VIDEOLINK
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HMX6800+BC8D

Auto-Sensing HD/SD-SDI Multiplexer With 8 AES Inputs, QSEE-Compliant

The HMX6800+BC8 HD/SD Audio Multiplexer embeds eight AES audio signals, in both balanced and unbalanced formats, into a single 1.5 Gb/s HD or 270 Mb/s SD video stream. Following SMPTE specifications, this embedder can embed up to eight AES audio signals into four groups in the horizontal ancillary region of the HD-SDI or SD-SDI output signal and Dolby metadata into VANC. Sample-rate conversion can be disabled for Dolby®-E compressed audio compliance.

HMX6800+BC8 modules auto-detect between HD-SDI and SD-SDI signals with full channel selection per HD or SD signal. Built-in video and audio processing amplifiers allow for full control over the picture and sound.

Each HMX6800+BC8 includes a module-specific breakout cable that expands the number of available connections beyond what would fit on a standard two-slot back connector. The breakout cable includes an RS-422/RS-232 (DB-9) serial connector to embed Dolby metadata.

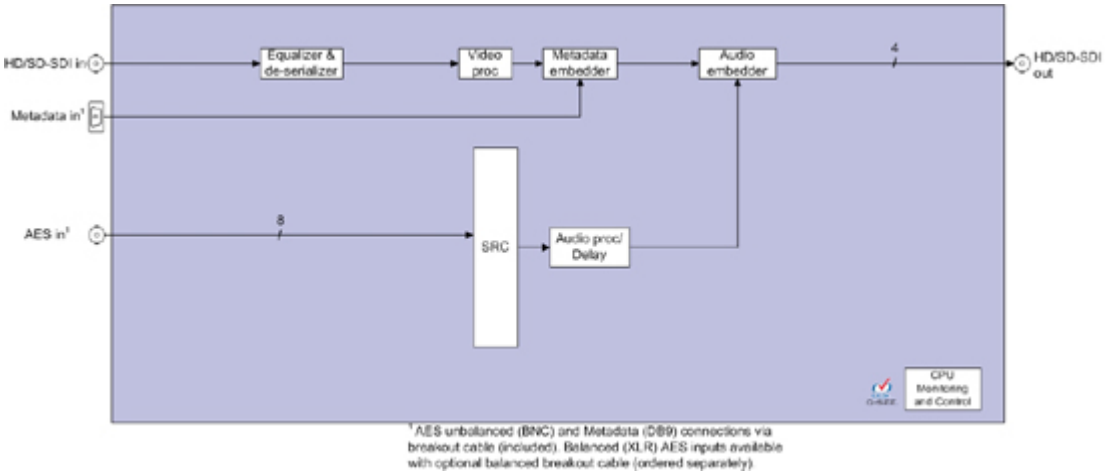
HMX6800+BC8 modules can be controlled at the card edge, or controlled and monitored via +PilotLite and Navigator PC-based software applications, HTTP web browser, NUCLEUS hardware control panels, or via third-party control applications using SNMP. When housed in an FR6802+QXF+E frame, Harris' advanced Q-SEE™ monitoring technology enables direct thumbnail monitoring of the output video via the integrated frame Ethernet port.

FEATURES

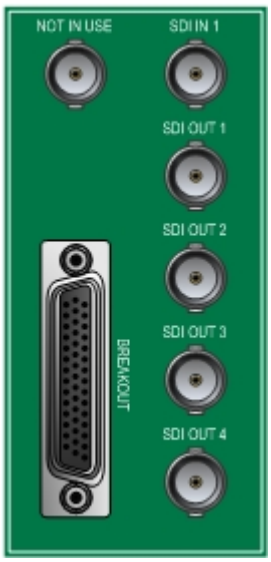
- Automatic detection of all SMPTE 292M HD and SMPTE 259M SD SDI video standards
- Eight unbalanced AES digital audio or eight balanced AES digital audio inputs
- 24-bit AES input audio embedding
- Sample rate conversion disable on AES inputs for Dolby/compressed audio embedding
- Data embedding, including Dolby metadata
- Outputs: Four SMPTE 292M HD-SDI with SMPTE 299M embedded audio or SMPTE 259M SD-SDI with SMPTE 272M embedded audio outputs
- 16-, 20-, or 24-bit audio processing (selectable word length in channel pairs)
- Audio test tone generator

- Programmable audio delay (up to 1.3 s)
- Optional ancillary data space cleaning mode before embedding
- Video delay up to 5 frames for HD and 25 frames for SD
- HD and SD video processing amplifier with controls for luminance gain, luminance offset, chrominance gain, chrominance offset, white clip, black clip, and hue (SD only)
- Audio processing amplifier with controls for delay, gain, invert, channel multiplexing, and averaging
- Q-SEE thumbnail monitoring of output video (when installed in an FR6802+QXF frame with 6800+ETH Ethernet resource module)
- Card-edge LEDs to indicate signal presence (both audio and video) and module failure
- CCS- and Q-SEE-compliant
- RoHS-compliant

