

HVE 9110

Ideal AVC H.264/MPEG-2 Switchable Encoder



HVE9110 is MPEG 2 or AVC/H.264 switchable encoder which provides advanced features of Ancillary Data transmission or High Efficiency Video Mode in addition to the features available on HVE9100. One frame Super Low Latency is supported for AVC/H.264, and Redundant Power Supply provides higher reliability operation.

Key features

- Supports AVC/H.264 and MPEG-2 HDTV/SDTV
- Super Low Latency Mode (3 Frames, 1 Frame) (optional) *
- Super Low Latency Mode with Audio Compression (optional) *
- High Efficiency Mode (high picture quality at low bit rate) (optional) *
- Multiple video format compatibility including 1080i, 1080/60p*, 720p, 576i, 480i
- Embedded audio features up to 16 x ch/4 x PES
 - MPEG-1 LayerII: Stereo x 4
 - MPEG-2 AAC/MPEG-4 AAC/HE-AAC: 5.1+Stereo
 - Multiple audio format support up to 16 x ch/4 x PES combinations
- Closed Caption: EIA-608, EIA-708, ARIB STD-B37
- Ancillary Data Transmission Support: Time Code, SMPTE RDD11, SMPTE2038, ARIB STD-B40, OP-47
- Supports satellite Carrier ID
- Seamless bit rate change *
- TS Over IP Support with FEC
- Supports DHCP
- Easy operation from front panel display with control buttons as well as SNMP and WEB GUI via IP Network
- Supports BISS-1/E (optional)
- Quick Boot-up (15sec)
- Redundant Power Supply
- RoHS Compliant

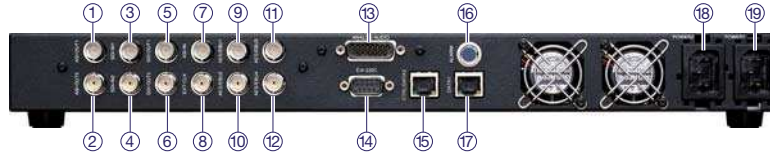
* Available when encoding AVC/H.264

Front Panel



- ① Power switch 1
- ② Power switch 2
- ③ Status LEDs
- ④ Display panel
- ⑤ Operator buttons

Rear Panel



- ① ASI-OUT1
- ② ASI-OUT2
- ③ SDI-IN1
- ④ SDI-IN2
- ⑤ SDI-OUT1
- ⑥ SDI-OUT2
- ⑦ ASI-IN
- ⑧ EXT-CLK
- ⑨ AES/EBU1
- ⑩ AES/EBU2
- ⑪ AES/EBU3
- ⑫ AES/EBU4
- ⑬ ANALOG AUDIO (optional)
- ⑭ EIA-232C
- ⑮ CTRL/DATA2
- ⑯ ALARM
- ⑰ DATA1
- ⑱ AC inlet 2
- ⑲ AC inlet 1

