

Multichannel Multiformat Receiver Decoder MRD 7000



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 2x UHD services 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 our 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

SPECIFICATIONS

Multichannel Multiformat Receiver Decoder - MRD 7000

VIDEO DECODER

MRD 7000

Base Decoding (4K/UHD/HD/SD 4:2:2/4:2:0)

Video Profile/Levels: MPEG-2 422P@HL
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)
SMPTE 2059 (IEEE 1588 PTP)
Hitless Switching (SMPTE 2022-7)

Synchronization:

Correction:

INPUTS

MPEG/IP Inputs

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

Correction:

IP Encapsulation:

Addressing:

IGMP compatibility:

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
Auto detect

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