11 or PS12

Size
5.5" x 3"x 1" (139x77x26mm)

Features

- Six output reclocking* distribution amplifier
- Signal type (HD/SD) status display
- Auto standard detect and configuration SMPTE 292/259M
- Six HD/SD equalized and reclocked outputs
- 10-bit video data path
- Wide-ranging DC input, ideal for remote applications
- Compact rugged steel chassis
- Five year warranty

30

8003

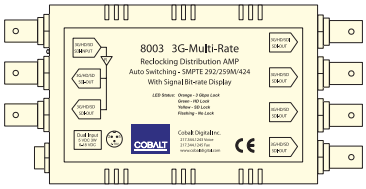
HD/SD Reclocking* Distribution Amplifier with Bit-Rate Status (Supports SMPTE 424M - 3 Gbit)

Features

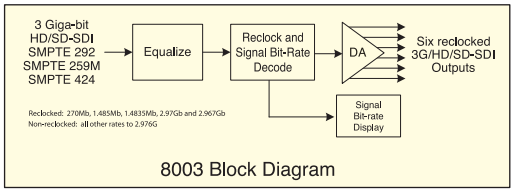
- Six output reclocking* distribution amplifier
- Signal type (HD/SD) status display
- Auto standard detect and configuration SMPTE 424M/292/259M
- Six HD/SD equalized and reclocked outputs
- 10-bit video data path
- Wide-ranging DC input, ideal for remote applications
- Compact rugged steel chassis
- Five year warranty

The 8003 is a compact HD/SD multi-rate distribution amplifier that features HD/SD status LEDs for quick identification of the input bit rate. The 8003 is fully automatic and supports 424 (3 Gbit), 292 and 259M signals. The unit has one input and six reclocked* SDI outputs.

8003 Configuration



8003 Block Diagram



8003 Block Diagram

Specifications

Input
SMPTE 424M-3Gbit
SMPTE 292 1.485-Gbit
SMPTE 259M 143-540 Mbit

Output
Six reclocked HD/SD-SDI

Return loss
> 15 dB

Power
5-18 VDC @ 3.5 watts

Requires Power Supply
PS11 or PS12

Size
5.5" x 3"x 1"
(139x77x26mm)

* Reclocking on 424M, 292 and 259M-C inputs, all other bit rates are non-reclocking.

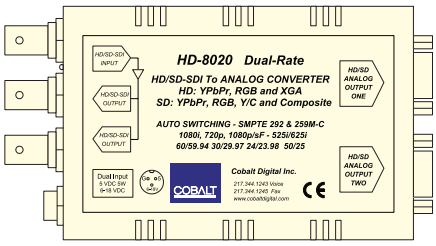
TOC

8020

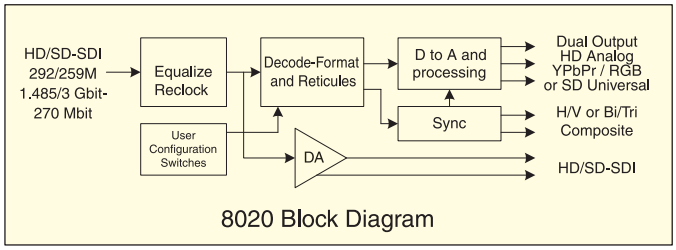
HD/SD Dual-Rate Digital to Analog Dual Output with Reticules

The 8020 is a compact high-quality HD/SD dual-rate digital to analog converter. The 8020 supports SMPTE-292 1080i, 720p and SMPTE 259M-C 525/625 SD signals. HD signals are converted to HD YPbPr or GBR wide band HD analog signals with H/V or embedded tri-level sync. SD signals are converted to SD analog component, composite and Y/C with embedded sync. User programmable overlay reticules are available on both HD and SD outputs. All conversions are 12-bit encoded from 10-bit input video resolution.

8020 Configuration



8020 Block Diagram



8020 Block Diagram

Features

- Dual analog outputs allowing dual monitoring
- Auto standard detect and configuration SMPTE 292/259M-C
- Outputs wideband analog YPbPr, RGB or XGA
- Four user programmable reticules
- High quality HD15 XGA video outputs connectors with BNC cable adaptors
- Two HD-SDI equalized and reclocked outputs
- Full 10-bit video path and 12-bit encoding DACs
- Tri-level, bi-level H/V HD sync
- Compact rugged steel chassis
- External user configuration switches
- Adjustable output gain control
- Five year warranty

Specifications

Input
1.485 Gbit HD-SDI SMPTE 292 compliant
1080i 720p in the following rates:
60/59.94/50 /30/ 29.97/24 /23.98 (p/sF)
720p 50/30/29.97/24/23.98 & SD 525/625

Output
Two equalized and reclocked HD-SDI input copies and two analog HD outputs (YPbPr or RGB) or SD outputs (YPbPr, RGB, composite, Y/C)

Frequency Response
Y:30MHz +/- 0.25 dB, Pb/Pr:15 MHz +/- 0.25 dB

Overlay Reticules
Four presets types: center cross, 4x3 safe area, 4x3 full aperture, and 16x9 safe area with user programmable size and thickness. Colors: black, white, red, blue or user defined color

Sync Output
HD: tri-level, bi-level, H/V
SD: bi-level

Power
5-18 VDC @ 4 watts

Requires Power Supply
PS11 or PS12

Size
5.5" x 3"x 1" (139x77x26mm)

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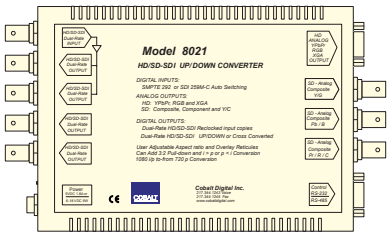
TOC

8021

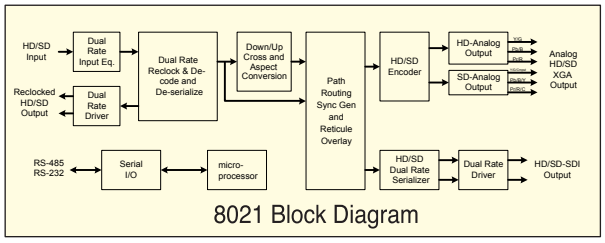
HD/SD Up/Down and Cross Converter with Digital and Analog Outputs

The 8021 is an extremely versatile HD/SD tool. The 8021 accepts dual rate HD/SD SMPTE-292/259M-C digital inputs and can UP or DOWN convert incoming signals and re-aspect to 4x3 or 16x9. In addition the 8021 can cross convert HD signals between 1080 and 720. Both digital and analog HD/SD and XGA outputs are available. The 8021 can rate convert 24 frame video to 60 frames and move interlace to progressive and back. The unit also has user configurable reticle overlays. The 8021 has full 10-bit video processing with 12-bit analog encoding. The 8021 allows you to pick your monitor or scope, HD or SD (analog or digital) or XGA analog and view HD-SDI or SDI. User setups are by external switch controls or a serial PC interface. The unit can be controlled remotely for monitoring wall applications.

8021 Configuration



8021 Block Diagram



8021 Block Diagram

Specifications

Input
Dual rate HD-SDI SMPTE-292 and SD-SDI SMPTE-259M-C

Output
Two reclocked dual rate HD/SD input copies
HD: YPbPr, RGB or XGA w/tri/bi or H&V sync
SD: composite, component and Y/C
Two up or down converted HD/SD outputs

Frequency Response
HD: Y:28MHz +/-0.25 dB, Pb/Pr:13 MHz +/- 0.25 dB
SD: 0-5.25 MHz +/- 0.25 dB

Overlay Reticules
Four presets types: center cross, 4x3 safe area, 4x3 full aperature, and 16x9 safe area with user programmable size and thickness.
Colors: black, white or user defined color.

Proc. Control
Digital control of gain, DC, saturation & hue with user values saved and factory presets

Power
5-18 VDC @ 9 watts

Requires Power Supply
PS24

Size
10.3" x 5.9" x 1" (260.x150x25mm)

Features

- High quality down and monitoring quality up conversion
- Three outputs: HD/SD digital or analog HD and SD
- Auto standard detect and configuration SMPTE 292/259M-C
- Full aspect ratio conversion (two axis)
- Outputs wideband analog YPbPr, RGB or XGA
- Four user programmable reticules
- PC remote control available
- 3:2 frame rate and HD standards conversion
- Two dual rate HD/SD reclocked input copies
- 10-bit video path and 12-bit analog encoding
- Supports sixteen channels of embedded audio in all conversion formats
- Automatic audio delay tracking with user offset
- External configuration switches and remote port
- Adjustable output gain control
- Five year warranty

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TOC

8022

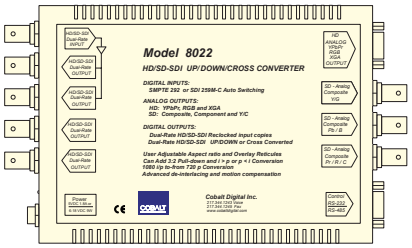
HD/SD Up/Down and Cross Converter with Digital and Analog Outputs

The 8022 is an extremely versatile HD/SD tool featuring advanced 10-bit format conversion. The 8022 accepts dual rate HD/SD SMPTE-292/259M SDI and can up or down convert incoming signals and re-aspect to 4x3, 16x9 or user programmable aspect ratios. In addition, the 8022 can cross convert HD signals between 1080 and 720. Both digital and analog HD/SD and XGA outputs are available. The 8022 can frame rate convert 24 frame video to 60 frames, move interlace to progressive and back. The unit also has extensive user configurable reticule overlays. The 8022 has 10-bit video processing, advanced de-interlacing and motion adaptation with 12-bit analog encoding. The 8022 includes embedded audio pass through, with delay correction. The unit can be configured via dip switches or controlled remotely for monitoring wall applications.