Specifications

| | | | | | | | | |
|----------------------|--|--|---|------------------------|--|---|---|--|
| Supported Standards | System | ISO/IEC13818-1(MPEG-2 SYSTEM TRANSPORT STREAM) | | Ancillary Data | Data Type | TIMECODE, SMPTE334M, SMPTE2038 *1, ATSC-A72 *1, OP-47 *1, ARIB STD-B40, ARIB STD-B37*1 | | |
| | Video | ISO/IEC14496-10 (AVC/H.264) ISO/IEC13818-2 (MPEG-2 VIDEO) | | Internal Test Signal | Video: Color Bar, Audio: 1kHz Sine wave | | | |
| | Audio | ISO/IEC11172-3(MPEG-1 AUDIO LayerI) ISO/IEC13818-7(MPEG-2 AAC) LC Profile ISO/IEC14496-3 subpart 4(MPEG-4 AAC) LC Profile *1 ISO/IEC14496-3 Amendment 1(MPEG-4 HE-AAC v1) *1 ISO/IEC14496-5:2001 Amendment 24:2009 (MPEG-4 AAC-ELD) *1 *4 Dolby Digital *1 SMPTE302M-2002 | | TS Specifications | Output Interface | DVB-ASI: BNC x 2 lines (0.8Vp-p 75Ω) Encoding by one format: Assign the same TS to BNC x 2 Encoding by two format: Assign H.264 TS and MPEG-2 TS to each BNC x 2 IP *1 : 100Base-TX/1000Base-T (RJ-45) x 2 line (Category 5/5e/6) RTP/UDP/IP (RFC1889) , FEC (Pro-MPEG COP#3 R2 method) | | |
| | Video Format | 1080i (1920/1440x1080) @25Hz, 29.97Hz, 30Hz: SMPTE274M 1080p (1920/1440x1080) @24Hz, 23.98Hz: SMPTE274M *1 1080p (1920x1080) @60Hz, 59.94Hz: SMPTE424M *1 *3 *4 *4:2:0 Only 720p (1280x720) @50Hz, 59.94Hz, 60Hz: SMPTE296M 480i (720x480) @29.97Hz: SMPTE125M 576i (720x576) @25Hz: ITU-R BT.656-4 | | | | External Clock Input | Max. 160.000MHz (ARIB STD B-18 clock input compliant) BNC x 1 line (0.8Vp-p 75Ω) | |
| Profile / Level | AVC/H.264 | Profile: Main, High, High4:2:2(8bit) Level: 4.1/4.0/3.2/3.0 Entropy: CABAC/CAVLC | | | | Stream Type | TS (188/204byte: No Reed-Solomon) | |
| Video Input | SMPTE292M/SMPTE259M BNC x 2 lines(0.8Vp-p 75Ω) | | Max. Multiplicity | | | Encoding by one format : Video 1, Audio + Ancillary Data max. 5, Total 6 Encoding by two format (per 1 TS) : Video 1 (Note, for total 2TS, Audio max. 4, Ancillary Data max. 3) | | |
| Video Specifications | Video Through Output | SMPTE292M/SMPTE259M BNC x 2 lines(0.8Vp-p 75Ω) | | Maximum TS Rate | 160.000Mbps (internal setting in 1 kbps units) | | | |
| | GOP Structure | AVC/H.264 | M=1 to 3, N=1 to 30 | Control Specifications | Local Control | Fluorescent display (20 digits x 2) + operator switches (6 buttons) | | |
| | Audio Input | AES/EBU (8ch): BNC x 4 lines (1Vp-p 75Ω) Embedded Audio (SDI1 16ch) : SMPTE299M, SMPTE272M Embedded Audio (SDI2 16ch) : SMPTE299M, SMPTE272M Analog (4ch) : D-SUB 15Pin(20KΩ, balanced) *2 | | | Remote Control | LAN 100Base-TX/1000Base-T (RJ-45) | | |
| | | Encoding Channels | AES max. 8ch, Embedded max. 16ch, Analog max. 4ch *2 (Selectable for each channel) | | Maintenance I/O | LAN 100Base-TX/1000Base-T (RJ-45) (joint use with remote control) | | |
| Audio Specifications | Encoding Method | MPEG-1 L2 (1ch (Mono), 2ch (DualMono), 2ch (Stereo)) max. 4PES MPEG-2 BC (1ch (Mono), 2ch (DualMono), 2ch (Stereo)) max. 4PES MPEG-2 AAC-LC (1ch (1/0), 2ch (1+1), 2ch (2/0), 4ch (4/0), 5.1ch (3/2/1), 6ch (6/0)) max. 2PES MPEG-4 AAC-LC (2ch (2/0), 5.1ch (3/2/1)) max. 2PES *1 MPEG-4 HE-AACv1 (2ch (2/0), 5.1ch (3/2/1)) max. 2PES *1 Dolby Digital (1ch (Mono), 2ch (Stereo)) max. 4PES *1 SMPTE302M (2, 4, 6, 8 ch) max. 4PES | | | Alarm Output | Buzzer (volume adjustable), relay contact outputs (2 NO/NC contacts) | | |
| | Sampling Frequency | 48kHz | | External Reset | System reset by relay contact input (1 NO contact) | | | |
| | Sampling Bit | 16bit (MPEG-1, MPEG-2 BC, MPEG-2/4 AAC, MPEG-4 HE-AAC, Dolby Digital), 16/20bit (SMPTE302M) | | Device Monitor Control | SNMP, WEB Based GUI | | | |
| | Bitrate | 128/192kbps (MPEG-1, MPEG-2 BC 1ch) 128/192/256/384 kbps (MPEG-1, MPEG-2 BC 2ch) 128/192 kbps (MPEG-2 AAC-LC 1ch) 128/192/256/320/384 kbps (MPEG-2/4 AAC-LC 2 ch) 320/384/480/512/640 kbps (MPEG-2/4 AAC-LC 4ch, 5.1ch, 6ch) 64/96/128 kbps (MPEG-4 HE-AAC 2ch) *1 128/192/256 kbps (MPEG-4 HE-AAC 5.1ch) *1 64/80/96/112/128/160/192/224/256/320/384/448/640 kbps (Dolby Digital 1ch) *1 96/112/128/160/192/224/256/320/384/448/640 kbps (Dolby Digital 2ch) *1 | | Other | TS encoding | BISS-1/E *1 | | |
| | | Pass Through | Dolby E external encoder delay absorption function (0 to 2 frames) | | Dimensions | 44mm (H) x 432mm (W) x 460mm (D) (excluding protrusions) | | |
| | | Other | | | Weight (typical) | 6kg or less | | |
| | | | | | Power Source | 100 to 240 VAC (50/60 Hz) | | |
| | | | | | Power Consumption | 85W or less | | |
| | | | | Operating Environment | 0 to 45°C, 30 to 90% (condensation not allowed) | | | |

- *1 "MPEG-4 AAC-LC", "MPEG-4 HE-AAC", "Dolby Digital", "Dolby Digital 4PES", "1080P@24Hz, 23.98Hz, 60Hz, 59.94Hz", "TS over IP", "BISS", and "Ancillary Data" functions are optional.
- *2 The Analog Audio Input is optional.
Conversion level: +4dBm to -18dBFS, Saturation level: +20dBm
- *3 SMPTE424M is only available for AVC/H.264.
- *4 "MPEG-4 AAC-ELD" and "1080p@60Hz, 59.94Hz" are planned to be supported in the future.

Caution

- In order to ensure correct and safe use, be sure to read the User's manual before use.
- Do not install in locations exposed to water, humidity, steam, dust, or mist.
Doing so could cause fire, electric shock, or equipment failure.

□ Features and specifications are subject to change without prior notice.
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