

## FEATURES

- ▷ openGear® Form Factor
- ▷ Optional SRT or Zixi Support
- ▷ Network Protocol Translation
- ▷ Dual GigE Interfaces
- ▷ HTML 5.0 Web-UI
- ▷ SNMP Management

## APPLICATIONS

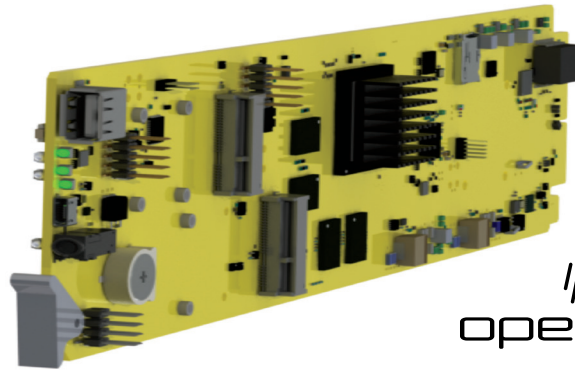
### Streaming Decode & Transcode

- ▷ Public and Private network LIVE contribution
- ▷ News Contribution
- ▷ Sport Contribution
- ▷ Contribution to CDN Transcoding
- ▷ Live to mobile devices
- ▷ Studio Links
- ▷ Live Internet Protocol (IP) RTSP Camera multi view decode

### File Based Decode

- ▷ Playback on demand
- ▷ Ultra-HD content looping
- ▷ Mix mode SD/HD/3G/4K looping with UHD output
- ▷ HEVC UHD Extreme signage

## Industry-leading Live OTT streaming media decoder.



The MD9200-DEC-OG is an openGear® compatible industry-leading live OTT streaming media decoder. Format support includes Ultra High Definition (UHD) 2160 HEVC1, 1080P AVC, and 1080i MPEG2. Up to 20 MD9200-DEC-OG cards can be housed in a single 2 RU openGear® 3.0 or X chassis.

IP protocol support includes source specific UDP RTP with IGMP v3, SRT, Zixi, RTMP, RTSP, HLS, DASH, TCP with file capture and playback from disk. Network Protocol Translation provides input to output protocol translation. The MD9200-DEC-OG has two independent Gigabit Ethernet ports. Port 1 is connected via the openGear® frame mid-plane and Port 2 via RJ45 jack on the RM-01 rear module.

Network security is a priority at MultiDyne. All MultiDyne devices include the latest network security patches, HTTPS web server plus user options to disable SSH, SAMBA and PING. OpenVPN is included and can be used without the need for an optional VPN appliance. MultiDyne offers a modestly priced SLA2 providing ongoing patches that include network security updates with new firmware features.

The MD9200-DEC-OG is designed for broadcast and professional decoding. The baseband video interfaces include two mirrored 3G HD-SDI outputs via BNC and one HDMI 1.4 output. The MD9200-DEC-OG is optimized to decode 1080P AVC (H.264), 1080i MPEG 2 (H.262) with optional support for very high bit-rate 2160P HEVC (H.265) UHD bitstreams.

Ancillary data support for closed captions with OSD open captions and SDI embedding, SCTE 35 and KLV logging are standard features.

Audio decode support for up to four PIDs or 8-channels<sup>3</sup>. Audio CODEC support includes MPEG Layer 1/2/3, AAC-LC/HE with optional Dolby Digital decode with passthrough to HDMI and HD-SDI embedding.

Managing and monitoring the MD9200-DEC-OG is facilitated via the Web Server, SNMP and REST APIs.

<sup>1</sup> HEVC Decoding requires an optional software key  
<sup>2</sup> Service Level Agreement available per device per year after year one. Year one SLA is included.  
<sup>3</sup> Two audio PID decode standard. Two audio PID decode optional.

## SPLIT REAR MODULE (OPTIONAL)



RM-01 Split Rear Module (sold separate from MD9200-DEC-OG). One RM-01 supports two MD9200-DEC-OG decoders or MD9200-ENC-OG encoders or one each MD9200-DEC-OG decoder and MD9200-ENC-OG encoder.



