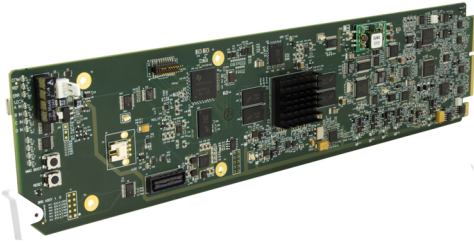


9980-2CSC-3G • 3G/HD/SD-SDI Dual-Channel RGB Color Space Corrector / Frame Sync with Integrated Test Signal Generator and OGCP-9000/CC Control Panel Support



The Cobalt® 9980-2CSC-3G 3G/HD/SD-SDI Dual-Channel RGB Color Space Corrector / Frame Sync with Integrated Test Signal Generator and OGCP-9000/CC Control Panel Support offers two independent signal paths of color correction/frame sync on a single open-Gear® card. Using our HPF-9000 20-slot frame, this provides up to 40 channels of processing in a single frame. The 9980-2CSC-3G offers dual independent RGB-space color correction channels with YCbCr proc features with RGB processing controls providing full offset, gain and gamma adjustments. The YCbCr proc controls provide lift, gain, saturation, phase, white clip (hard and soft), black clip, and color saturation clip.

Two independent built-in pattern generators (which provide calibrated 75% or 100% color bars among other patterns) preceding the color correction blocks allow setting custom calibration offsets to compensate for on-set monitor/camera colorimetry, with the custom settings saved to a preset, resulting in one-button recall of monitor/camera calibration settings. Any custom settings can be saved to user presets for instant recall via Dashboard or our intuitive OGCP-9000/CC Color Correction Remote Control Panel. The space-saving design of the 9980-2CSC provides for high

density, allowing two cards to be collocated in adjacent slots and served by a single, standard width "split" rear module. This provides four video paths per each pair of slots, readily providing 20 channels of processing in only 10 slots.

Preset save/load allows saving custom card settings while allowing one-button revert to factory settings. Layered presets allow invoking changes related only to a specific area of concern while not changing any other processing settings or aspects. Full user Dashboard™ or Remote Control Panel remote control allows full status and control access locally or across a standard Ethernet network. GPIO allows direct input routing control and status monitoring.

FEATURES

Two independent processing paths per card – 20 channels of processing in only 10 slots

Full dual-channel independent RGB color correction (offset, gain, gamma)

Dual Frame Sync with full H/V offset and manual/LOS video pattern generator. Color corrector preceded by pattern generator allows custom offset calibrations for on-set monitor/camera colorimetry characteristics.

Passes entire YCbCr gamut in unity gain configuration

Extended YCbCr proc controls with white hard clip, white soft clip, black hard clip, and saturation clip

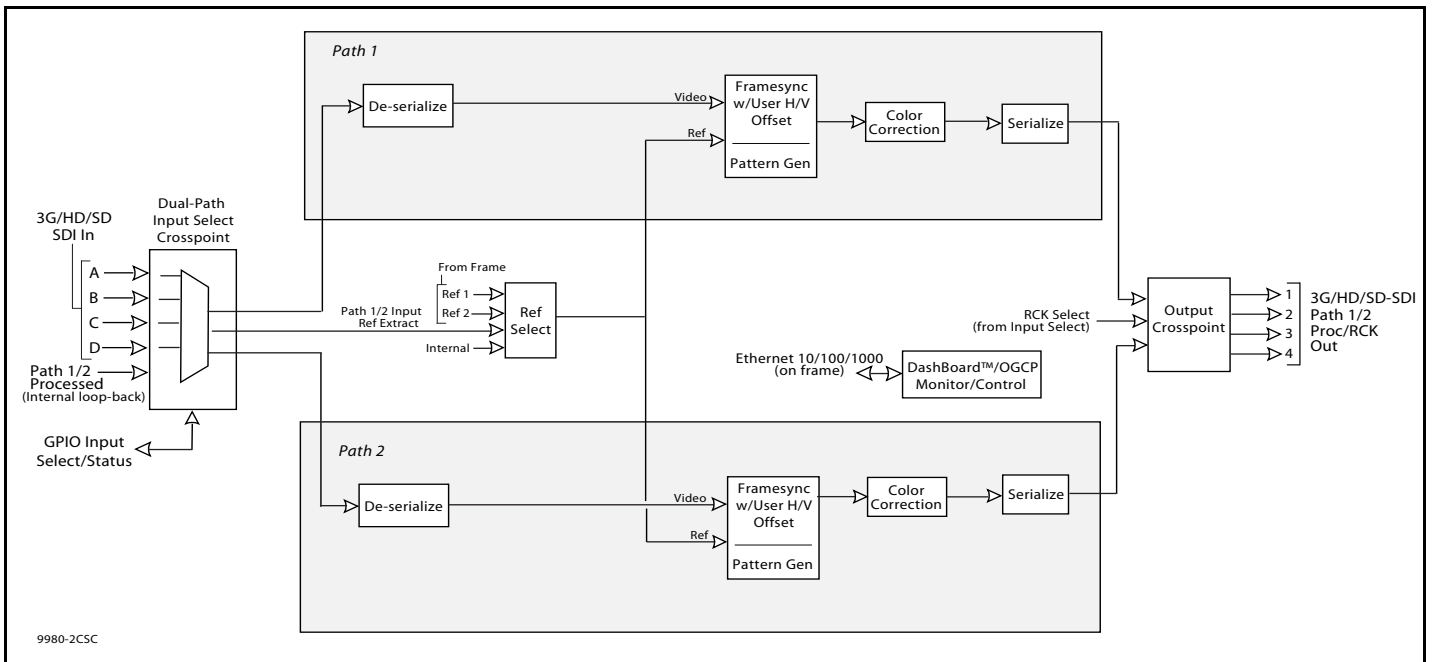
Phase preserved when applying saturation clip