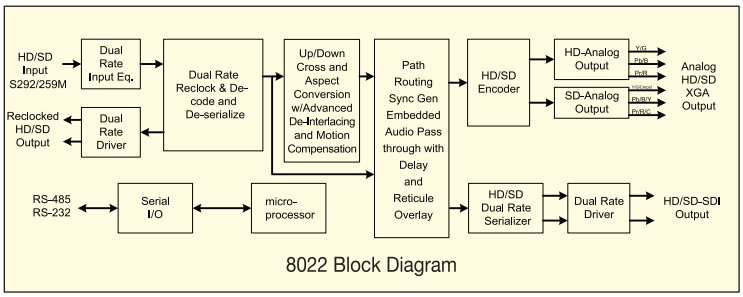
Features

- High quality up, down and cross format conversion
- Three outputs: HD/SD digital or analog HD and SD
- Auto standard detect and configuration SMPTE 292/259M
- Full aspect ratio conversion and pan controls
- Wideband analog YPbPr, RGB or XGA output
- Four user programmable reticules
- PC remote control available
- 3:2 frame rate and HD standards conversion
- Two dual rate HD/SD reclocked input copies
- 10-bit video path and 12-bit analog encoding
- Supports sixteen channels of embedded audio in all conversion formats
- Automatic audio delay tracking with user offset
- External configuration switches and remote port
- Adjustable output gain control
- Five year warranty

8022 Configuration



8022 Block Diagram



8022 Block Diagram

Specifications

Input
Dual rate HD-SDI SMPTE-29
and SD-SDI SMPTE-259M

Output
Two reclocked dual rate HD/SD input copies
Two up/down/cross converted HD/SD outputs
HD: YPbPr, RGB or XGA w/tri/bi or H&V sync
SD: composite, component and Y/C

Frequency Response
HD: Y:28MHz +/- 0.25 dB,
Pb/Pr:13 MHz +/- 0.25 dB
SD: 0-5.25 MHz +/- 0.25 dB

Sync Output
Bi or tri-level and XGA H/V

Overlay Reticules
Four presets types: center cross, 4x3 safe area, 4x3 full aperture, and 16x9 safe area with user programmable size and thickness.
Colors: black, white, red, blue or user defined color

Proc. Control
Digital control of gain, DC, saturation & hue with user values saved and factory presets

Power
5-18 VDC @ 12 watts

Requires Power Supply
PS24

Size
10.3" x 5.9" x 1" (260.x150x25mm)

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TOC

8024

HD/SD Up/Down and Cross Converter with Digital and Analog Outputs

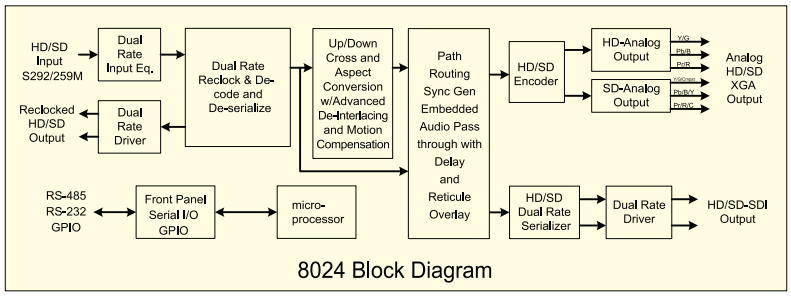
The 8024 is an extremely versatile HD/SD tool featuring advanced 10-bit format conversion. The 8024 accepts dual-rate HD/SD SMPTE-292/259M SDI inputs and can up or down convert incoming signals and re-aspect to 4x3, 16x9 or user programmable aspect ratios. In addition, the 8024 can cross convert HD signals between 1080 and 720. Both digital and analog HD/SD and XGA outputs are available. The 8024 can frame rate convert 24 frame video to 60 frames, move interlace to progressive and back. The unit also has extensive user configurable reticule overlays. The 8024 has 10-bit video processing, advanced de-interlacing and motion adaptation with 12-bit analog encoding. The 8024 includes embedded audio pass through, with delay correction. The unit is controlled by the front control switches and LCD screen or controlled remotely via a PC interface.

Front View

Back View

Options: Redundant power supply, PC remote control, Anton Bauer™ Gold Mount battery connector, and rack mount tray (holds 2 units).

8024 Block Diagram



8024 Block Diagram

Specifications

Input
Dual rate HD-SDI SMPTE-292 and
SD-SDI SMPTE-259M

Output
Two reclocked dual rate HD/SD input copies
two up/down/cross converted HD/SD outputs
HD: YPbPr, RGB or XGA w/tri/bi or H&V sync
SD: composite, component and Y/C

Frequency Response
HD: Y:28MHz +/- 0.25 dB, Pb/Pr:13 MHz +/- 0.25 dB
SD: 0-5.25 MHz +/- 0.25 dB

Overlay Reticules
Four presets types: center cross,
4x3 safe area, 4x3 full aperture, and 16x9 safe area
with user programmable size and thickness.
Colors: black, white, red, blue or user defined color

Proc. Control
Digital control of gain, DC, saturation
& hue with user values saved and factory presets

Sync Output
Bi or tri-level and XGA H/V

Power
7-18 VDC @ 15 watts

Requires Power Supply
PS24

Size
13.9" x 8.7" x 1.7" (353.x221x43mm)

Features

- High quality up, down and cross format conversion
- Single input auto standards detect SMPTE 292/259M
- Two dual rate HD/SD reclocked input copies
- Two digital outputs: HD/SD-SDI
- Two analog outputs: HD/SD-YPbPr, RGB or XGA output
- 10-bit video path and 12-bit analog encoding
- Full aspect ratio conversion and pan controls
- Four user programmable reticules
- 3:2 frame rate and HD standards conversion
- 100 user definable presets
- Supports sixteen channels of embedded audio in all conversion formats
- Automatic audio delay tracking with user offset
- PC remote control software provided
- Adjustable output gain control
- Redundant power option
- Five year warranty

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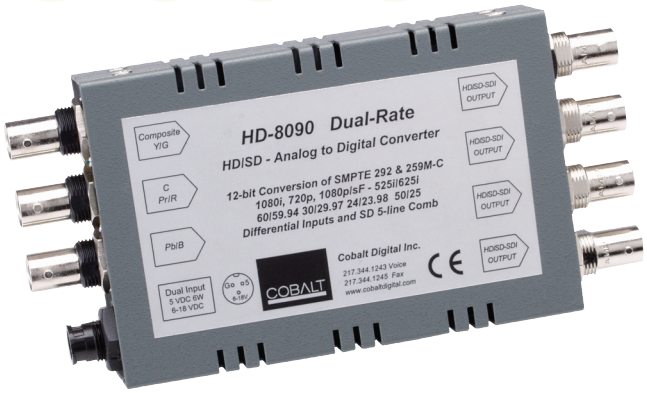
TOC

8090

Dual Rate HD/SD 12-bit Analog to Digital Converter with Universal Inputs

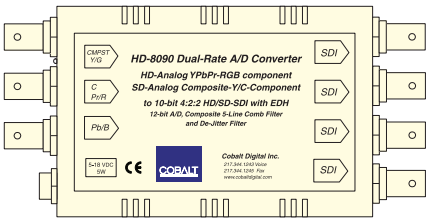


The 8090 is a dual rate HD/SD universal input full-featured, high-quality 12-bit analog to 10-bit SDI converter with EDH. The 8090 accepts HD component and SD component, composite and Y/C. Differential analog inputs are used for common mode noise rejection. A 5-line adaptive comb or notch filter is used for Y/C separation in composite SD mode. SD inputs are over sampled to 54 MHz and the output circuitry includes a VCXO filter to reduce jitter. Full user digital proc. control, with user memory allows digital adjustment of gain, DC offset, saturation and hue.

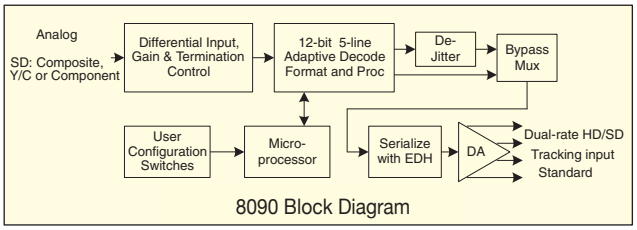
Features

- Dual rate universal analog inputs with 12-bit A/D
- Four dual rate HD/SD-SDI outputs with EDH
- Composite, component (YPbPr and RGB) and Y/C inputs
- Supports component BetaCam™, MII™ and SMPTE/N10
- Differential inputs for power hum rejection
- 5-line adaptive comb filter for SD-composite mode
- Internal color bar generator
- External user configuration switches
- Internal user proc. configuration control
- Manual or automatic input gain control
- Compact rugged steel chassis
- Five year warranty

8090 Configuration



8090 Block Diagram



8090 Block Diagram

Specifications

Input
HD component YPbPr/GBR
SD component YPbPr/GBR, Y/C, composite

Analog Gain
Auto or manual mode

Output
Four HD/SD-SDI with EDH

Output Jitter
< 0.16 UI measured with color bar input

A/D Process
HD: 4:4:4 SD:8:8:8

Frequency Response
HD: Y - 0-25MHz +/- 0.3 dB
Pb/B, Pr/R 0-13.5MHz +/- 0.3 dB
SD 5.2 MHz +/- 0.25 dB

SD K-2T
< 1 %

S/N
> 52 dB

SD Comb Filter
5-line adaptive

Proc. Control
Digital control of gain, DC, saturation & hue with user values saved and factory presets

Power
5-18 VDC @ 4 watts

Requires Power Supply
PS11 or PS12

Size
5.5" x 3" x 1" (139x77x26mm)

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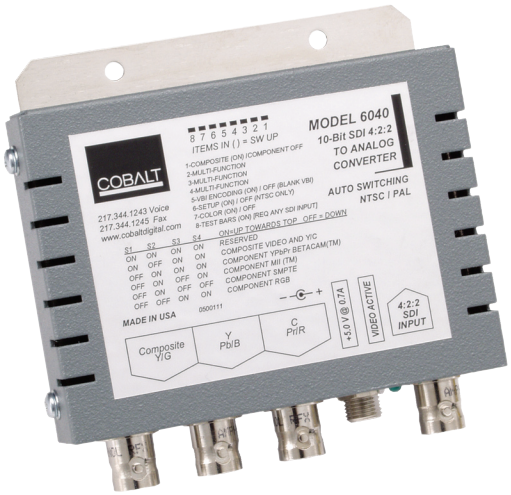
TOC

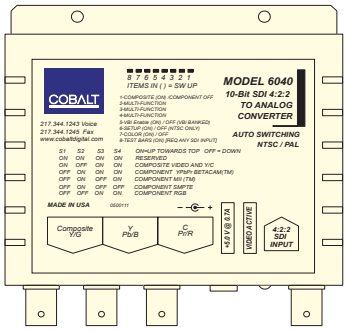
6040

SDI to Analog Composite with Y/C or Analog Component Encoder

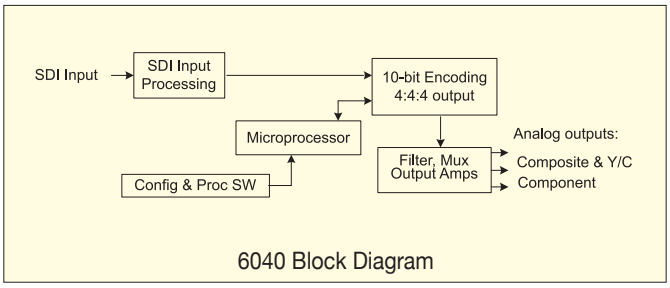
The 6040 is a high quality full 10-bit digital encoder for converting SDI to analog NTSC/PAL composite with Y/C or analog component video. The user can select component RGB, YPbPr in BetaCam™, MII™, or SMPTE/N10 levels. An externally accessible dip switch adds flexibility for non-standard configurations.



