

9992-DEC-MPEG • HEVC / MPEG2 / AVC Broadcast Decoders

The Cobalt® 9992-DEC-MPEG HEVC / MPEG2 / AVC Broadcast Decoders are broadcast-grade multi-standard decoders designed to meet the most stringent requirements for today's broadcasters. It supports MPEG-2, AVC (H.264) and HEVC (H.265), with resolution up to 4K, and a full complement of audio decoding capabilities. The 9992-DEC-MPEG is an industry standard openGear® card module and provides an ideal platform for transitioning to state-of-the-art decoding capabilities.

FEATURES

Future-Proof – The 9992-DEC-MPEG Decoder supports MPEG-2, MPEG-4 AVC (H.264) and HEVC (H.265), so it can be deployed today and upgraded as your needs change.

Industry Standard Form-Factor – The 9992-DEC-MPEG is offered in the industry-standard openGear format, and is compatible with existing deployed openGear frames.

High Density – The 9992-DEC-MPEG supports up to two independent 1080p60 input streams, or a single UHD 4Kp60 input stream. One openGear frame can support up to 10 cards, for a total of 20 HD or 10 UHD 4K channels.

Full Audio Support – The 9992-DEC-MPEG supports MPEG-1 Layer II, AAC-LC, HE-AAC, Dolby AC-3/EAC-3 and LPCM (SMPTE-302M). With an optional audio board, the decoder can support up to 16 audio channels with each video service.

Ultra Low Latency – The 9992-DEC-MPEG can be licensed to support a low-latency mode featuring sub-frame latencies suitable for demanding contribution applications.

Base Unit Features –

Support for one decode channel up to 1080p60

Support for MPEG-2 and MPEG-4 AVC (H.264)

Support for 4:2:0 8-bit decoding

Full up/down/cross conversion support

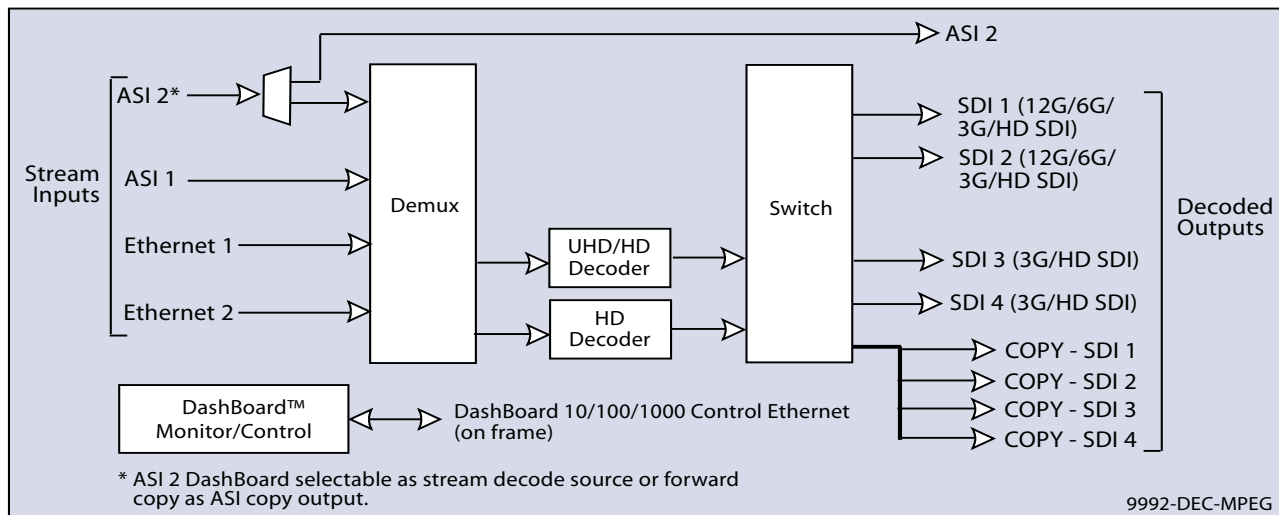
Full ancillary data support

Support for 2 stereo pairs (4 audio channels) in any combination of MPEG-1 Layer II, AAC-LC, and HE-AAC (v1/v2) modes

