

4K UHD-1 Video Encoder/Decoder Card Set

Full-featured 4K UHD-1 Video Transport for MD8000 Users

MD8000 platform users can now transport 4K UHD-1 video signals across their networks.

KEY FACTS:

- Compatible with MD8000 networking equipment
- Efficient J2K compression
- 3840x2160 4K video resolution
- Accepts four 3G-SDI video inputs, transmitted as a single service

KEY FEATURES:

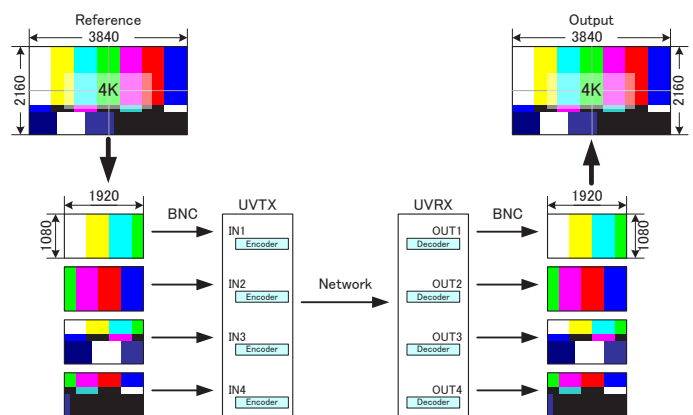
- SMPTE 2022 standards compliance, including FEC, Hitless switching, and Auto protection
- Accepts two types of 4K video; Square Division method and two sampling interleave method
- Integrated 4K color bar signal generator
- Configurable 400-1400 Mbps bandwidth per 4K stream
- Supports audio and ancillary parameters

APPLICATIONS:

- Carrier Class media networks
- Flawless Contribution video transport
- High performance studio interconnects
- Reliable content delivery systems
- Live sports production
- Live, recorded, and file-based communications

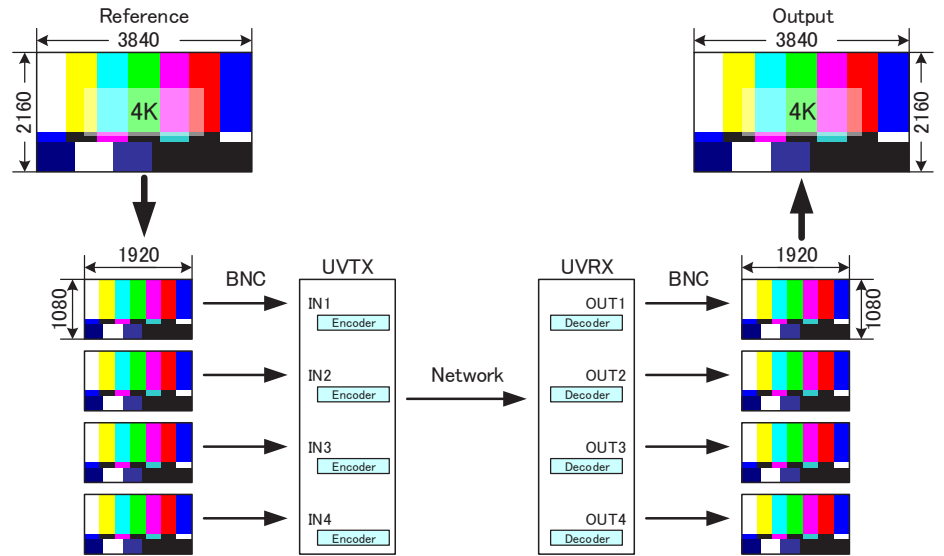
To transport 4K UHD-1 video signals, the MD8000 platform utilizes the UVTX/UVRX line cards configured for JPEG 2000 compression. Four separate, correctly timed 3G-SDI video signals are required for input to the UVTX line card, which compresses via JPEG 2000 and then subsequently IP packetizes (conforming to SMPTE 2022) for transport as a single service. The UVRX card de-packetizes and decompresses the four video stream signals, presenting four correctly timed 3G-SDI video outputs. Forward error correction, hitless switching and auto-protection are all provided as part of the MD8000 transport operation.

Two 4K UHD-1 video formats are supported; Square Division and Two Sample Interleave. The Square Division format accepts four timed video inputs, each divided into separate quadrants as shown below.



Square Division Format

The Two Sample Interleave format effectively contains a full image at ¼ resolution for each of the four inputs by distributing two pixel samples to each port alternatively.



SPECIFICATIONS & SUPPORTING PARAMETERS:

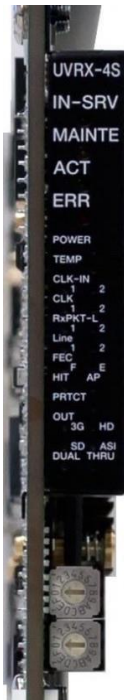
Item	Description	Remarks
Inputs	Four 3G-SDI video inputs, 3G-SDI Level-A and Level-B	
Video Interfaces	Optical (SFP) or Electrical (BNC Female, 75 Ohm unbalanced)	
Video Formats	- 1080p/59.94 Level-A Quad link - 1080p/50 Level-A Quad link - 1080p/59.94 Level-B-xx Quad link - 1080p/50 Level-B-xx Quad link- 1080p/50 Level-B-xx Quad link	
Compression Method	JPEG2000 (J2K) on each input	Uncompressed 4K video is not supported
IP Packet Format	Compliant with the SMPTE 2022 standard, including functions such as audio and ancillary transmission, Forward Error Correction, Hitless switching and Auto protection switching	
Transmission Bandwidth	Configurable 400-1400 Mbps bandwidth per each 4K stream. Approximately 1.6Gbps bandwidth used to transport 4K video with 350 Mbps JPEG2000 compression, including audio, ancillary, and IP header overhead.	
ID Generator	Built-in 4K video color bar generator, including user-defined 16 character text string	
Transmission Method	VSF TR-01 compliant	
Audio Encapsulation	SMPTE 302M compliant	
Packet Ancillary Transmission	SMPTE 2038 compliant.	Port 1 only supported
Protection Methods	- Forward Error Correction - Hitless Switching - Auto Protection Switching	
Redundancy	Supports Class B, C, and J redundant modes of operation	
Outputs	Four 3G-SDI video outputs, 3G-SDI Level-A and Level-B	

ORDERING INFORMATION:

Model	Order Number	Order Code
Universal 4 port Video Transmitter - Supports JPEG2000 encoding for HD-4K inputs. Available with either optical or electrical rear connector panel	MD801074-G000	MD8000-UVTX-J2K4K
Universal 4 port Video Receiver - Supports JPEG2000 decoding for HD-4K streams. Available with either optical or electrical rear connector panel	MD801075-G000	MD8000-UVRX- J2K4K
Universal 4 port Video Transmitter - Rear Card (Optical)	MD807033-G000	Not Applicable
Universal 4 port Video Transmitter - Rear Card (Electrical, Coax)	MD807031-G000	Not Applicable
Universal 4 port Video Receiver - Rear Card (Optical)	MD807034-G000	Not Applicable
Universal 4 port Video Receiver - Rear Card (Electrical, Coax)	MD807032-G000	Not Applicable



UVTX J2K4



UVRX J2K4K



UVTX/UVRX J2K4K



UVTX/UVRX J2K4K

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