6040 Configuration



6040 Block Diagram



6040 Block Diagram

Features

- User selectable analog output formats: composite, Y/C, YPbPr or RGB
- 10-bit DAC
- Automatic configuration NTSC/PAL
- Internal color bar generator
- Compact rugged steel case with working tabs
- External configuration switches
- External LED with status of power and input signal
- Five year warranty

Specifications

Input
270 Mbit SDI SMPTE 259M

Output
Analog composite & Y/C or component
YPbPr or RGB automatic configuration NTSC/PAL

Frequency Response
0-5.0 MHz +/- 0.25 dB

K-Factor 2T
< 1%

S/N
> 72 dB

Power
5 VDC @ 3.5 watts

Requires Power Supply
PS4 or PS5

Size
3.7″ x 2.75″ x 0.75″ (94x70x19mm)

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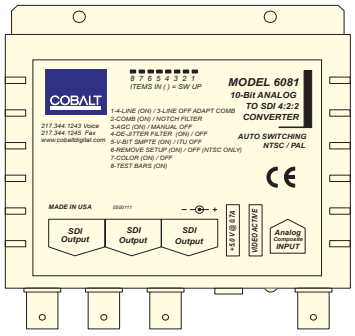
TOC

6081

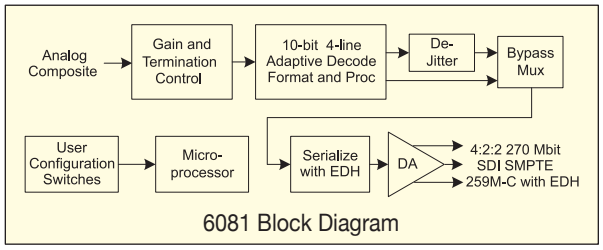
A/D Analog Composite to 10-bit SDI with EDH

The 6081 is a compact, full-featured, high quality analog to 10-bit SDI converter. The 6081 accepts NTSC, PAL and SECAM composite analog input signals and outputs 270 Mbit SDI SMPTE 259M with EDH. A 4 or 3 line comb or notch filter is externally selectable for Y/C separation in composite mode. Video input is 2X (8:4:4) over sampled. The 6081 incorporates a digital output de-jitter filter (VCXO) which reduces the 270 Mbit jitter down to 2Hz.

6081 Configuration



6081 Block Diagram



Features

- Composite NTSC, PAL or SECAM input
- 10-bit A to D
- 4 or 3-line adaptive comb filter for composite mode
- Three 270 Mbit SDI outputs with EDH
- SDI de-jitter filter to 2Hz
- Internal color bar generator
- External user configuration switches
- Fixed or automatic input gain control
- Compact rugged steel case with mounting tabs
- Five year warranty

Specifications

Input
Analog composite

Output
Three 270 Mbit SDI SMPTE 259M with EDH

Gain
Auto or fixed

Output Jitter
< 0.15 UI measured with color bar input

A/D Process
8:4:4 2X over sampled

Frequency Response
0-5 MHz +/- 0.25 dB

K-2T
< 1 %

S/N
> 52 dB

Comb Filter
4 or 3-line adaptive – user selectable

Power
5 VDC @ 3.5 watts

Requires Power Supply
PS4 or PS5

Size
3.7" x 2.75" x 0.75" (94x70x19mm)

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TOC

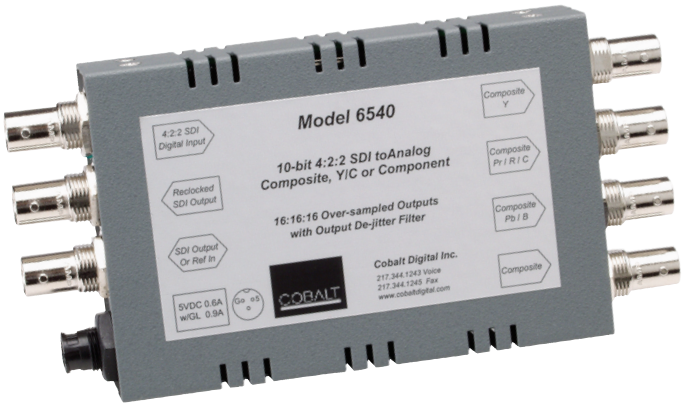
6540

D/A 10-bit SDI Analog Composite, Y/C and Component

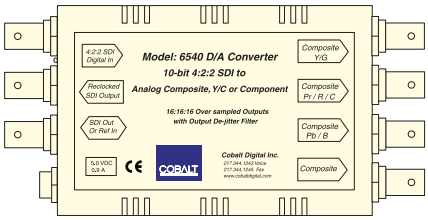
The 6540 is a compact full-featured, high quality 10-bit 270 Mbit SDI SMPTE 259M converter to analog composite, Y/C and component YPbPr and RGB. The 10-bit encoding engine over samples 4:2:2 to 4:4:4 for internal processing and then 4x over samples outputs to 16:16:16 for improved signal performance. An internal VCXO with de-jitter loop filter to 2Hz reduces digital jitter before the encoding process.

Full user digital processing controls, with user memory allows digital adjustment of gain, DC offset, saturation hue (hue on composite & Y/C), gamma and digital noise reduction.

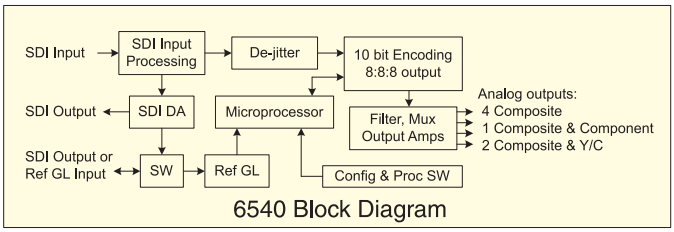
An optional color frame circuit color frames the 6540 for timed environments.



6540 Configuration



6540 Block Diagram



6540 Block Diagram

Features

- Four user configurable analog outputs: composite, component (YPbPr & RGB) and Y/C outputs
- Supports component BetaCam™, MII™ and SMPTE/N10
- Encoding to 16:16:16 over sampled outputs
- 10-bit D to A
- Automatic configuration NTSC/PAL
- Reference color frame option
- SDI de-jitter filter to 2Hz
- Reclocked SDI input copies
- Internal color bar generator
- Internal user proc. configuration control
- External user configuration switches
- External LED with status of power and input lock
- Compact rugged steel chassis
- Five year warranty

Specifications

Input
270 Mbit SDI SMPTE 259M

Output
Two reclocked SDI (one with color frame option)
Four outputs user configurable: all composite, composite & component or composite withY/C

Output Jitter
Internal digital de-jitter filter to 2Hz

Frequency Response
5 MHz +/- 0.15 dB, 0-6.75 MHz +/- 0.25 dB
S/N > 70 dB

Proc. Controls
Digital control of gain, DC, saturation & hue with user values saved and factory presets

Power
5 VDC @ 4 watts, optional 7-28 VDC input

Requires Power Supply
PS11 or PS12

Size
5.5" x 3" x 1" (139x77x26mm)

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6546

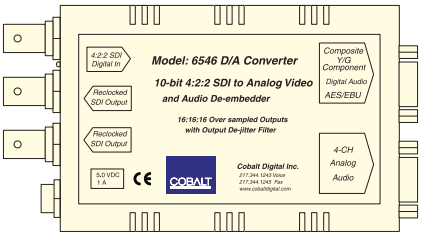
D/A 10-bit SDI to Analog

The 6546 is a compact full-featured, high quality 10-bit 270 M-bit SDI SMPTE 259M converter to analog composite, Y/C and component YPbPr and RGB with de-embedded audio in both AES/EBU digital and analog outputs. The 10-bit encoding engine up-converts 4:2:2 to 4:4:4 then 4x over samples to 16:16:16 for improved signal performance. An internal VCXO with de-jitter loop filter to 2Hz reduces digital jitter before the encoding process. Full user digital processing controls with user memory allows digital adjustment of gain, DC offset, saturation hue (hue on composite & Y/C), gamma and digital noise reduction.

