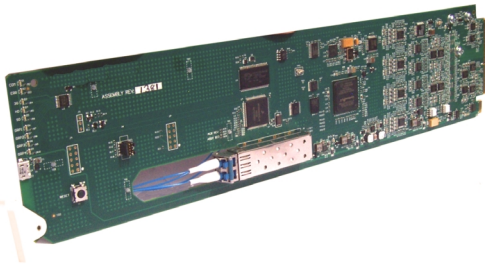


9991-SDI-TO-IP-10GE • 3G/HD/SD-SDI SMPTE Encapsulator (2022-6 or 2110 Options) with AES / Analog Audio Embed / De-Embed and 10GigE IP Optical Interface



The Cobalt® 9991-SDI-TO-IP-10GE 3G/HD/SD-SDI SMPTE Encapsulator (2022-6 or 2110 Options) with AES / Analog Audio Embed / De-Embed and 10GigE IP Optical Interface offers full-flexibility AES and analog audio embedding/de-embedding with SMPTE IP encapsulation in a basic, economical, high-efficiency openGear® card. More than only a basic embedder/de-embedder, the 9991-SDI-TO-IP-10GE offers the flexibility of SDI-to-IP as well as providing fully flexible AES and analog audio embedding/de-embedding. When ordered, the 9991-SDI-TO-IP-10GE can be factory-fitted with either a SMPTE 2022-6 or 2110 IP encapsulator SFP module.

The 9991-SDI-TO-IP-10GE provides full 16-channel embed / de-embed between AES, 8-channel analog audio, and all four groups of embedded audio. Audio embed adaptive SRC allows asynchronous 48 kHz AES audio to automatically sync with program video 48 kHz timing for glitch-free embedding. Individual, per-pair SRC auto-detects and disables SRC when a Dolby pair is detected on an input pair. Analog embed/de-embed conforms with professional balanced audio at 0 dBFS to pro 24 dBu levels using full 24-bit conversion. The 10GigE port can be used directly with 10GigE video switches and routers.

Full audio crosspoint allows per-channel gain and routing controls, as well as built-in tone generators.

Preset save/load allows saving custom card settings while allowing one-button revert to factory settings. Full user Dashboard™ or Remote Control Panel remote control allows full status and control access locally or across a standard Ethernet network.

FEATURES

Orderable as SMPTE 2022-6 or 2110 compliant. 2022-6 model is ST 2022-6 (HBRMT), ST-424, ST-292, and ST-259 compliant.

16-channel AES support and 8-channel analog audio support in one card. Individual per-pair embedding or de-embedding. Provides four-group SDI embed/de-embed and cross-conversions between analog and AES discrete audio.

DashBoard™ status display, audio meters, tone generators. GUI audio meters provide ready assessment of content presence and line-up.

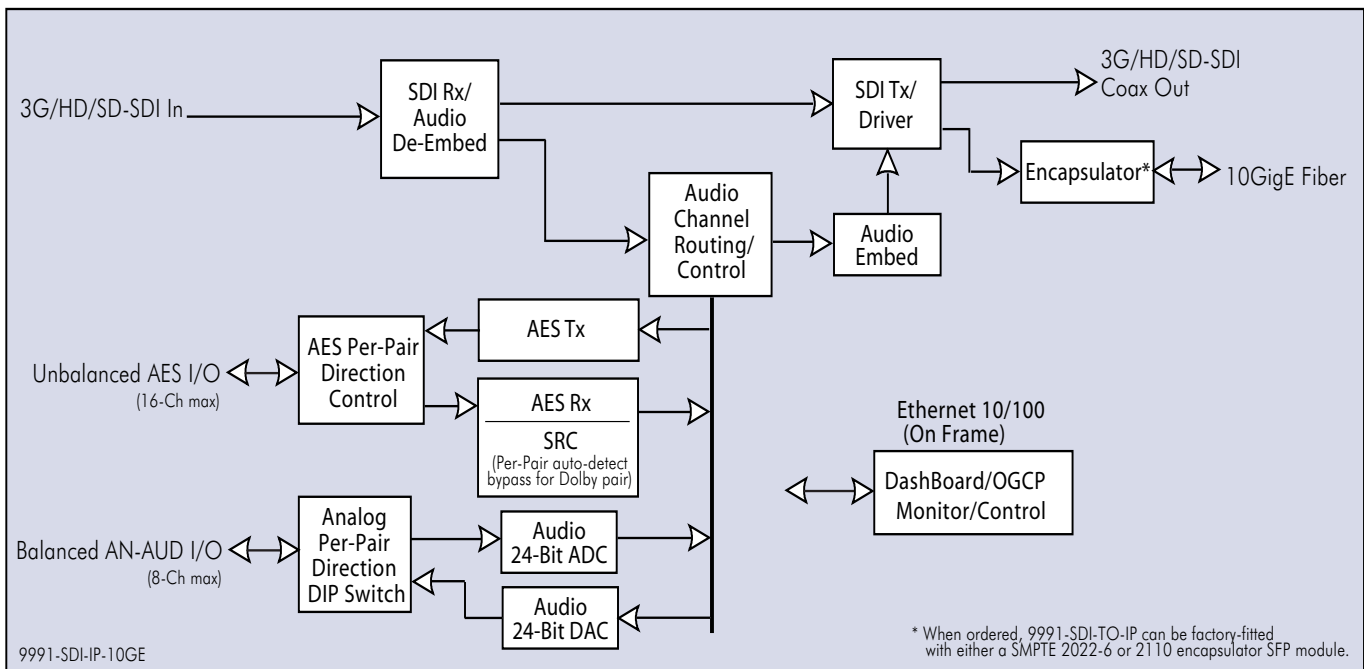
Audio embed adaptive SRC allows asynchronous 48 kHz AES audio to automatically sync with video 48 kHz timing for glitch-free embedding. Individual, per-pair SRC auto-detects and disables SRC when a Dolby pair is detected on an input pair.

