HDX6803+D

Auto-Sensing 3G/HD/SD Audio De-Embedder with up to 8 AES Outputs

The HDX6803+D 3G/HD/SD audio de-embedder module for the 6800+™ modular processing platform has up to eight AES outputs and a video processing amplifier.

It allows control over the video while functioning as a de-embedded audio processor for hot-switching de-embedded audio. This module provides full audio delay, audio processing and the ability to de-embed metadata to external sources. The HDX6803+D is ideal for any broadcast operation where the de-embedding of audio from HD or SD video signals is required, or where HD or SD video and (embedded and/or discrete) audio signals are processed.

Features

- Inputs:
  - One video serial digital input
  - DARS input (unbalanced, balanced compatible with external baluns)
  - Fiber receiver (OP+HDX+R+D version)

- Outputs:
  - Four serial video digital outputs
  - Eight AES outputs (unbalanced, balanced compatible with external baluns)
  - Four AES standard; eight with HDX68OPT-AES8 license option
  - RS-232/422 serial port metadata output
  - Operates video standards:
    - 525 and 625 (SMPTE 259M)
    - 1080i/p
    - 720p (SMPTE 274M/296M)
    - 3 Gb/s (SMPTE 424M) upgradeable
  - Auto-detect or user-forced input video standard
  - 10-bit video processing
  - Digital equalization (supports Belden 8281/1694A and newer, thin coaxial cables like Alcatel SD02)
  - Passes all HANC samples
  - Passes VANC with user-selectable option for VBI/ANC line-by-line video deleting
  - Up to eight frames of HD and 50 frames of SD video delay
  - Loss of video modes:
    - Pass
    - Black
    - Freeze
  - Video processing amplifier with controls for:
    - Luminance gain
    - Luminance offset
    - Chrominance gain
    - Chrominance offset
    - White clip
    - Black clip
    - Hue adjustment
  - Ability to de-embed metadata
  - Dolby® header adjustment
  - Support for fiber receiver (OP+ HDX+R versions) option via sub module on main module
  - Basic audio limiting capability:
    - User-selectable threshold for soft compression limiting
    - Adjustable compression slope
    - Adjustable attack time/rate
    - Adjustable delay time/rate
    - Noise gate level and time
  - Video and audio test generator
  - AES audio routing/advanced processing
  - Internal audio processing amplifier with gain, swap, invert, delay, mix (sum) of de-embedded audio channels
  - Bypassable sample rate conversion for external and embedded audio
  - Data mode for passing compressed audio – apt-X®, Dolby® E, AC-3
  - 16-, 20- or 24-bit audio processing
  - C, U and V bit transparency
  - Shadowed/restored parameter settings when switching video standards
  - Card-edge control
  - Ethernet remote control and monitoring
  - V-fade of the output audio on audio source change

Specifications

Specifications and designs are subject to change without notice

SERIAL VIDEO INPUT	
Number	1
Standards	1080p (SMPTE 424M) – 3 Gb/s HD 1080i/p (SMPTE 274M);720p (SMPTE 296M) – HD-SDI SMPTE 259M-C, 270 Mb/s, 525/625 component: SD-SDI
Connector	BNC per IEC 169-8
Impedance	75 ohms
Frame Rate	1080i/p: 23.98, 24, 25, 29.97, 30, 50, 59.94, 60 Hz (3 Gb/s rates are future software upgradeable) 720p: 50, 59.94, 60 Hz
Return Loss	>15 dB from 5 to 1485 MHz; >12 dB from 1485 to 2970 MHz

SERIAL VIDEO INPUT	
Equalization	3 Gb/s-adaptive cable equalization for up to 164 ft (50 m), typical of Belden 1694A coaxial cable HD-adaptive cable equalization for up to 492 ft (150 m), typical of Belden 1694A coaxial cable SD-adaptive cable equalization for up to 984 ft (300 m), typical of Belden 8281 coaxial cable