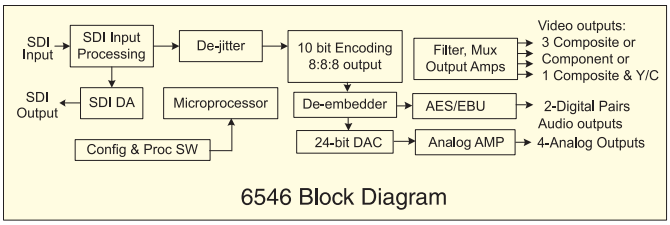
Features

- 10-bit video conversion with 24-bit audio de-embedding
- Three user configurable analog outputs: composite, component (YPbPr & RGB) and Y/C outputs
- Supports component BetaCam™, MII™ and SMPTE/N10
- 10-bit path; 16:16:16 over-sampled outputs
- Internal user digital proc. configuration and control
- SDI de-jitter filter to 2Hz
- Internal color bar generator
- Two AES / EBU digital audio stereo pairs (75 ohms)
- Four analog 24-bit audio (balanced) outputs
- Adjustable analog level control
- External user configuration switches
- External LED with status of power and signal lock
- Compact rugged steel chassis
- Five year warranty

6546 Configuration



6546 Block Diagram



6546 Block Diagram

Specifications

Input
270 Mbit SDI SMPTE 259M

Output
Two reclocked SDI
Three outputs user configurable: all composite, component or composite with Y/C

Component Mode
YPbPr or RGB

Output Jitter
Internal digital de-jitter filter to 2Hz

D/A Process
16:16:16 over-sampled 10-bit video path

Frequency Response
5 MHz +/- 0.15 dB, 0-6.75 MHz +/- 0.25 dB
S/N > 70 dB

Digital Audio
2-AES/EBU stereo pairs (75 Ohm)

Analog Audio
4-analog audio (balanced) outputs

Audio Resolution
24-bits

Frequency Response
20-20KHz +/- 0.5 dB

Power
5 VDC @ 5 watts

Requires Power Supply
PS11 or PS12

Size
5.5" x 3" x 1" (139x77x26mm)

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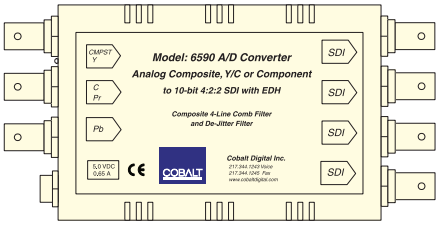
TOC

6590

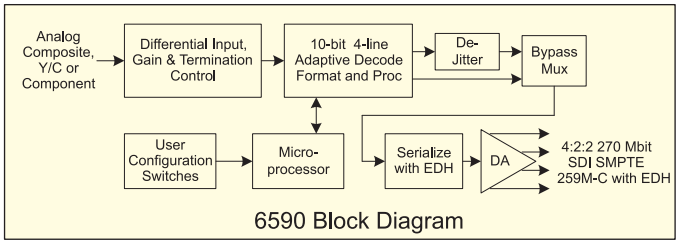
A/D Analog Composite, Y/C, Component to 10-bit SDI with EDH

The 6590 is a compact full-featured, high-quality analog to 10-bit SDI converter with EDH. The 6590 accepts composite, Y/C and component YPbPr analog input signals and outputs 270 Mbit SDI SMPTE 259M with EDH. Differential inputs are included for ground loop rejection. A 4, 3 or 2 line comb or notch filter is user configurable for Y/C separation in composite mode. All modes have 2X 8:4:4 input over sampling. An output jitter VCXO reduces 270 Mbit jitter down to 2Hz. Full user digital proc. control, with user memory allows digital adjustment of gain, DC offset, saturation and hue.

6590 Configuration



6590 Block Diagram



6590 Block Diagram

Features

- Composite, component YPbPr and Y/C inputs
- Supports component BetaCam™, MII™ and SMPTE/N10
- Differential inputs for power hum rejection
- 10-bit A to D
- 4-line adaptive comb filter for composite mode
- Four 270 Mbit SDI outputs, SMPTE 259M with EDH
- SDI de-jitter filter to 2Hz
- Internal color bar generator
- External user configuration switches
- Internal user proc. configuration control
- Compact rugged steel chassis
- Five year warranty

Specifications

Input
Composite, Y/C or component (YPbPr)

Output
270 Mbit SDI SMPTE 259M with EDH

Output Jitter
< 0.15 UI measured with color bar input

A/D Process
8:4:4 2X over-sampled

Frequency Response
5 MHz +/- 0.25 dB

K-2T
< 1 %

S/N
> 52 dB

Comb Filter
4, 3 or 2 line adaptive / non-adaptive
User selectable

Proc. Control
Digital control of gain, DC, saturation & hue with user values saved and factory presets

Power
5 VDC @ 3.5 watts
optional 7-28 VDC input

Requires Power Supply
PS11 or PS12

Size
5.5" x 3" x 1" (139x77x26mm)

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TOC

5000-F1

Five Slot, One Rack Unit Frame

The 5000-F1 is a five slot, one rack unit chassis frame for Cobalt 5000 Series cards and other legacy frame compatible cards. Compatible cards include those designed for the Ross Video™ 8110 frames and the Leitch™ 6804, 7000 and 6800+ frames. The chassis has fully redundant power supply inputs utilizing standard external supplies. The 5000-F1 frame has front panel cooling fans. Two LED front panel indicators show power supply status.

Leitch™ 6800 series cards and equivalents, and Leitch 6804, 7000 and 6800+ are trademarks of Leitch Technology Corporation.

Ross 8110 is a trademark of Ross Video™ Limited.

Features

- Five card slots in a 1 RU Chassis
- High wattage power supplies supports all card combinations
- Redundant power inputs
- External reference input with differential input amp feeds all card slots
- Front panel cooling fans
- Rugged chassis design with rear support rails for demanding broadcast environments
- Five year warranty

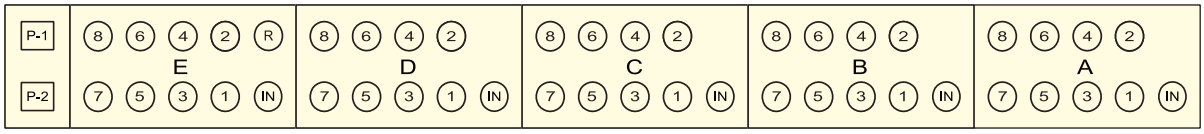
Specifications

Power
Positive rail 50 watts
Negative rail 7 watts

Indicators
Main & redundant power status LEDs

Size
1RU: 19 x 1.7 x 13" (486x43x330mm)
Supports legacy* frame compatible cards

5000-F1 Rear Connection



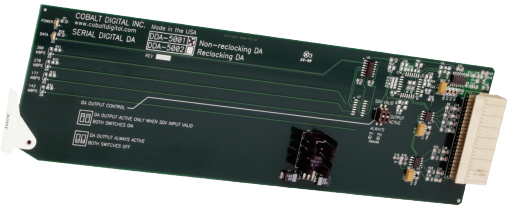
Rear Connections - BNC I/0

TOC

5001

SDI Non-reclocking Distribution Amplifier

The 5001 is a card based non-reclocking serial digital distribution amplifier with eight outputs that is compatible with legacy* digital frames. The 5001 will equalize bit rates from 50–400 Mbits providing up to 40 dB of equalization. This unit provides a cost effective solution for making serial digital copies for applications where reclocking is not required.



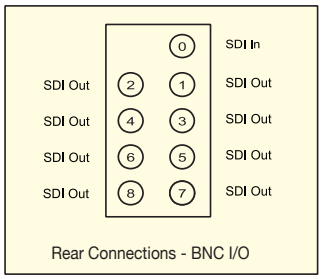
Features

- Eight non-reclocked SDI outputs
- Supports 50–400 Mbit rates
- Auto equalization
- Input signal presence indicator
- Five year warranty

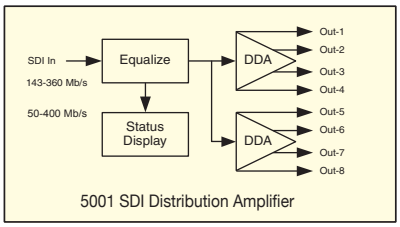
Specifications

Input
50–400 Mbits SDI SMPTE 259M
Output (8)
50–400 Mbits SDI SMPTE 259M
Equalization
Auto to 40 dB at 200 MHz
Delay
10 ns
Power
Positive rail 1.5 watts; negative rail 0 watts
Indicators
Power and data present LED
Size
10.5" x 3" (262.5mmx75mm)
Fits legacy* frames

5001 Rear Connection

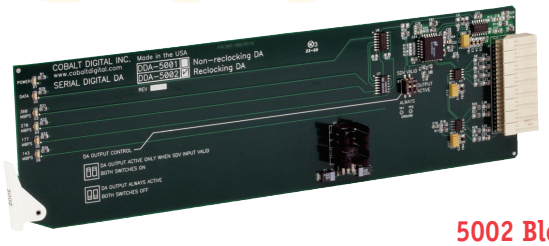


5001 Block Diagram



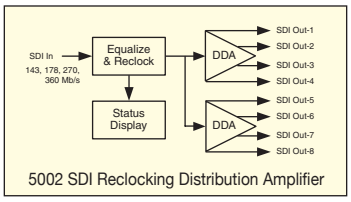
5002

Reclocking SDI Video Distribution Amplifier

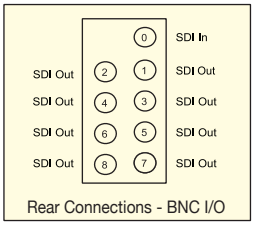


The 5002 is a high-performance, card-based reclocking serial distribution amplifier with eight outputs that is compatible with legacy* digital frames. It accepts SDI video digital rates of 143, 178, 270 and 360 Mbits. Card edge LED indicators show the received data rate, data lock and power presence.

5002 Block Diagram



5002 Rear Connection



Features

- Eight reclocked SDI outputs
- Supports 50–400 Mbit rates
- Auto rate detect
- Auto equalization
- Data rate indicator
- Input signal presence indicator
- Five year warranty

Specifications

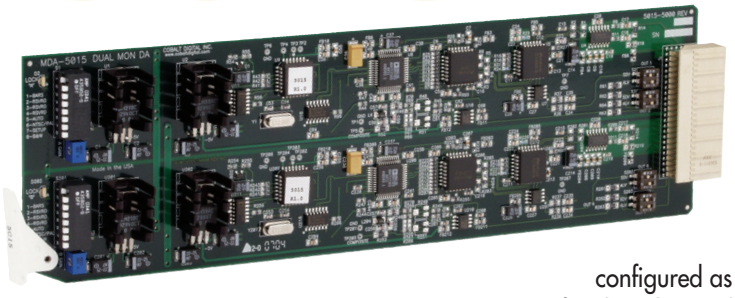
Input
50–400 Mbits SDI SMPTE 259M
Output (8)
50–400 Mbits SDI SMPTE 259M
Equalization
Auto to 1000' (300M) Belden 1694
Reclocking
Yes
Power
Positive rail 2 watts; negative rail 0 watts
Indicators
Power, data lock and data rate (143,178, 270, 360 Mb/s)
Size
10.5" x 3" (263x75mm)
Fits legacy* frames

** Ross 8110 frames, Leitch 6800™ series cards and equivalents.*

TOC

5015

Dual Monitoring Converter - SDI to Analog Composite with Reclocked SDI

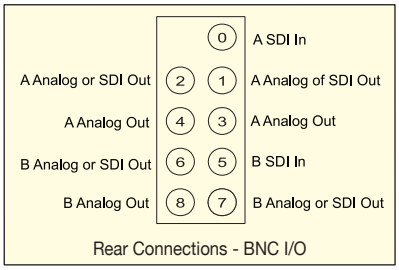


The 5015 is a high performance dual SDI video to analog composite and reclocked SDI converter card that is compatible with legacy* digital frames. The end user can select analog or digital output configuration as need for a given application. The 5015 has two, A and B SDI to analog encoders. The A encoder has four outputs two of which are fixed analog composite and two can be configured as SDI or analog composite. The B encoder has three outputs. One is fixed analog and the other two can be configured as reclocked SDI or analog composite video. Output gain control for analog composite is adjustable from the card edge as well as configuration switches for both converters.