One button bypass of color correction for comparison purposes

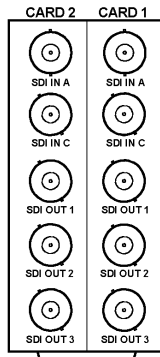
Low-power/high-density design – less than 18 Watts per card

Remote control/monitoring via Dashboard™ software or OGCP-9000/CC remote control panel. Award-winning OGCP-9000/CC Remote Control Panel provides fast and intuitive color correction control.

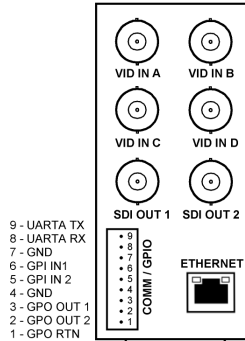
Five year warranty



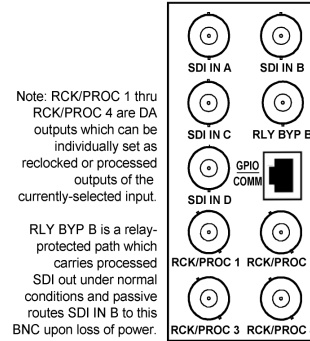
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RM20-9980-AIS



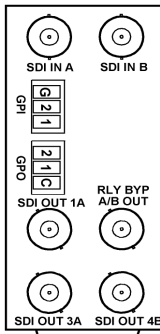
RM20-9980-B



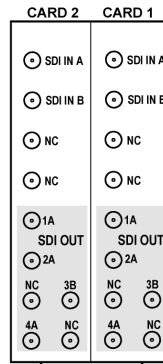
RM20-9980-C

Note: RCK/PROC 1 thru RCK/PROC 4 are DA outputs which can be individually set as relocked or processed outputs of the currently-selected input.

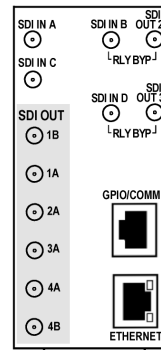
RLY BYP B is a relay-protected path which carries processed SDI out under normal conditions and passive routes SDI IN B to this BNC upon loss of power.



RM20-9980-F



**RM20-9980-GIS-DIN
RM20-9980-GIS-HDBNC**



**RM20-9980-H-DIN
RM20-9980-H-HDBNC**

8 - GND
7 - COM_A_RX
6 - COM_A_TX
5 - GPO OUT 2
4 - GPO OUT 1
3 - GPO RTN
2 - GPI IN 2
1 - GPI IN 1

Note: A and B outputs are DA pairs of corresponding outputs 1 thru 4.

SPECIFICATIONS

Note: Inputs/outputs are a function in some cases of rear I/O module used.

Power

< 18 Watts

SDI Input/Outputs

Up to (4) 75Ω BNC inputs
Up to (4) 75Ω BNC outputs
SDI Formats Supported: SMPTE 259M, SMPTE 292M, SMPTE 424M
SDI Receive Cable Length: 3G/HD/SD: 120/180/320 m (Belden 1694A)
SDI Return Loss: >15 dB up to 1.485 GHz; >10 dB up to 2.970 GHz
SDI Alignment Jitter: 3G/HD/SD: < 0.3/0.2/0.2 UI
Timing Jitter: 3G/HD/SD: < 2.0/1.0/0.2 UI
Minimum Latency (frame sync disabled):
SD: 127 pixels; 9.4 us
720p: 330 pixels; 4.45 us
1080i: 271 pixels; 3.65 us
1080p: 361 pixels; 2.43 us

Note: SDI Return loss and receive cable length are affected by rear I/O module used. Specifications represent typical performance.

