XHD6801+DT, +UCT, +UCDT

HD/SD Up/Down/Cross/Aspect Ratio Converter with Enhanced Aspect Ratio Processing

The XHD6801+ series features broadcast-quality, motion-adaptive HD conversion with block artifact and mosquito noise reduction.

Offered as a 3-slot solution for the 6800+™ modular processing platform, it is equivalent to providing three format converters in a single RU. Additionally, the XHD6801+ features reclocked outputs that can be reconfigured for frame synchronization. This minimizes the requirement downstream for additional signal distribution or synchronization. The XHD6801+ also features Q-SEE™-enhanced monitoring and thumbnail streaming.

The XHD6801+ can be controlled manually via card-edge controls, or controlled and monitored via the CCS Navigator™ software application, HTTP web browser, or third-party SNMP-based control applications. The module is Q-SEE™-compliant, allowing for direct thumbnail monitoring when installed in an Ethernet-equipped 6800+ frame.

Features

- HD/SD-capable up/down/cross converter with motion-adaptive de-interlacing, mosquito noise, and block artifact noise reduction, and edge interpolation for superior image quality
- User-selectable detail enhancement settings (edge sharpening/softening)
- Integrated video and audio frame sync with audio tracking and delay capabilities to guarantee lip sync
- User-adjustable video delay of up to eight frames in HD
- Embedded audio support with channel routing and sample rate conversion capability
- Enhanced aspect ratio and AFD/WSS/VI management capabilities with full custom mapping tables to handle any scenario
- User-configurable aspect ratio conversion (H/V size, H/V position) for picture resizing, with selectable internally generated color ARC backgrounds
- GPI interface for triggering ARC presets and AFD/WSS/VI code insertion
- Store and recall of ARC presets through SNMP, CCS Navigator or web browser
- Automatic reconfiguration between standard conversion modes based on input standard changes
- Clean output on input transitions from upstream sources or on aspect ratio change
- Loss-of-video freeze
- Internally generated external ARC key channel
- Additional SDI output carrying either the same program signal or the key signal
- Switchable external or backplane genlock inputs
- Analog composite, tri-Level and DARS reference
- Closed captioning and teletext support
- Built-in SD- and HD-SDI test generator containing 75% color bars, cross hatch pattern, frequency sweep (luma and chroma), white, black, and safe area generator (SAG) key

Specifications

Specifications and designs are subject to change without notice

HD-SDI INPUTS

HD-SDI INPUTS	
Number of Inputs	1
Standard	SMPTE 292M (1.485, 1.485/1.001 Gb/s)
Connector	BNC (IEC 169-8)
Impedance	75 ohms
Return Loss	>15 dB, typical, from 5 MHz to 1485 MHz
Equalisation	Adaptive cable equalisation for up to 328 ft (100 m), typical, of Belden 8281 coaxial cable or 492 ft (150 m) typical, of Belden 1694A coaxial cable

SD-SDI INPUTS	
Number of Inputs	1
Standard	SMPTE 259M-C (270 Mb/s, 525/625 component video)
Connector	BNC (IEC 169-8)
Impedance	75 ohms
Return Loss	>15 dB, typical, from 5 to 270 MHz
Equalisation	Adaptive cable equalisation for up to 700 ft (230 m), typical, of Belden 8281 coaxial cable

HD-SDI OUTPUTS	
Number of Outputs	8
Standard	SMPTE 292M (1.485, 1.485/1.001 Gb/s)
Connector	BNC (IEC 169-8)
Impedance	75 ohms
Return Loss	>15 dB, typical, from 5 to 1485 MHz
Signal Level	800 mV ±10%
DC Offset	0 V ±0.5 V
Rise and Fall Time	<270 ps (20% to 80%)
Overshoot	<10% of amplitude (all outputs terminated)
Jitter	Timing jitter: <1 UI pk-pk Alignment jitter: <0.2 UI pk-pk

SD-SDI OUTPUTS	
Number of Outputs	8
Standard	SMPTE 259M-C (270 Mb/s, 525/625 component video)
Connector	BNC (IEC 169-8)
Impedance	75 ohms
Return Loss	>15 dB, typical, from 5 to 270 MHz
Signal Level	800 mV ±10%
DC Offset	0 V ±0.5 V
Rise and Fall Time	400 to 1500 ps (20% to 80%)
Overshoot	<10% of amplitude (all outputs terminated)
Jitter	<0.2 UI pk-pk

GENLOCK INPUT	
Connector	BNC (IEC 169-8)
Impedance	75 ohms
Return Loss	>40 dB 25 Hz to 10 MHz (SMPTE 318M-1999)
Common Mode Range	5.5 V pk-pk
CMRR	60 dB @ 60 Hz, 5 V pk-pk
Input Level	1 V pk-pk, –6 to 6+ dB for NTSC/PAL-B ±300 mV, –6 to +6 dB for tri-level sync: 1080i: 59.94/50 1080p: 29.97/25/23.98 1080psf: 23.98 720p: 59.94/50
Locking Range	±6 ppm (sync lock only, no burst lock)
Signal Type	NTSC/PAL-B analog composite ±300 mV tri-level sync
Standard	SMPTE 170M (NTSC), ITU-R BT.470-6 (PAL-B), SMPTE 274M (1080i, 1080p), SMPTE 296M (720p)

Ordering Information

XHD6801+UCDT	HD up/down/cross converter, includes front and rear modules, requires 3 available 6800+ frame slots
XHD6801+UCT	HD up/cross converter, includes front and rear modules, requires 3 available 6800+ frame slots
XHD6801+DT	HD downconverter, includes front and rear modules, requires three available 6800+ frame slots
XHD68+D-UG-UCD	XHD6801+D upgrade to XHD6801+UCD functionality; field upgrade software key activation option
XHD68+UC-UG-UCD	XHD6801+UC upgrade to XHD6801+UCD functionality; field upgrade software key activation option

Images/Diagrams