Supports all network protocols (SMPTE-2022 FEC available as Option)

Remote control/monitoring via Dashboard™ software

Five-year warranty

SOFTWARE LICENSABLE OPTIONS

Software Licensable Options: Add Features –

+9992DEC-HEVC Additional 1080p60 decoder channel with MPEG-2, MPEG-4 AVC, HEVC (up to one additional channels, for a total of 2 channels per unit). This upgrade includes support for two additional stereo pairs in MPEG-1 Layer II, AAC-LC, and HE-AAC (v1/v2) modes.

+9992DEC-2A MPEG-1 Layer II, AAC-LC, and HE-AAC audio decoding per pair. Three AAC licenses can be used to allow one 5.1 surround decode.

+9992ENC-ULL Add support for ultra-low latency decode modes (per unit)

+9992DEC-DEC-2.0 Add Dolby audio decoding per stereo pair

+9992DEC-DEC-5.1 Add Dolby Surround Sound license

+9992DEC-FEC Add SMPTE-2022 support (per unit)

+9992DEC-HDR-ITM Add HDR preprocessing support for 1080p 60 (per unit)*

+9992DEC-HDR-ITM-4K Add HDR preprocessing support for 4K (per unit) (per unit)*

+9992DEC-RIST/ARQ Automatic Repeat Request, Error Correction Assigned For Live Video Over IP / Internet Based on the Reliable Internet Streaming Transport (RIST) Standard (Option available Q2 2019)

* Future release availability

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Software Licensable Options: Upgrades –

+9992DEC-1-HEVC-4K Upgrade existing single channel 1080p 60 MPEG-2 / MPEG-4 AVC / HEVC to 4K-HEVC (per unit)

+9992DEC-2-HEVC-4K Upgrade existing dual channel 1080p 60 MPEG-2 / MPEG-4 AVC / HEVC to 4K-HEVC (per unit)

+9992DEC-10BIT422 Upgrade to 4:2:2 10 bit decode support (per unit)

HARDWARE OPTIONAL FEATURES (Factory-installed on new product)

-9992DEC-IP-2110 SMPTE-2110 input / output module expansion

-9992DEC-AUD Additional audio processor module equipped with a full set of MPEG-1 Layer II and AAC licenses.

SPECIFICATIONS

Inputs

- (2) DVB-ASI inputs
- (2) Gigabit Ethernet ports for IP input, supporting the following protocols:
 - UDP unicast/multicast
 - RTP unicast/multicast with optional SMPTE-2022 FEC
 - HTTP Live Streaming (local or remote server)
 - RTMP (limited to H.264 only)
 - Cobalt's RTP/ARQ for contribution over the Internet
- Optional SMPTE-2110 baseband video over IP turnaround*
- * Future release availability

Outputs

- (2) SDI outputs each supporting 12G-SDI, 3G-SDI, HD-SDI and SD-SDI
- (2) SDI outputs each supporting 3G-SDI, HD-SDI and SD-SDI
- Support for all standard frame rates (interlaced and progressive): 23.98, 24, 25, 29.97, 30, 50, 59.94, 60

Video Post-Processing

- Support for arbitrary down-scaling input video, extending down to 320x240
- Support for up/down/cross conversion of output video (independent of incoming stream)*
- Conversion between interlaced and progressive
- Frame rate conversion
- High Dynamic Range (HDR) support*
- Built-in frame synchronizer*
- * Future release availability

Video Decoding

- Decoding Standards:
 - MPEG-2
 - MPEG-4 AVC (H.264)
 - HEVC (H.265)
- Support for up to two independent 1080p60 decode sessions
- Support for UHD decoding in AVC and HEVC modes (Maximum resolution 4096x2160p60)
- Support for 4:2:0 and 4:2:2 color spaces in all modes
- Support for 8-bit / 10-bit decoding in all modes
- Low latency options:
 - HEVC Ultra Low Latency; decoder latency is less than one frame
 - MPEG-4 AVC Low Latency decoding; decoder latency is approximately 100 milliseconds