## TECHNICAL SPECIFICATIONS

### Input Source Stream Protocols

UDP/RTP Unicast/Multicast	UDP/RTP unicast or multicast support with DVB or MPEG service section.
IGMP 3.0	IGMP 3 Source Specific Multicast with included and exclude support
RTMP, RTSP, TCP	RTMP client/server, RTSP client and TCP client/server
HLS/DASH	Support for HLS and MPEG DASH URL decoding
SRT	SRT Caller, Listener and Rendezvous support for public internet links
Zixi	Zixi public internet transport protocol for use with Zixi Broadcaster/Zen cloud services. Zixi link point is not supported on MultiDyne devices.
File/SATA Drive	TS, PES, ES, MOV, BMFF, MKV file playback. (mSATA hard drive not included)

### CODEC Video Decode

	Feature	Notes
H.265 HEVC (H.265)		
8/10 bit SD HEVC 4:2:0	O	Single decode via HDMI or SDI.
8/10 bit 3G HEVC 4:2:0	O	Single decode via HDMI or SDI.
8/10 bit 4K (Ultra HD)	O	Single decode via HDMI or SDI. SDI up to 1080P
AVC (H.264)		
SD AVC 4:2:0 High	S	Single decode via HDMI or SDI
HD AVC 4:2:0 High	S	Single decode via HDMI or SDI
3G AVC 4:2:0 High	S	Single decode via HDMI or SDI
MPEG 2 9H.262		
SD MPEG 2 4:2:0	S	Single decode via HDMI or SDI
HD MPEG 2 4:2:0	S	Single decode via HDMI or SDI
Closed Captions	S	SMPTE 334 carriage of 608 and 708 Captions. On Screen Display (open Captions) support.
KLV	S	Logging

### CODEC Audio Decode

	Feature	Pairs	Notes
MPEG 1 Layer 2 Audio	S/O	2 or 4	SDI and HDMI Embedded. Second 2-pairs optional.
AAC-LC Stereo (2.0)	S/O	2 or 4	SDI and HDMI Embedded. Second 2-pairs optional.
HE AAC V1.0 Stereo (2.0)	S/O	2 or 4	SDI and HDMI Embedded. Second 2-pairs optional.
HE AAC V2.0 Stereo (2.0)	S/O	2 or 4	SDI and HDMI Embedded. Second 2-pairs optional.
AAC 5.1 Audio Decoding	S	1	SDI and HDMI Embedded.
Dolby Digital Decode	O	2	SDI and HDMI Embedded. Second 2-pairs optional.
Dolby Digital passthrough	S	1	SDI and HDMI Embedded.
ATMOS Passthrough	S	1	SDI and HDMI Embedded.

### A/V Outputs

	#	Specification	Connector	Notes
HDMI	1	HDMI 1.4b	HDMI Rear	4k frame rates of 50 or 60 only support color over HDMI. All other HDMI frame and rates support 10-bit color over HDMI.
3G-SDI	2	SMPTE 424, 292, 259	HD-BNC Rear	Audio embedded per 272M (259) and 299 M (424/292). Only active in 2K and lower frame sizes.

### System

	Standard	Connector	Notes
Gigabit 1	802.03	openGear® chassis mid-plane	RGMII Gigabit Ethernet via openGear® mid-plane
Gigabit 2	802.03	RJ-45 via RM-01	Copper CAT 5/5e/6/6A
Terminal	VT100	mini USB Type B/ Front	Serial Terminal at 115,200, 8, 1, N. openGear® front door must be open to access
USB2	USB 2	USB 2 Standard-A receptacle/Front	USB 2 complaint. Data mount and Firmware load. openGear® front door must be open to access
USB3	USB 3	mini USB Type B RM-01	USB 3 complaint. Data mount and Firmware upgrade.
PCIe	PCI Express	52 pin edge connector	Mini PCIe card slot (Host) with USB
mSATA	min-SATA	52 pin edge connector	Mini SATA card slot for optional SSD disk
Power in	12 VDC	openGear® chassis mid-plane	
Power Use		12 Watts maximum while decoding HEVC UHD	
Physical		.05 Inches (12 mm) Wide, 14 inches (355mm) deep, 3 inches (72 mm) Tall openGear® form factor. Any combination of 20 MD9200-DEC-OG and MD9200-ENC-OG cards per 2RU chassis.	

S = Standard O = Optional