



MRD7000

Multichannel Multiformat Receiver Decoder



OVERVIEW

Sencore's latest receiver decoder utilizes a new software based platform to create a multichannel, multiformat professional receiver decoder. Staying agile is paramount in today's market and the MRD 7000 is able to deliver. Decode HEVC/H.264/MPEG2 up to 4K/UHD resolutions at high bitrate with support for 4:2:2 10-bit video including HDR and WCG.

The MRD 7000 supports up to 8 services (16 channels) of audio processing for MPEG1/2, AAC and Dolby AC3/AC3+/Dolby E/ATMOS. Multichannel decode allows the MRD 7000 to process up to 4x HD services or 1x UHD service in a 1RU chassis. Output options include 4x3G-SDI (two sample interleave & four quadrant), 12G-SDI, HDMI 2.0B and SMPTE 2110 via 10GB or 25GB fiber. The MRD 7000 maintains a long tradition of ease of use, with a straight-forward user interface and web APIs and backed by Sencore's best-in-class staff of ProCare support engineers.

APPLICATIONS

- Contribution decode of high-bitrate 4K/UHD HEVC with HDR/WCG
- Primary distribution with multichannel decode of 4x HD or 1x UHD services per 1RU
- Reference decoder for lab environments to decode and output in a variety of codecs and formats

KEY FEATURES

- Multichannel decode of UHD and HD streams
 - 4x HD streams or 1x UHD streams per 1RU
- Multiformat support to decode any stream
 - HEVC/H.264/MPEG2 up to 4:2:2 10-bit with HDR/WCG signaling
 - 16 channels of audio processing for MPEG1/2, AAC and Dolby AC3/AC3+/Dolby-E/ATMOS
- RTP/UDP MPEG/IP, SRT, ASI, file-based and SMPTE 2022-7 inputs
- SDI, IP and HDMI output options
 - 12G-SDI, 4x3G-SDI and 3G-SDI
 - SMPTE 2110 10GB and 25GB fiber
 - HDMI 2.0B

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VIDEO DECODER

MRD 7000

Base Decoding (4K/UHD/HD/SD 4:2:2/4:2:0)	MPEG-2 422P@HL
Video Profile/Levels:	H.264 up to Hi422P@L4.2 HEVC M422-10P@HT up to L5.1 JPEG2000, Tier 2 up to 200Mbps
Video ES Bitrates:	Up to 160Mbps, hardware dependent
Output Formats:	3840x2160 @ 23.98, 24, 25, 29.97, 30, 50, 59.94, 60 1920x1080p @ 23.97, 24, 25, 29.97, 30, 50, 59.94, 60 1920x1080i @ 25, 29.97, 30 1280x720p @ 50, 59.94, 60
Ancillary Data Support	
SDI ANC Data Types:	Closed Captions (CEA-708) OP-47 (SMPTE RDD-08) VANC Passthrough (SMPTE 2038) SCTE 104 (SMPTE 2010)
Base Audio Decoding Features	
Number of Audio Services:	8 audio services (16 audio channels)
Audio Codecs Supported:	Dolby Digital AC-3/AC-3+/Dolby E/ ATMOS AAC-LC, HE-AAC, & HE-AACv2 MPEG-1L2 & MPEG-2L2
Output Formats:	Digital Pass-through PCM (Downmixed for 5.1 Sources)
Base Audio Output Features	
Embedded Audio Output:	8 Audio Pairs (16 audio channels)
12G-SDI and HDMI 2.0 Output Option	MRD 70130
Ports:	1x 12G-SDI input, 75-Ω BNC 1x ASI Input, 75-Ω BNC 1x HDMI 2.0B output, 75-Ω BNC 1x Genlock port, HDMI type A
Physical layer:	DVB-ASI: EN50083-9 HD-SDI: SMPTE 292M 3G-SDI: SMPTE 424M 6G-SDI: SMPTE 2081 12G-SDI: SMPTE 2082
4x3G-SDI Output Option	MRD 70140
Ports:	4x 3G-SDI/ASI, 75-Ω 1.0/2.3 DIN 1x Genlock Input, 75-Ω 1.0/2.3 DIN
Physical layer:	DVB-ASI: EN50083-9 HD-SDI: SMPTE 292M 3G-SDI: SMPTE 424M
4K multi-link:	SMPTE 425-5 quad 3G-link, with support for Annex B
SMPTE 2110 Output Options	MRD 70120 & MRD 70180
Standards:	SMPTE 2110-10 SMPTE 2110-20 SMPTE 2110-21 SMPTE 2110-30 SMPTE 2110-40

Connectors:	2x 25GB MSA compliant SFP+ connectors (MRD 70180 only) 2x 10GB MSA compliant SFP+ connectors (MRD 70120 only)
Synchronization:	SMPTE 2059 (IEEE 1588 PTP)
Correction:	Hitless Switching (SMPTE 2022-7)

INPUTS

MPEG/IP Inputs	
Physical Interface:	2x RJ45, 10/100/1000 Auto-Negotiate UDP or RTP
Input Format:	Constant Bitrate or Null-Stripped RTP Header Extensions Supported Hitless Switching (SMPTE 2022-7)
Correction:	1 to 7 TS Packets per IP Packet
IP Encapsulation:	Unicast or Multicast
Addressing:	Version 1, 2 & 3
IGMP compatibility:	250 Kbps to 200 Mbps
Per TS Bitrate:	

File Inputs	
File Types:	Transport streams (.ts, .trp)

ASI Input Option	MRD 70170
Ports:	4x 75-Ω BNC
Physical layer:	DVB-ASI (coax) EN50083-9
Bitrate:	250 Kbps to 214 Mbps

SRT Input License	MRD 70750
Protocol and IP Range:	UDP, Unicast
Negotiation Modes:	Caller, Listener, Rendezvous
Latency:	20-8000ms, user configurable
Bitrate Range:	.25 – 50 Mb/s
Decryption:	AES-128, AES-256 10-79 UTF-8 characters

Packets/IP Frame:	Auto detect
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BISS2 Descrambling License	MRD 70740
Supported Modes:	Mode 0, Mode 1, Mode E
Multi-BISS Support:	Up to 12 Separate Keys with License

MANAGEMENT

Connector:	RJ-45 10/100 - Auto Negotiating
Protocols:	HTTP and SNMP
User Interfaces:	Full control via web GUI
Automation Interfaces:	Full status and control via SNMP Configurable SNMP traps Restful API
	Syslog message logging
Firmware Updates:	Via web GUI

Physical dimensions and operating conditions dependent on hardware selection