Media Links® inside
**Made for the
MD8000 Platform**™

Core Gateways

MD8000 Line Cards

DATASHEET   Version 3.0

Description

Full-featured 4K UHD-1 Video Transport for MD8000 Users across their IP-based networks

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

Features & Benefits

• 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

Technical overview

• Made for the MD8000 and MD8000-100G networking platforms

• Efficient J2K compression

• 3840x2160 4K video resolution

• Accepts four 3G-SDI video inputs, transmitted as a single service

Compatible with

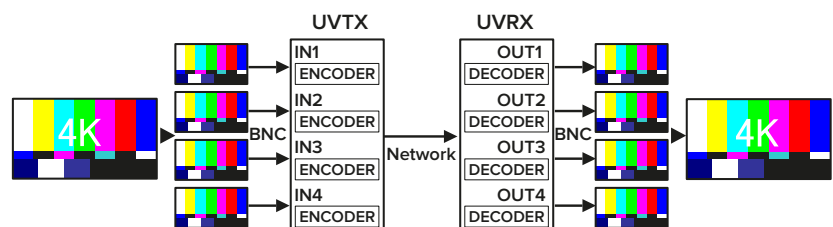*MD8000SX, MD8000, MD8000 EX and MD8000-100G Platforms*

4K UHD-1 Video Encoder/Decoder Card Set

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.
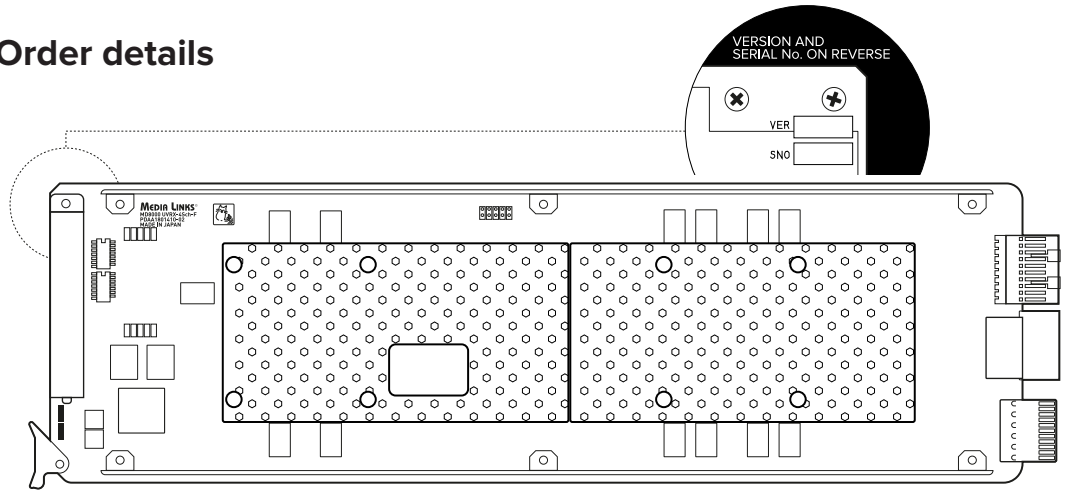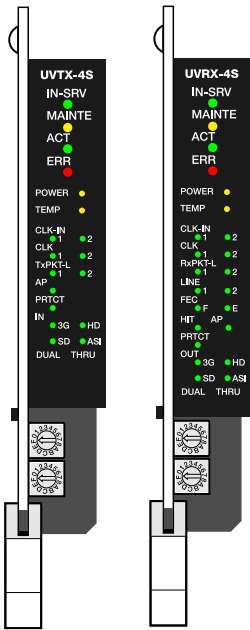
Square Division format accepts four timed video inputs, each divided into separate quadrants as shown below.
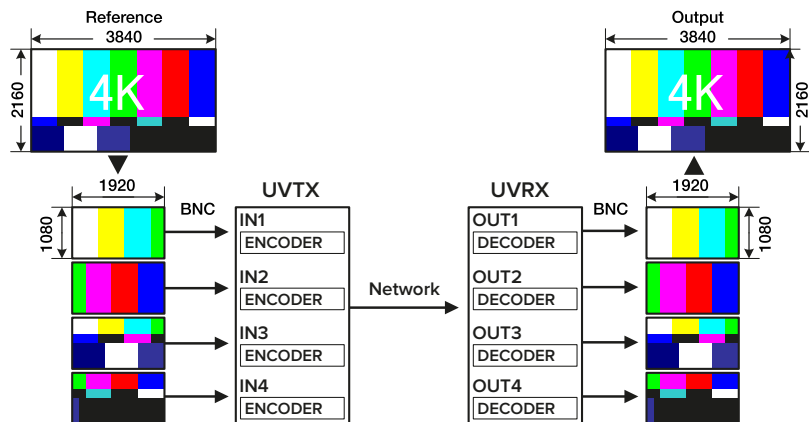
Two Sample Interleave format effectively contains a full image at ¼ resolution for each of the four inputs by distributing two pixel samples to each port alternatively.