Frame Sync Audio/Video Delay

Max offset: 20 frames
Latency (min): 1 frame

User Audio Delay Offset from Video

Bulk delay control: -33 msec to +3000 msec.
Per-channel delay controls: -800 msec to +800 msec

Frame Reference Input

(2) reference from frame bus. SMPTE 170M/318M "Black Burst", SMPTE 274M/296M "Tri-Level".
Return Loss: >35 dB up to 5.75 MHz

RGB Color Correction

RGB Black Adjust (one per primary): -100% to 100% in 0.1% steps
RGB White Adjust (one per primary): 0% to 200% in 0.1% steps
RGB Gamma Control (one per primary): 0.125 to 8.0 in 0.001 steps

YCbCr Processing Amp

White Adjust (Gain): 0 to 200% in 0.1% steps
Black Adjust (Lift): -100% to 100% in 0.1% steps
C Gain (Saturation): 0% to 200% in 0.1% steps
Color Phase: -360° to +360° in 0.1 degree steps

YCbCr Clip

Y Black hard clip (values limited at or above): -6.8% to 50% in 0.1% steps
Y White hard clip (values limited at or below): 50% to 109.1% in 0.1% steps
Y White soft clip (values rolled off at): 50% to 109.1% in 0.1% steps
CbCr Saturation clip (values limited at or below): 50% to 160% in 0.1% steps

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ORDERING INFORMATION

9980-2CSC-3G 3G/HD/SD-SDI Dual-Channel RGB Color Space Corrector / Frame Sync with Integrated Test Signal Generator and OGCP-9000/CC Control Panel Support

RM20-9980-A/S 20-Slot Frame Rear I/O Module (Split; supports 2 cards) (2) 3G/HD/SD-SDI Input BNC, (3) 3G/HD/SD-SDI Processed or Reclocked Output BNCs (connections are per each Card 1 / Card 2 connector bank)

RM20-9980-B 20-Slot Frame Rear I/O Module (Standard-Width) (4) 3G/HD-SD-SDI Input BNCs, (2) 3G/HD/SD-SDI Output BNCs, COMM/GPIO Port, Ethernet Port

RM20-9980-C 20-Slot Frame Rear I/O Module (Standard Width) (4) 3G/HD/SD-SDI Input BNCs, (4) 3G/HD/SD-SDI Output BNCs, (1) 3G/HD/SDI Output BNC (with relay bypass failover), (1) GPIO/COMM RJ-45 connector

RM20-9980-F 20-Slot Frame Rear I/O Module (Standard Width) (2) 3G/HD/SD-SDI Input BNCs, (1) 3G/HD/SD-SDI Processed Out BNC w/ Latching Input Select/Bypass, (3) 3G/HD/SD-SDI Output BNCs (GUI-selectable as Processed or Reclocked of selected input, (2) GPI, (2) GPO

RM20-9980-G/S-DIN 20-Slot Frame Rear I/O Module (Split; supports 2 cards) (4) 3G/HD/SD-SDI Inputs, (6) 3G/HD/SD-SDI Outputs (Connections are per each Card 1 / Card 2 connector bank; all coaxial connectors DIN1.0/2.3)

RM20-9980-G/S-HDBNC 20-Slot Frame Rear I/O Module (Split; supports 2 cards) (4) 3G/HD/SD-SDI Inputs, (6) 3G/HD/SD-SDI Outputs (Connections are per each Card 1 / Card 2 connector bank; all coaxial connectors HD-BNC)

RM20-9980-H-DIN 20-Slot Frame Rear I/O Module (Standard-Width) (4) 3G/HD-SD-SDI Inputs (2 with independent relay bypass), (8) 3G/HD/SD-SDI Outputs (1x2 DA output of each crosspoint out), COMM/GPIO RJ-45 connector, Ethernet Port (All coaxial connectors DIN1.0/2.3)

RM20-9980-H-HDBNC 20-Slot Frame Rear I/O Module (Standard-Width) (4) 3G/HD-SD-SDI Inputs (2 with independent relay bypass), (8) 3G/HD/SD-SDI Outputs (1x2 DA output of each crosspoint out), COMM/GPIO RJ-45 connector, Ethernet Port (All coaxial connectors HD-BNC)

OGCP-9000/CC 2RU Remote Control Panel for Color Correction (Specify country of destination for power cord)