Audio Decoding

- Decoding Standards:
 - MPEG-1 Layer II
 - AAC-LC
 - HE-AAC (v1/v2)
 - Dolby AC-3
 - Dolby EAC-3
 - LPCM (SMPTE-302M)
- (5.1-Surround decoding available for AAC-LC, HE-AAC, Dolby AC-3 and Dolby EAC-3; subject to licensing)
- Maximum number of channels supported (subject to licensing):
 - MPEG-1 Layer II: 16 stereo pairs (32 audio channels)
 - Dolby AC-3: 16 stereo pairs (32 audio channels)
 - Dolby EAC-3: 8 stereo pairs (16 audio channels)
 - AAC-LC: 8 stereo pairs (16 audio channels)
 - HE-AAC (v1/v2): 8 stereo pairs (16 audio channels)

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Optional support for 5.1 Surround Sound decoding, in AAC and Dolby modes.

Optional audio module: increases the capacity to 32 stereo pairs (64 audio channels), allowing full 16-channel support for the four HD inputs, in all compression modes*

* Future release availability

Ancillary Data Support

Closed-Captioning: SMPTE-334M (EIA-608 and EIA-708 supported), Line 21 (SD sources)

OP-47/SMPTE RDD-08 teletext subtitles*

AFD: SMPTE-2016, Line 20/22 WSS (SD sources)

SCTE-35 to SCTE-104 conversion

SMPTE-2038 generic ancillary data transport (timecode, KLV, etc.)

* Future release availability

BASE MODEL ORDERING INFORMATION

Note: For Software Options and Upgrades, as well as Hardware Options, please see the respective Options sections listed above.

MPEG-2, MPEG-4-AVC, and HEVC Base Models (up to 1080p 60)

9992-DEC1-HEVC Single-channel MPEG-2 / MPEG-4 AVC / HEVC Broadcast Decoder (up to 1080p 60)

9992-DEC2-HEVC Dual-channel MPEG-2 / MPEG-4 AVC / HEVC Broadcast Decoder (up to 1080p 60)

MPEG-2, MPEG-4-AVC, and HEVC Base Models (up to 4K 60)

9992-DEC-4K-HEVC Single-channel 4K HEVC Decoder with 12G-SDI and Quad 3G-SDI outputs. (**Note:** All decode sessions must use the same standard.)

Rear I/O Modules

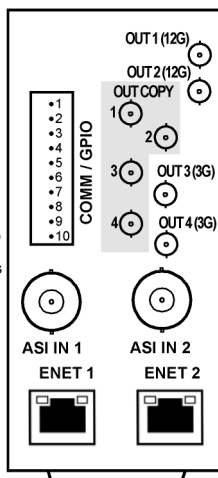
RM20-9992-DEC-B 20-Slot Frame Rear I/O Module (Standard-Width) (2) ASI Input BNCs, (2) GigE Ethernet Media Ports, (2) 12G/6G/3G/HD-SD-SDI Coaxial Outputs, (2) 3G/HD/SD-SDI Coaxial Outputs, (4) Output Copy Coaxial Outputs, COMM/GPIO Port (All SDI coaxial connectors HD-BNC.)

- 1 - GPI 1
- 2 - GPI 2
- 3 - GPO 1
- 4 - GPO 2
- 5 - GPO COM
- 6 - GND
- 7 - RS232-A RX / 422 RX(-)
- 8 - RS232-B RX / 422 RX(+)
- 9 - RS232-A TX / 422 TX(-)
- 10 - RS232-B TX / 422 TX(+)

Note: Output ports marked as "12G" can output 12G and lower SDI media.

Output ports marked as "3G" are compatible only with 3G or lower SDI media.

Note: ASI IN 2 BNC can be DashBoard selected to function as an ASI copy of ASI IN 1.



RM20-9992-DEC-B-HDBNC