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

Option +DT User COM Data Insert/Extract Software Option allows serial data insert/extract over SDI (User DID/SDID access)

Remote control/monitoring via Dashboard™ software or OGCP-9000 remote control panels

Five year warranty



9991-SDI-TO-IP-10GE • 3G/HD/SD-SDI SMPTE Encapsulator (2022-6 or 2110 Options) with AES / Analog Audio Embed / De-Embed and 10GigE IP Optical Interface

SPECIFICATIONS

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

Power

<18 Watts

SDI/Fiber Inputs/Outputs

(1) 75Ω BNC input

(1) 75Ω BNC output

SDI Receive Cable Length (1694A): 120m/180m/360m (3G/HD/SD)

SDI Return Loss: >15 dB up to 1.485 GHz; >10 dB up to 2.970 GHz

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

Alignment Jitter: 3G/HD/SD: < 0.3/0.2/0.2 UI

Timing Jitter: 3G/HD/SD: < 2.0/1.0/0.2 UI

(1) GigE Fiber I/O; Multi-Mode; LC connectors

Fiber Wavelength, Tx: 1310 nm

Tx Power: -5.0 dBm (min)

SDI Formats Supported: SMPTE 259M, SMPTE 292M, SMPTE 424M

Audio Conversion Format

48 kHz sampling, 24-bit. Auto-SRC bypass for Dolby inputs. Analog audio I/O conforms to +24 dBu <=> 0 dBFS.

Analog Audio Specifications

Input Impedance: >10 kΩ

Reference Level: -20 dBFS

Nominal Level: +4 dBu

Input Clip Level: +24 dBu (0 dBFS)

Freq. Response: ±0.2 dB (20 Hz to 20 kHz)

SNR: 115 dB (A weighted)

THD+N: -96 dB (20 Hz to 10 kHz)

Crosstalk: -106 dB (20 Hz to 20 kHz)

Output Impedance: < 50 Ω

Max. Output Level: +24 dBu (0 dBFS)

Discrete Audio Input/Output

(8) Unbalanced AES (AES-3id; 75Ω) with per-pair port direction controls

(8) Balanced Analog Audio with per-pair port direction controls

ORDERING INFORMATION

9991-SDI-TO-IP-10GE-2022-6 3G/HD/SD-SDI SMPTE 2022-6 Encapsulator with AES / Analog Audio Embed / De-Embed and 10GigE IP Optical Interface

9991-SDI-TO-IP-10GE-2110 3G/HD/SD-SDI SMPTE 2110 Encapsulator with AES / Analog Audio Embed / De-Embed and 10GigE IP Optical Interface

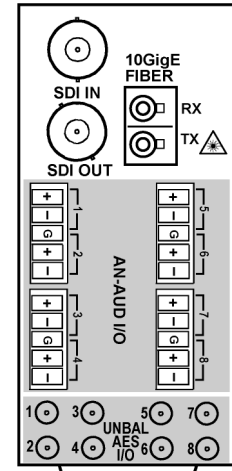
RM20-9991-SDI-IP-C-DIN 20-Slot Frame Rear I/O Module (Standard Width) (1) 3G/HD/SD-SDI Input BNC, (1) 3G/HD/SD-SDI Output BNC, (1) Fiber GigE I/O (LC connectors), (8) Balanced Analog Audio I/O, (8) Unbalanced AES I/O (coaxial; DIN 1.0/2.3)

RM20-9991-SDI-IP-C-HDBNC 20-Slot Frame Rear I/O Module (Standard Width) (1) 3G/HD/SD-SDI Input BNC, (1) 3G/HD/SD-SDI Output BNC, (1) Fiber GigE I/O (LC connectors), (8) Balanced Analog Audio I/O, (8) Unbalanced AES I/O (coaxial; HD-BNC)

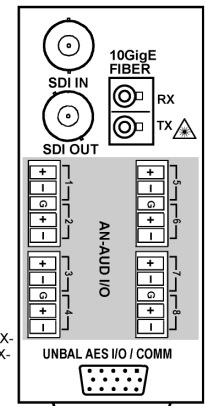
RM20-9991-SDI-IP-D 20-Slot Frame Rear I/O Module (Standard Width) (1) 3G/HD/SD-SDI Input BNC, (1) 3G/HD/SD-SDI Output BNC, (1) Fiber GigE I/O (LC connectors), (8) Balanced Analog Audio I/O, Unbalanced AES I/O/COMM (via HD-15 connector)

+DT User COM Data Insert/Extract Software Option

Note: COMM port setup and usage available only with option +DT.



RM20-9991-SDI-IP-C-DIN
RM20-9991-SDI-IP-C-HDBNC



- 1 - RS422 RX+
- 2 - RS422 TX+
- 5 - GND
- 6 - RS232 RX / RS422 RX-
- 7 - RS232 TX / RS422 TX-
- 14 - AES I/O 1
- 15 - AES I/O 2
- Other conns NC

RM20-9991-SDI-IP-D