Features

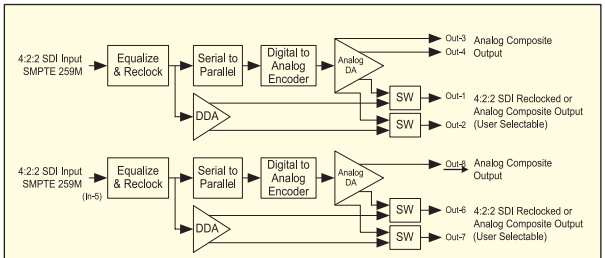
- Dual converters on one card
- 20 conversions with one 2U digital frame
- Both analog composite & SDI reclocked outputs
- 8-bit data path, 10-bit DAC
- Automatic configuration NTSC/PAL
- Input signal presence indicator
- Built-in color bar generator (analog outputs only)
- Video gain control accessible on card edge
- User selectable digital outputs, two per converter
- Five year warranty

5015 Rear Connection



Rear Connections - BNC I/O

5015 Block Diagram



5015 DUAL SDI to Analog Composite and SDI Reclocking Distribution Amplifier

Specifications

Input
(2) 270 Mbit SMPTE 259M-C

Output
4 on A converter and 3 on B converter
User selectable

Digital Output
Reclocking – Up to 2 on A and 2 on B converter
User selectable with composite analog

Analog Output
Up to 4 on A converter and up to 3 on B converter
User selectable

Setup
User selectable on/off for NTSC

Power
Positive rail 6.5 watts; negative rail 0.5 watts

Indicators
Two data lock indicators (one per converter)

Size
10.5" x 3" (263x75mm)
Fits legacy* frames

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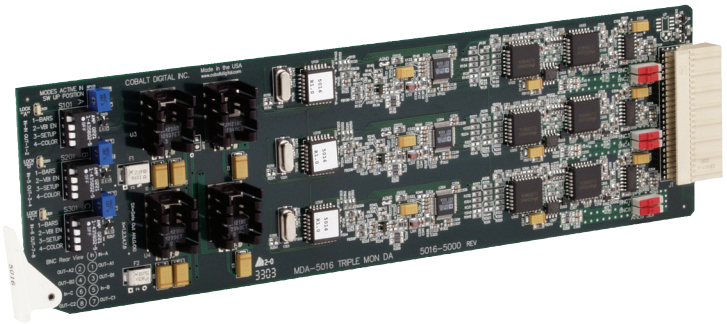
TOC

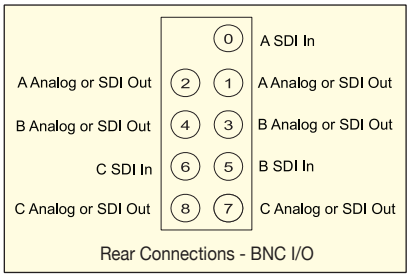
5016

Triple Monitoring Converter - SDI to Analog Composite with Reclocked SDI

The 5016 is a high performance triple SDI to analog composite encoder with reclocked SDI card that is compatible with legacy* digital frames. The end user can select analog or digital output configuration as needed for a given application. The 5016 has three SDI encoders. Each channel has two outputs that can be configured as analog composite output or reclocked digital output. Analog output gain control for composite is adjustable from the card edge as well as configuration switches for each of the three converters.

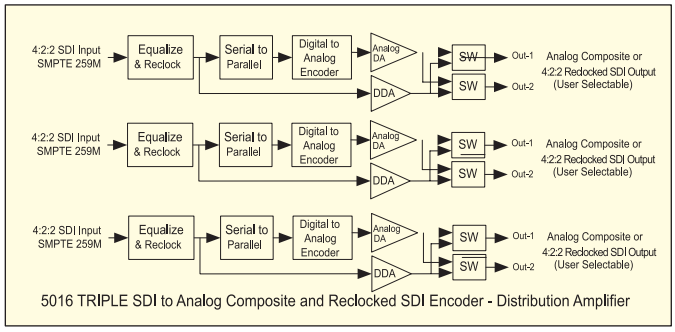


5016 Rear Connection



Rear Connections - BNC I/O

5016 Block Diagram



5016 TRIPLE SDI to Analog Composite and Reclocked SDI Encoder - Distribution Amplifier

Features

- Three conversions on one card (SDI SMPTE 259M-C)
- 30 conversions with one 2U digital frame
- Both analog composite & SDI reclocked outputs
- 8-bit data path, 10-bit DAC
- Automatic configuration NTSC/PAL
- Input signal presence indicator
- Built-in color bar test generator (analog outputs only)
- Video gain control accessible on card edge
- User selectable output configuration
- Five year warranty

Specifications

Input
(3) 270 Mbit SMPTE 259M-C

Output
2 on A converter, 2 on B converter
2 on C converter user selectable

Digital Output
Reclocking – Up to 2 on A, 2 on B, 2 on C converter
(User switchable with composite analog)

Analog Output
Up to 2 on A, 2 on B, 2 on C converter user selectable

Power
Positive rail 6.5 watts; negative rail 0.5 watts

Indicators
Three data lock indicators (one per converter)

Size
10.5" x 3" (263x75mm)
Fits legacy* frames

** Ross 8110 frames, Leitch 6800™ series cards and equivalents.*

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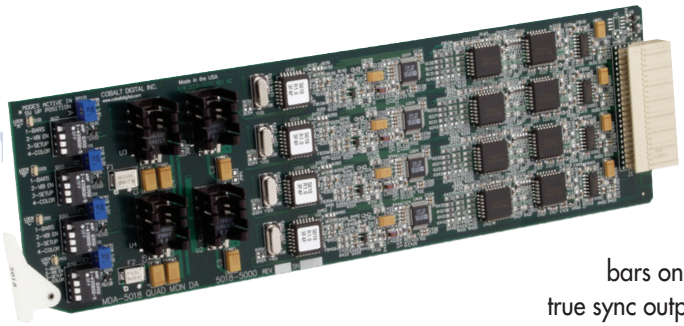
TOC

5018

Quad Monitoring Converter - SDI to Analog Composite

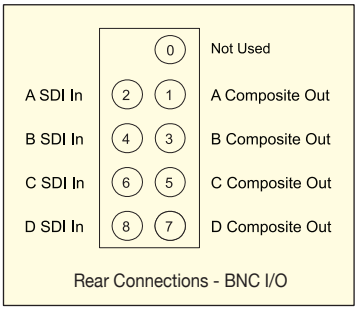


The 5018 is a high-performance Quad 4:2:2 serial digital video to analog composite converter card that is compatible with legacy* digital frames. Gain, status LED and configuration switches are all mounted on the board edge to allow adjustments and configuration without having to remove the board from the frame. Configuration switches allow for setup on/off (NTSC only), VBI blanking on/off, color on/off and test color bars on/off (requires 270 Mbit input to clock bars). Other features include: true sync output levels of -286mV and low power consumption enabling up to 40 conversions per 2U frame.

Features

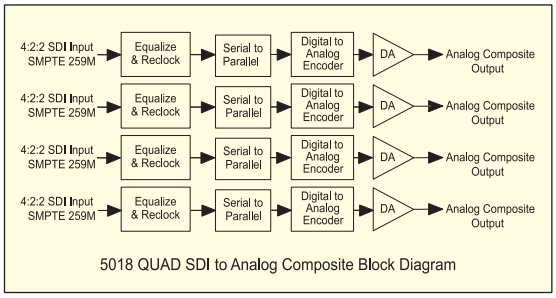
- Four SDI reclocked to analog composite conversions
- 8-bit input, 10-bit DAC
- Built-in color bar generator (requires SDI clocking input)
- Automatic configuration NTSC/PAL
- Color encoding user selectable to B&W
- User gain control in-frame accessible from card edge
- User setup switches in-frame accessible from card edge
- Data-lock indicator
- VBI blanking on/off
- Five year warranty

5018 Rear Connection



Rear Connections - BNC I/O

5018 Block Diagram



5018 QUAD SDI to Analog Composite Block Diagram

Specifications

Input
(4) 270 Mbit SMPTE 259M-C

Output
(4) Analog composite video

Frequency Response
0-5 MHz +/- 0.25 dB

K-Factor
2T < 1.5%

Noise
< 70 dB

Chroma Luma Delay
< 2 ns

Power
Positive rail 7.5 watts; negative rail 0.5 watts

Indicators
Data lock – one per converter

Size
10.5" x 3" (263x75mm)
Fits legacy* frames

** Ross 8110 frames, Leitch 6800™ series cards and equivalents.*

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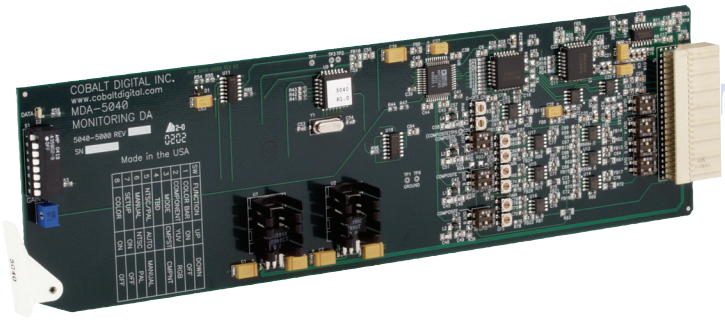
TOC

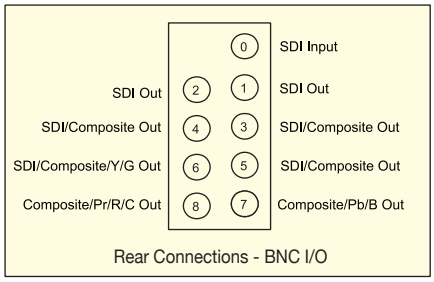
5040

Monitoring Converter - SDI to Analog Composite, Y/C and Component Video plus Reclocked SDI

The 5040 is a legacy* digital frame compatible card that provides SDI video to analog composite, Y/C and component (YPbPr/RGB) conversion and reclocked serial digital video output. It allows the end user to select the analog or digital output configuration as needed for a given application. The analog output gain control and card configuration switch is adjustable from the card edge while the card is mounted in the frame.