Product views and Order details

VER

SNO

UVTX-4S
IN-SRV
MAINTE
ACT
ERR

POWER
TEMP

CLK-IN 1 2
CLK 1 2
TxPKT-L 1 2
AP 1 2
PRTCT
IN 3G HD
SD ASI
DUAL THRU

UVRX-4S
IN-SRV
MAINTE
ACT
ERR

POWER
TEMP

CLK-IN 1 2
CLK 1 2
RxPKT-L 1 2
LINE 1 2
FEC F E
HIT AP
PRTCT
OUT 3G HD
SD ASI
DUAL THRU

VER
SNO

ORDER YOUR PRODUCT

4K UHD-1 Video Encoder/Decoder Card Set

Universal 4 port Video Transmitter - Supports JPEG2000 encoding for HD-4K inputs.
Order Code MD801090-G000

Universal 4 port Video Receiver - Supports JPEG2000 decoding for HD-4K streams.
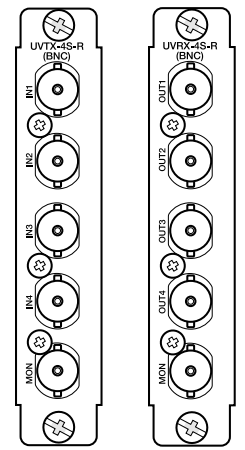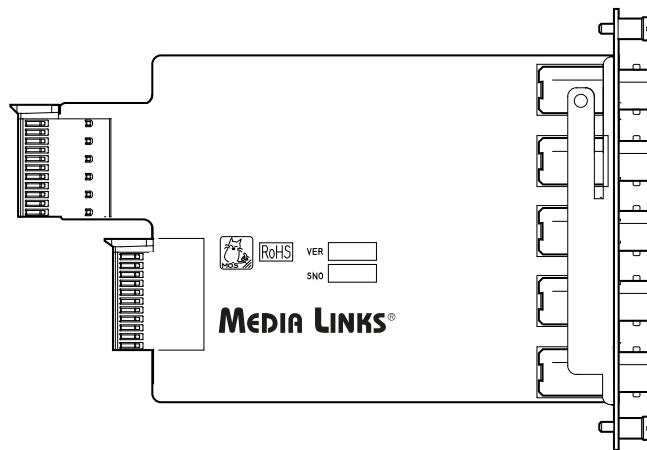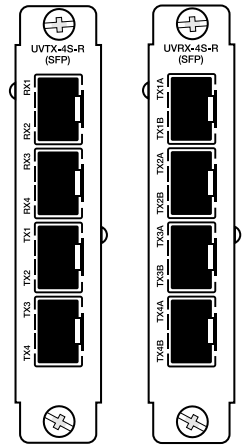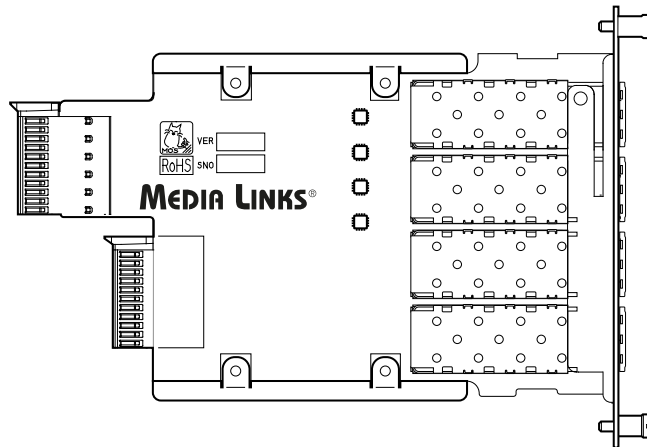Order Code MD801091-G000

Available with either optical or electrical rear connector panel

Universal 4 port Video Transmitter - Rear Card (Optical)
Order Code MD807033-G000

Universal 4 port Video Receiver - Rear Card (Optical)
Order Code MD807034-G000

Universal 4 port Video Transmitter - Rear Card (Electrical, Coax)
Order Code MD807031-G000

Universal 4 port Video Receiver - Rear Card (Electrical, Coax)
Order Code MD807032-G000

VER
SNO

MEDIA LINKS®

VER
SNO

MEDIA LINKS®

UVTX-4S-R (SFP)
RX1 RX2 RX3 RX4 TX1 TX2 TX3 TX4

UVRX-4S-R (SFP)
TX1A TX1B TX2A TX2B TX3A TX3B TX4A TX4B

UVTX-4S-R (BNC)
IN1 IN2 IN3 IN4 MON

UVRX-4S-R (BNC)
OUT1 OUT2 OUT3 OUT4 MON

*Cards shown not to scale. Media Links reserves the right to to alter specifications without notice.

Service Specifications & Supported Parameters[†]

4K UHD-1 Video Encoder/Decoder Card Set: Customer Network Interface Specifications

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 complaint.	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	

General specifications

Board Structure	Front and Rear	**Weight**	1 kg or less
External dimensions	(Front) 17 mm (W) * 113 mm (H) * 367 mm (D) (Rear) 41 mm (W) * 96 mm (H) * 126 mm (D)	**Operating temperature**	0 ~ 40℃ (Ambient) (Under the no-condensing humidity condition)
Chassis slots needed	Front board occupies a 1-slot width Rear board occupies a 1-slot width	**Redundancy modes**	All MD8000 modes of operation are supported (Single/Class B/Class C/Class J)
Compliance	CE/CSA, NEBS Level 3		

Power consumption: 33.0 W or less

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