BLOCK DIAGRAM

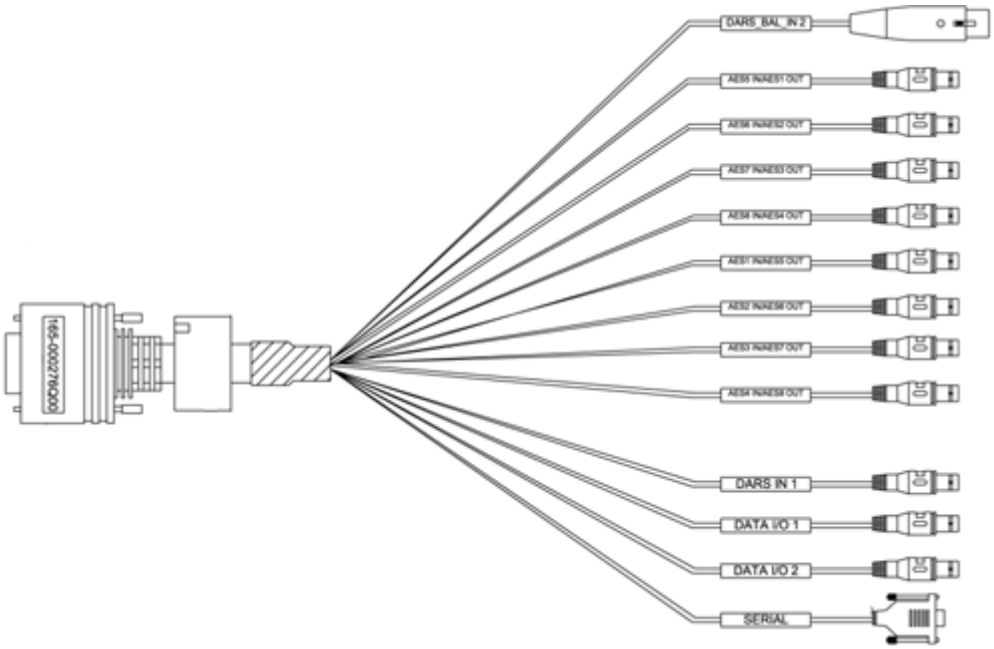


BACK MODULE



Audio / Data Breakout Cable

Each HMX6800+BC8 module purchased ships with one complementary unbalanced breakout cable (6800+OPT+16+C, shown below), providing access to audio, metadata, and timing signals. An optional cable bundle (6800+OPT+16+XF, not shown) provides female XLR connectors in place of the AES BNC connectors, for balanced AES audio applications.



SPECIFICATIONS Specifications and designs are subject to change without notice

INPUTS

SDI Video Input

Item	HD-SDI Specification	SD-SDI Specification
Number	1	1
Standard	SMPTE 292M	SMPTE 259M
Connector	BNC (IEC169-8)	BNC (IEC169-8)
Impedance	75 ohms	75 ohms
Return Loss	18 dB (typ), 5 MHz - 1485 MHz	18 dB (typical) to 270 MHz
Equalization	Adaptive cable equalization for up to 393 ft (120 m) (typical) of Belden 1694A co-axial cable	Adaptive cable equalization for up to 700 ft (230 m) (typical) of Belden 8281 co-axial cable

AES Input

Item	Balanced Specification	Unbalanced Specification
Standard	AES 3	AES 3, SMPTE 276M
Type	Balanced, transformer coupled	Unbalanced, AC coupled
Connector	XLR	BNC (IEC169-8)
Sensitivity	<200 mV	<100 mV
Impedance	110 ohms ± 20% (0.1 to 6 MHz)	75 ohms
Return Loss	N/A	> 25 dB, 0.1 to 6 MHz
Common Mode Rejection	0 V to 7 V (0 kHz to 20 kHz)	N/A
Input Audio Rate	PCM input: 32 to 96 kHz	PCM input: 32 to 96 kHz
	Non-PCM input: 48 kHz	Non-PCM input: 48 kHz
Bits	16, 20 or 24	16, 20 or 24

Metadata Input

Standard	Electrical specification EIA-232C
Connector	DB-9 , 232/422 switchable

OUTPUTS

SDI Video Output

Item	HD-SDI Specification	SD-SDI Specification

Number	4	4
Standard	SMPTE 292M with SMPTE 299M embedded audio	SMPTE 259M with SMPTE 272 embedded audio
Connector	BNC (IEC 169-8)	BNC (IEC 169-8)
Impedance	75 ohms	75 ohms
Return Loss	>18 dB (typ), 5 MHz - 1485 MHz	>18 dB (typical) to 270 MHz
Signal Level	800 mV ± 10%	800 mV ± 10%
D.C. Offset	0.0 V ± 0.5 V	0.0 V ± 0.5 V
Rise/Fall Time	<270 ps, within 100 ps of each other	400 ps to 1500 ps, within 500 ps of each other
Overshoot	<10% of amplitude	<10% of amplitude
Jitter	>100 kHz: <135 ps 10 Hz-100 kHz: <675 ps	<0.2 UI (740 ps) peak-to-peak

Power Consumption

12 W maximum

Operating Temperature

41° to 113°F (5° to 45°C)

ORDERING INFORMATION

HMX6800+BC8D	HD/SD-SDI 8-AES audio mux with metadata input, with double-slot backmodule and unbalanced audio breakout cable (6800+OPT+16+C)
6800+OPT+16+C	Replacement 6800+ 8-AES (16-ch) audio/data breakout cable, unbalanced coax AES connectors (1 unit included with module)
6800+OPT+16+XF	Optional 6800+ 8-AES (16-ch) audio/data breakout cable, balanced AES (female XLR) connectors, for use with HMX6800+

NOTE: One unbalanced audio breakout cable (6800+OPT+16+C) is included with each HMX6800+BC8 module purchased and does not need to be separately ordered/purchased. Additional / replacement cables can be ordered using part numbers 6800+OPT+16+C (unbalanced) and/or 6800+OPT+16+XF (balanced).