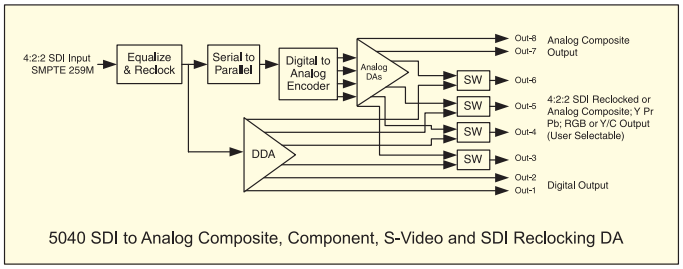


5040 Rear Connection



Rear Connections - BNC I/O

5040 Block Diagram



5040 SDI to Analog Composite, Component, S-Video and SDI Reclocking DA

Features

- SDI SMPTE 259M-C to analog composite, component or Y/C
- Two dedicated SDI reclocked outputs
- Two dedicated composite analog outputs
- Four user selectable digital or analog outputs
- 8-bit processing, 10-bit DAC
- 0-5 MHz +/- 0.25 dB
- Automatic configuration NTSC/PAL
- Input signal presence indicator
- Built-in color bar generator (analog outputs only)
- Video gain control accessible on card edge
- Five year warranty

Specifications

Input
270 Mbit SMPTE 259M-C

Digital Output
Reclocked 2–4 depending user output configuration

Analog Output
2-4 depending on user output configuration
composite, Y/C and/or component in RGB or YPbPr

Frequency Response
0 -5 MHz +/- 0.25 dB

K-Factor
< 1.5%

Noise
> 70 dB

Power
Positive rail 6.5 watts; negative rail 0.5 watts

Indicators
One data lock indicator

Size
10.5" x 3" (263x75 mm)
Fits legacy* frames

** Ross 8110 frames, Leitch 6800™ series cards and equivalents.*

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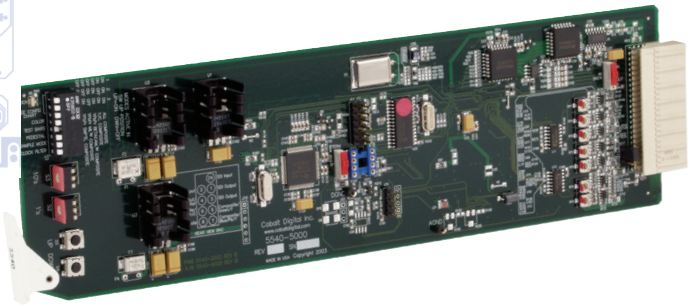
TOC

5540

D/A 10-bit SDI to Analog Composite, Y/C and Component



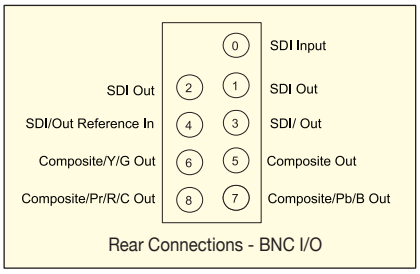
The 5540 is a full-featured, legacy* digital frame compliant high-quality 10-bit SDI SMPTE 259M-C to analog composite, Y/C and component YPbPr and RGB. The 10-bit encoding engine over samples 4:2:2 to 4:4:4 for internal processing and then 4x over samples the outputs to 16:16:16 for improved signal performance. An internal VCXO with de-jitter loop filter to 2Hz reduces digital jitter prior to encoding, improving burst stability on composite and Y/C signals. A reference circuit, color frames the 5540 for timed environments with full user digital proc. control.

Features

- High quality 10-bit digital to analog conversion
- Four user configurable analog outputs: composite, component, (YPbPr & RGB) and Y/C outputs
- Supports component BetaCam™, MII™ and SMPTE/N10
- Encoding to 16:16:16 over sampled outputs
- 10-bit digital video path
- Internal de-jitter filter to 2Hz
- Reclocked SDI outputs
- Internal color bar generator
- User configuration switches on board edge
- User proc. configuration control of video levels
- DNR and gamma control
- Five year warranty

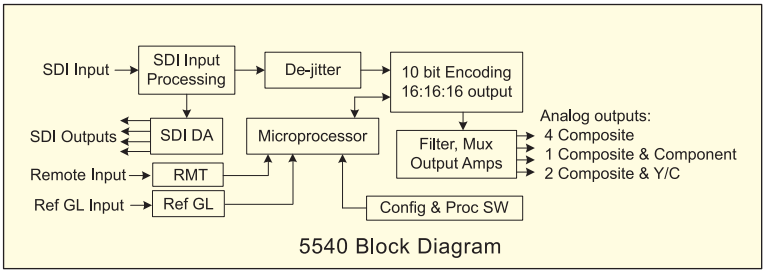
47

5540 Rear Connection



Rear Connections - BNC I/O

5540 Block Diagram



5540 Block Diagram

Specifications

Input
270 Mbit SMPTE 259M-C

Digital Output
4 reclocked SDI (3 w/reference in)

Analog Output
Four outputs user configurable: all composite, composite & component or composite with Y/C YPbPr or RGB

Output Jitter
Internal digital de-jitter filter to 2Hz

D/A Process
4x or 2x over-sampled (16:16:16 or 8:8:8)

Frequency Response
5 MHz +/- 0.15 dB, 0-6.75 MHz+/- 0.25 dB

K-Factor
< 0.7%

S/N
> 70 dB

Proc. Control
Digital control of gain, DC, saturation & hue, filtering, gamma correction and DNR with user values saved and factory presets

Power
5.5 watts positive rail; 0.5 watts negative rail

Size
10.5" x 3" (263x75mm)
Fits legacy* frames

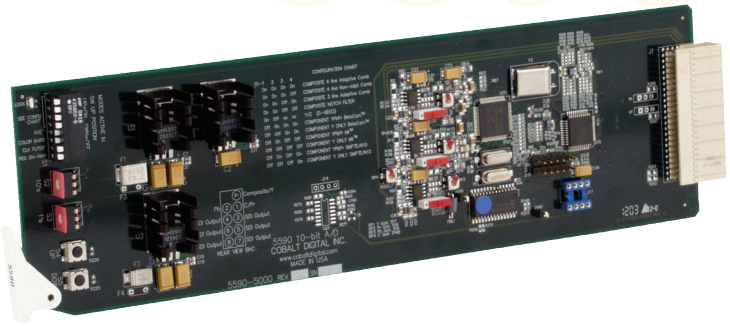
** Ross 8110 frames, Leitch 6800™ series cards and equivalents.*

TOC

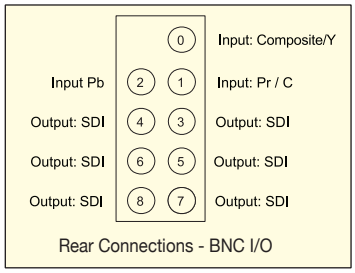
5590

A/D Analog Composite, Y/C, Component to 10-bit SDI with EDH

The 5590 is a legacy* digital frame compliant full-featured high quality analog to 10-bit serial digital converter with EDH. The 5590 accepts composite, Y/C and component YPbPr analog input signals and outputs SMPTE 259M-C 270 Mbit SDI with EDH. Differential inputs are included for ground loop rejection. A 4, 3 or 2-line comb or notch filter is user configurable for Y/C separation in composite mode. All modes have 2X 8:4:4 input over sampling. An output jitter VCXO reduces 270 Mbit jitter down to 2Hz. Full user digital proc. control, with user memory allows digital adjustment of gain, DC offset, saturation and hue.

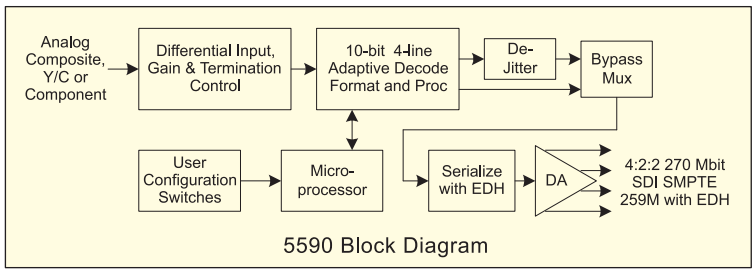


5590 Rear Connection



Rear Connections - BNC I/O

5590 Block Diagram



5590 Block Diagram

Specifications

Input
Composite, Y/C or component (YPbPr)

Output
Four SDI SMPTE 259M-C with EDH

Input Type
Differential – all inputs

Analog Gain
Auto or manual mode

Output Jitter
< 0.14 UI measured with color bar input

A/D Process
8:4:4 2X over sampled

Frequency Response
5 MHz +/- 0.25 dB

K-2T
<1 %

S/N
> 52 dB

Comb Filter
4, 3 or 2-line adaptive / non-adaptive
User selectable

Power
6 watts positive rail; 0.5 watts negative rail

Size
10.5" x 3" x 1" (139x77x26mm)
Fits legacy* frames

Features

- Composite, component YPbPr and Y/C inputs
- Supports component BetaCam™, MII™ and SMPTE/N10
- Differential inputs for power hum rejection
- 10-bit A to D and digital video path
- User selectable (on/off) 75 ohm termination
- 4 or 3-line adaptive comb filter for composite mode
- Four 270 Mbit SDI outputs with EDH
- Internal color bar generator
- User configuration switches
- User proc. configuration control
- Manual or automatic input gain control
- Five year warranty

** Ross 8110 frames, Leitch 6800™ series cards and equivalents.*

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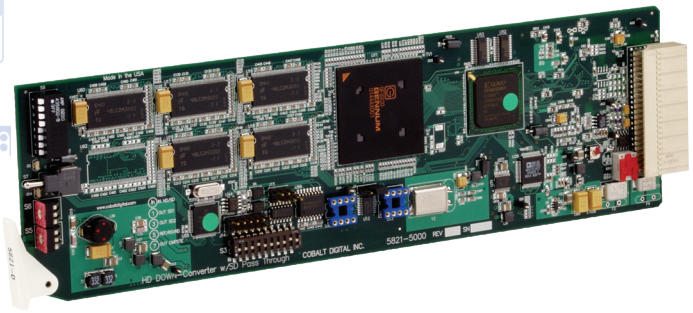
TOC

5821

HD/SD Down Converter with SD Pass Through and Analog Outputs

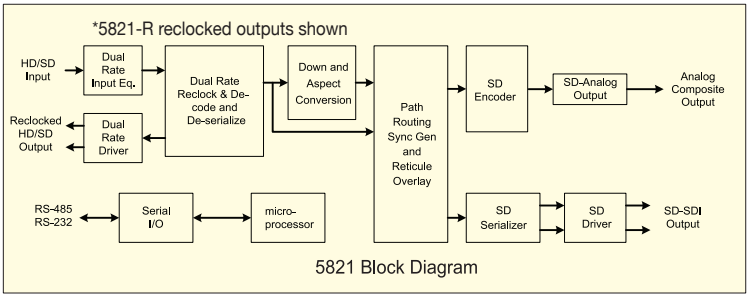


The 5821 is an extremely versatile HD/SD tool that accepts dual rate HD/SD SMPTE-292/259M-C digital inputs and down converts incoming HD signals with full re-aspect controls and it passes SD signals and re-aspects if needed. Outputs are SD-SDI and SD analog composite. The 5821 can rate convert 23.98 frame video to 59.94 frames, move progressive to interlace and has extensive user programmable reticule overlays. The data path is 10-bit with 12-bit analog encoding. The 5821-D is designed for high density legacy* frames and the 5821-R is for standard legacy frames.