SERIAL VIDEO OUTPUT	
Number	4
Standards	1080p (SMPTE 424M) – 3 Gb/s HD 1080i/p (SMPTE 274M); 720p (SMPTE 296M) – HD-SDI SMPTE 259M-C, 270 Mb/s, 525/625 component – SD-SDI
Frame Rate	1080i: 25, 29.97, 30, 59.94 Hz 1080p: 23.98 (p/psf), 24 (p/psf), 25, 29.97, 30, 50, 59.94, 60 Hz (3 Gb/s rates are software upgradeable) 720p: 50, 59.94, 60 Hz 525, 625
Connector	BNC per IEC 169-8
Impedance	75 ohms
Return Loss	>15 dB from 5 to 1485 MHz; >12 dB from 1485 to 2970 MHz
D.C. Offset	0 V ±0.5 V
Signal Level	800 mV 10%
Rise and Fall Time	<135 ps – 3 Gb/s <270 ps – HD-SDI 0.4 to 1.5 ns – SD-SDI
Overshoot/Undershoot	<10%
Jitter	3 Gb/s: <2 UI pk-pk of timing jitter (>10 Hz); <0.3 UI pk-pk of alignment jitter (>100 kHz) HD: <1 UI pk-pk of timing jitter (>10 Hz); <0.2 UI pk-pk of alignment jitter for (>100 kHz) SD: <0.2 UI pk-pk (>10 Hz);
Delay	Up to 8 frames less 2 lines for 3G/HD; 50 frames for SD

UNBALANCED AES/DARS INPUT	
Connector	BNC (IEC 169-8)
Impedance	75 ohms
Return Loss	>25 dB, 0.1 to 6.0 MHz
Sensitivity	<100 mV
Input Audio Rate	32 to 108 kHz

BALANCED AES/DARS INPUT (WITH EXTERNAL BALUNS)	
Connector	XLR with external baluns
Sensitivity	<200 mV
Impedance	110 ohms ±20% (0.1 to 6 MHz)
Maximum Input Signal	10 V (pk-pk)
Common Mode Rejection	0 to 7 V (0 to 20 kHz)
Input Audio Rate	32 to 108 kHz

AES UNBALANCED OUTPUT	
Standard	AES3, SMPTE 276M
Type	Unbalanced, AC coupled
Connector	BNC (IEC 169-8)

AES UNBALANCED OUTPUT	
Impedance	75 ohms
Return Loss	>25 dB, 0.1 to 6 MHz >30 dB, 0.1 to 6 MHz
Signal Amplitude	1 V pk-pk ±10% into 75 ohms load
Audio Rate	48 kHz
Rise and Fall Time	30 to 44 ns (10 to 90%)
Bits	24, 20 or 16
AES BALANCED OUTPUT (WITH EXTERNAL BALUNS)	
Type	Balanced, transformer coupled
Connector	XLR with external baluns
Impedance	110 ohms ±20% (0.1 to 6 MHz)
Signal Amplitude	2 to 7 V pk-pk into 110 ohms load
Audio Rate	48 kHz
Jitter	±20 ns
Rise and Fall Time	5 to 30 ns (10% to 90%)
Bits	24, 20 or 16
FIBER OPTIC INPUT (RECEIVER)	
Number of Inputs	1
Wavelength	1260 to 1620 nm
Connector	SC/PC per IEC 61754-4-1
Overload Input Power	0 dBm PIN
Input Sensitivity	-20 dBm PIN
RS-232/RS-422 (METADATA I/O)	
Standard	Electrical specification EIA-232C
Connector	DB-9 232/422 switchable
POWER AND TEMPERATURE	
Power Consumption	12 W maximum
Operating Temperature	41° to 113° F (5° to 45° C)

Ordering Information

HDX6803+D	Auto-sensing HD/SD de-embedder with 4 AES outputs, 3 Gb/s-capable (with appropriate software key), includes double-slot back module and breakout cable, Q-SEE-compliant
HDX68OPT-AES8	Optional software key upgrade for HDX6803+D to provide 8 discrete AES outputs
HDX68OPT-3G	Optional software key upgrade for HDX6803+D to provide 3 Gb/s HD capability
OP+HDX+R+D	Auto-sensing HD/SD de-embedder with 4 AES outputs, 3 Gb/s-capable (with appropriate software key), includes double-slot back module and breakout cable, Q-SEE-compliant with fiber optic receiver
6800+OPT+16CAPM	Breakout cable with coaxial connectors for unbalanced AES I/O (NOTE: 1 cable provided with each HDX6803+ or OP+HDX+R unit ordered)
NOTE: One unbalanced audio breakout cable (6800+OPT+16CAPM) is included with each HDX6803+D	

module purchased and does not need to be separately ordered/purchased. Additional/replacement cables can be ordered using part numbers 6800+OPT+16CAPM.	
Connector Options	
OP+OPT+ST	OPTO+ -ST connector option for OPTO+ fiber modules

Images/Diagrams