Features

- 10-bit down conversion
- Three outputs: two SD-SDI and one analog composite
- Auto standard detect and configuration SMPTE 292/259M-C
- Full aspect ratio conversion (two axis)
- Four user programmable overlays with 4x3 or 16x9 safe area reticules
- 3:2 frame rate converting 23.98 to 59.94
- Output field alignment for down converted 720p signals
- Analog SD output over sampled to 216 MHz
- 10-bit video path and 12-bit analog encoding
- Proc. controls affect SDI and analog outputs
- User presets controllable from card edge
- Five year warranty

5821 Block Diagram

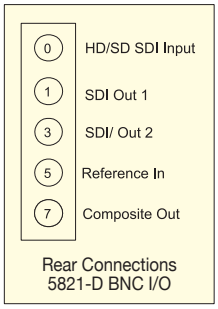


5821 Block Diagram

Ordering information:

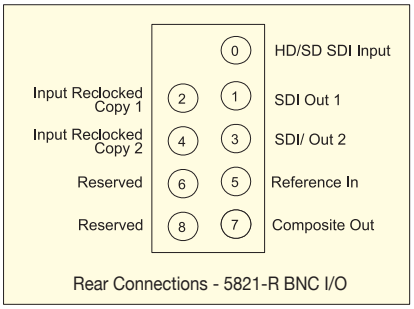
5821-D Downconversion without reclocked outputs
5821-R Downconversion with reclocked outputs

5821-D Rear Connection



Rear Connections
5821-D BNC I/O

5821-R Rear Connection



Rear Connections - 5821-R BNC I/O

Specifications

Digital Input
HD-SD SMPTE-292/259M-C
1080: 59.94/50/29.97/23.98 (p/sF)
720: 59.94/50/29.97/25/23.98 (encoded in P59.94)

Digital Output
270 Mbit SMPTE 259M-C

Analog Output
Composite video – 525/59.94, 625/50

Reticules
4-user programmable overlays with 4x3 and 16x9 defaults.

Power
5821-D: 7 watts, 5821-R: 8 watts

Size
10.5" x 3" x 1" (139x77x26mm), fits legacy* frames

** Ross 8110 frames, Leitch 6800™ series cards and equivalents.*

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TOC

4010

Encoder SDI to Analog Composite

The 4010 is a rugged, compact, high quality 270 Mbit SDI to analog composite converter. The 4010 accepts both digital 525 and 625 line standards and automatically configures the output for NTSC or PAL, tracking the input line standard. The converter includes user control of setup for NTSC, color on/off and VBI blanking. The 4010 is a very cost effective SDI to analog composite converter.

Specifications

Input
270 Mbit SDI, SMPTE 259M-C

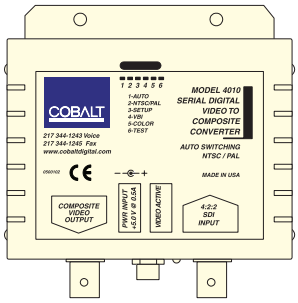
Output
Analog composite video –
auto input tracking NTSC (525/60)
SMPTE 170M
PAL (625/50) ITU 624-4

Power
5 VDC @ 1.75 watts

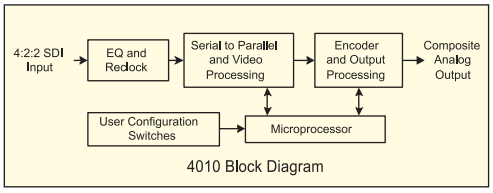
Requires Power Supply
PS4 or PS5

Size
3.5" x 2.75" x 0.75"
(89x70x19mm)
(Mounting tab 0.5" x 3.25")

4010 Configuration



4010 Block Diagram



4010 Block Diagram

Features

- Automatic output configuration NTSC/PAL
- Composite or luminance output
- 8-bit input; 10-bit encoding
- Built-in test generator
- Sampling: 27MHz (2x pixel over-sampling)
- Signal Lock LED
- Adjustable output gain
- Externally accessible configuration override switches
- Compact rugged steel case with mounting tabs
- Five year warranty

50

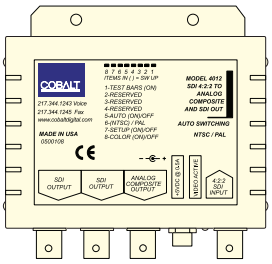
4012

Encoder SDI to Analog Composite - Dual Reclocked Outputs

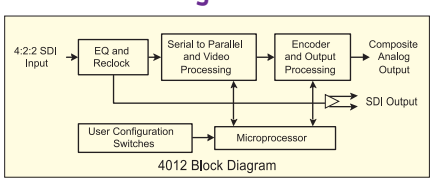
Features

- Outputs: composite analog and two reclocked SDI
- 8-bit input; 10-bit encoder; 10-bit DAC
- Built-in color bar generator
- Automatic configuration NTSC/PAL
- Externally accessible configuration override switches
- Adjustable output gain
- Compact rugged steel case with mounting tabs
- External LED with status of power and input signal
- Five year warranty

4012 Configuration



4012 Block Diagram



4012 Block Diagram

The 4012 is a compact, SDI to analog composite encoder with two reclocked SDI outputs. The 4012 offers full flexibility for monitoring and toolbox applications. The encoder has fully automatic input line standard tracking and automatic output configuration. The Cobalt series has externally accessible user configuration switches for user setup and non-standard configurations.

Specifications

Input
270 Mbit SDI, SMPTE 259M-C

Output
Two reclocked SDI and one composite analog NTSC (525/60) SMPTE 170M PAL (625/50)

Power
+5V DC @ 3 watts

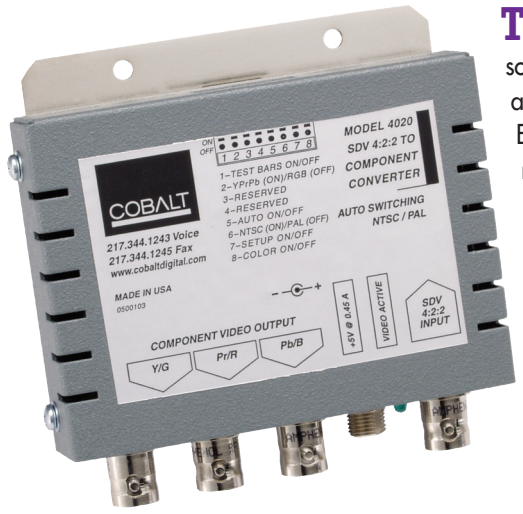
Requires Power Supply
PS4 or PS5

Size
3.7" x 2.75" x 0.75"
(94x70x19mm)

TOC

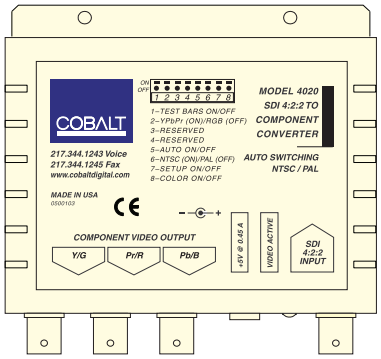
4020

D to A SDI to Analog Component



The 4020 is a compact, SDI to analog component converter. It offers a versatile solution to monitoring and tool box applications. The Cobalt series offers fully automatic input line standard tracking and automatic output configuration. Each unit has external user configuration switches for signal setup and non-standard configurations.

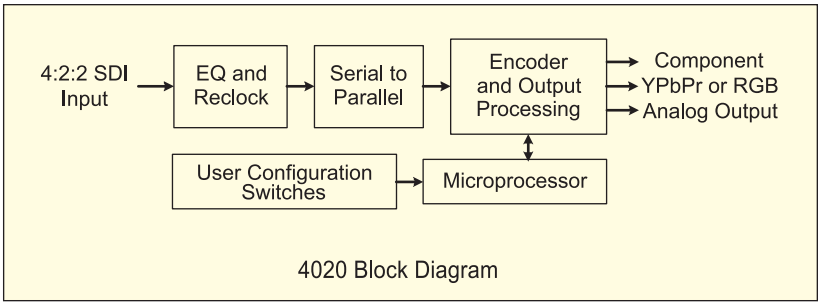
4020 Configuration



Features

- Output: analog component YPbPr or RGB
- 8-bit input; 10-bit encoder; 10-bit DAC
- Built-in color bar generator
- Automatic configuration NTSC/PAL
- Externally accessible switches for manual override configuration
- Adjustable output gain
- Compact rugged steel case with mounting tabs
- External LED with status of power and input
- Five year warranty

4020 Block Diagram



4020 Block Diagram

Specifications

Input
270 Mbit SDI, SMPTE 259M-C

Output
Analog component YPbPr or RGB

Encoder
8-bit input, 10-bit encoding

Power
5 VDC @ 2.5 watts

Requires Power Supply
PS4 or PS5

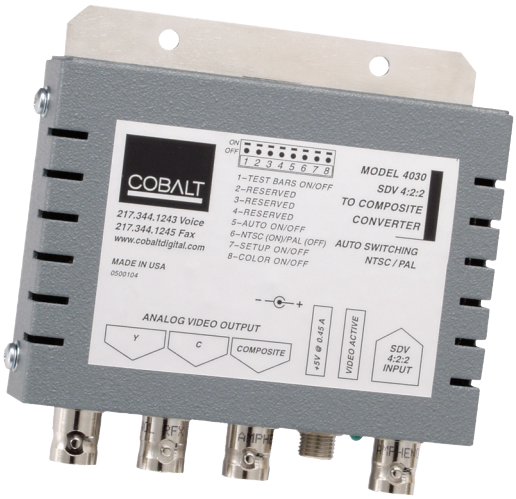
Size
3.7" x 2.75" x 0.75" (94x70x19mm)

TOC

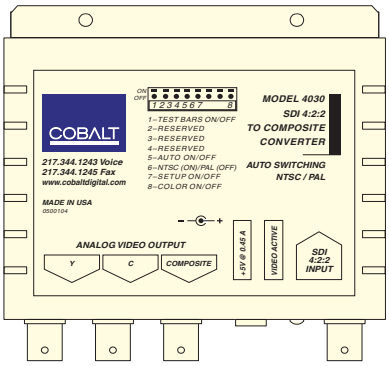
4030

Encoder/D to A SDI to Analog Composite or Y/C

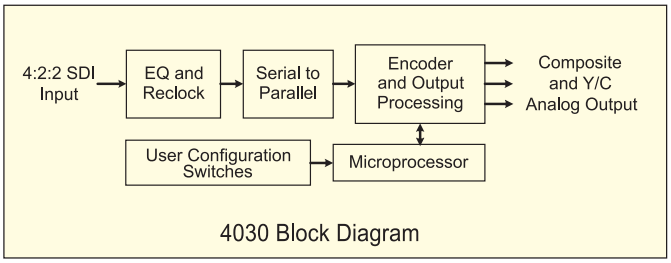
The 4030 is a compact, SDI to analog composite and Y/C converter. It offers a versatile solution to monitoring and tool box applications. The Cobalt series offers fully automatic input line standard tracking, automatic output configuration and 10-bit DAC quantization. Each unit has external user configuration switches for signal setup and non-standard configurations.



4030 Configuration



4030 Block Diagram



4030 Block Diagram

Features

- Simultaneous output analog composite and Y/C
- Built-in color bar generator
- Automatic NTSC/PAL I/O configuration
- Automatic configuration NTSC/PAL
- Color on/off control
- Externally accessible switches for manual override configuration
- Adjustable output gain
- Compact rugged steel case with mounting tabs
- External LED, status of power and input signal
- Five year warranty

Specifications

Input
270 Mbit SDI, SMPTE 259M-C

Output
Analog composite and Y/C

Encoder
8-bit input, 10-bit encoding

Power
5 VDC @ 2.5 watts

Requires Power Supply
PS4 or PS5

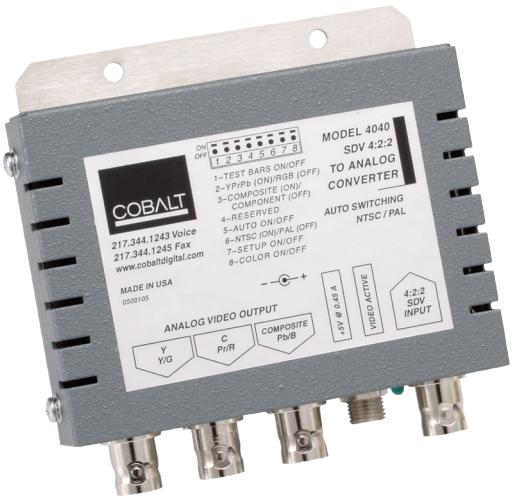
Size
3.7″ x 2.75″ x 0.75″ (94x70x19mm)

Sales 800.669.1691 ▪ Office 217.344.1243 ▪ Fax 217.344.1245 ▪ www.cobaltdigital.com

TOC

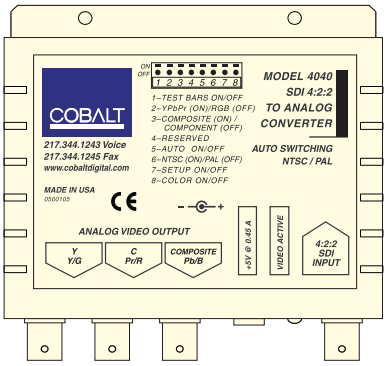
4040

Encoder/D to A SDI to Analog Composite, Y/C or YPbPr



The 4040 is a compact, fully automatic SDI to analog composite with Y/C and component YPbPr or RGB converter. It offers a versatile solution to monitoring and tool box applications. The 4040 is a fully automatic input line standard tracking and automatic output configuration. Each unit has external user configuration switches for signal setup and non-standard configurations.

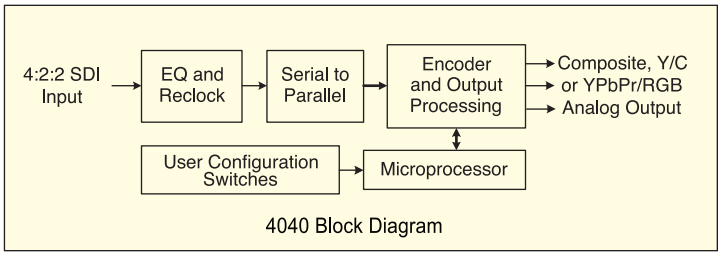
4040 Configuration



Features

- Outputs analog composite & Y/C, or component YPbPr and RGB
- 8-bit input, 10-bit encoder, 10-bit DAC
- Built-in color bar generator
- Automatic configuration NTSC/PAL
- Externally accessible switches for manual override configuration
- Adjustable output gain
- Compact rugged steel case with mounting tabs
- External LED, status of power and input signal
- Five year warranty

4040 Block Diagram



4040 Block Diagram

Specifications

Input
270 Mbit SDI SMPTE 259M-C

Output
Analog composite & Y/C or component YPbPr or RGB (Sync on Y/RGB)

Power
5 VDC @ 2.5 watts

Requires Power Supply
PS4 or PS5

Size
3.7" x 2.75" x 0.75" (94x70x19mm)

8000, 6000, and 4000 Series Power Supplies

8000 and 6000 Series Power Supplies

PS11

PS11 Universal Power Supply, UL/CSA, input: 100-240 60/50 Hz, output: 5 VDC @ 12 watts

PS12 Universal Power Supply, IEC connector, CE/UL/CSA, input: 100-240 60/50 Hz, output: 5 VDC @ 12 watts

PS24 Universal Power Supply, IEC connector, CE/UL/CSA, input: 100-240 60/50 Hz, output: 12 VDC @ 30 watts

5000 Series Power Supply

PSF1 Power Supply for 5000F1 Frame

PS12

6000 and 4000 Series Power Supplies

PS4 Universal Power Supply, UL/CSA, input: 100-240 60/50 Hz, output: 5 VDC @ 12 watts

PS5 Universal Power Supply, IEC connector, CE/UL/CSA, input: 100-240 60/50 Hz, output: 5 VDC @ 12 watts

PS24

PS4

PS5

PSF1

Cobalt Digital Inc.
Five Year Product Warranty

Our warranty for products that we manufacture is to be free of defects in materials and workmanship for a period of five years from the date of purchase with an exception on power supplies and cooling fans which carry a one year warranty. Cobalt Digital's obligation under this warranty is limited to repair or replace, at its sole option, any such defective products. Products to be returned must have a Return Material Authorization (RMA) number given by Cobalt Digital Inc. and a description of the problem encountered, the date of purchase, name of the dealer it was purchased from and serial number. Products must be returned to Cobalt Digital Inc. with transportation charges prepaid and the equipment double boxed in the original packing or equivalent with sufficient packaging protection and insured for the purchase price. This warranty does not apply to equipment that has been damaged by accident, negligence, misapplication or altered or modified in anyway. This warranty applies only to the original purchaser. This product is not authorized for use in life support applications. Cobalt Digital Inc. 2007

Factory Service Center

Cobalt Digital Inc.

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About Cobalt

Founded in 1997, Cobalt Digital, Inc., is a leading designer and manufacturer of high quality, cost effective conversion products. The product line includes; HD/SD up/down and cross format converters; HD and SD analog to digital and digital to analog converters; HD-SD audio embedders/de-embedders and Dolby decoder cards. There is also a broad range of SD stand alone 10-bit analog to digital and digital to analog converters; low cost 8-bit digital to analog converters; and a range of plug in cards that are compatible with industry standard frames.

At NAB 2007 the company launched the first of the Cobalt COMPASS™ range of products. The Cobalt COMPASS™ product line offers an extensive range of modular conversion products designed to be installed into the openGear™ frame. COMPASS™ offers multi-purpose solutions to all of today's television broadcast application requirements. All stand alone and modular products are CE approved for worldwide acceptance and Cobalt's emphasis on product reliability is backed up with a 5 year warranty.

The company has supplied product for multiple sports truck companies for many prestigious events. Companies include NEP, Game Creek, Cross Creek, Broadcast Sports Technology and many other sports production companies

Cobalt products have been used in 2006–2007 in such events as NASCAR, The Super Bowl and live PGA tournaments, and are found in all of the major U.S. broadcast networks, multiple TV stations, cable operators, production and post-production companies, mobile/ENG vehicles, theme parks and a large number of corporate and industrial facilities.

Cobalt Digital designs and manufactures high quality, rugged, price competitive products with feature sets not offered from their competitors. By speaking and listening to end-users, Cobalt can provide the ultimate, first class quality equipment to meet the challenging problems of today's digital environment. NASA has installed Cobalt converters on the space shuttle launch tower after testing them to military standards for emissions, vibration and shock. Cobalt conversion products are also commonly used in helicopter news systems, another harsh environment for electronic equipment.

Cobalt won three industry awards in 2006. The first was the TV Technology Star (Superior Technology Award Recipient) for the 8090, dual rate HD/SD 12-bit analog to digital converter with universal inputs, Cobalt was also a co-award winner with the openGear™ frame winning two awards, the NAB AIM and a TV Technology Star Award.

Cobalt Digital markets its products through a growing network of worldwide dealers, systems integrators and other partners. These partnerships continue to expand around the globe as the as the range of products increase and the applications for Cobalt equipment continues to grow.

Cobalt Digital, Inc., is a privately held company with its headquarters in Urbana, Illinois, USA.

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