

Ideal AVC H.264 and MPEG-2 Encoder



HVE9110 is AVC H.264 and MPEG-2 encoder which provides to the features available on HVE9100. HVE9110 provides two outputs of AVC H.264 and MEG-2 individually against one video source.

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, 1080p, 720p, 576i, 480i, 1080p50 (optional), 1080p59.94 (optional), 1080p60 (optional)
- Embedded Audio Features up to 8ch/4PES
 - MPEG-1 LayerII: Stereo x 4
 - MPEG-2 AAC/MPEG-4 AAC/HE-AAC: 5.1+Stereo
 - Multiple Audio Format Support up to 8ch/4PES 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 (23sec)
- Redundant Power Supply
- RoHS Compliant

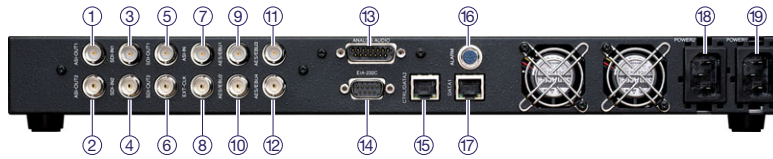
* Available when encoding AVC/H.264

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 (optional)

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			
Video Specifications	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 *3 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	1080 I (1920/1440x1080)@25Hz, 29.97Hz, 30Hz: SMPTE274M 1080P(1920/1440x1080)@23.98Hz, 24Hz: SMPTE274M *1 1080P(1920x1080) @50Hz, 59.94Hz, 60Hz: SMPTE274M *1 *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 : 4.2/4.1/4.0/3.2/3.0 Entropy: CABAC/CAVLC			Stream Type	TS (188/204byte: No Reed-Solomon)	
	Video Input	SMPTE424M/SMPTE292M/SMPTE259M BNC x 2 lines (0.8Vp-p 75Ω)		Max. Multiplicity	Video: 1, Audio + Ancillary Data max. 5			
	Video Through Output	SMPTE424M/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)		
		MPEG-2	M=1 to 3, N=3 to 30		Remote Control	LAN 100Base-TX/1000Base-T (RJ-45)		
	Audio Specifications	Audio Input	AES/EBU (8ch): BNC x 4 lines (1Vp-p 75Ω) Embedded Audio (SDI1 8ch): SMPTE299M, SMPTE272M Embedded Audio (SDI2 8ch): SMPTE299M, SMPTE272M Analog(4ch): D-SUB 15Pin(20KΩ, balanced) *2		Maintenance I/O	LAN 100Base-TX/1000Base-T (RJ-45) (joint use with remote control)		
		Encoding Channels	AES max. 8ch, Embedded max. 8ch, Analog max. 4ch *2 (Selectable for each channel)		Alarm Output	Buzzer (volume adjustable), relay contact outputs (2 NO/NC contacts)		
		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		External Reset	System reset by relay contact input (1 NO contact)		
Sampling Frequency		48kHz		Device Monitor Control	SNMP, WEB Based GUI			
Sampling Bit		16bit (MPEG-1, MPEG-2 BC, MPEG-2/4 AAC, MPEG-4 HE-AAC, Dolby Digital), 16/20bit (SMPTE302M)		TS encoding	BISS-1/E *1			
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				Dimensions	44mm (H) x 432mm (W) x 460mm (D) (excluding protrusions)	
						Weight (typical)	6kg or less	
						Power Source	100 to 240 VAC (50/60 Hz)	
Pass Through		Dolby E external encoder delay absorption function (0 to 2 frames)				Power Consumption	85W or less	
				Other	Operating Environment	0 to 45°C, 30 to 90% (condensation not allowed)		
					*1	*1 "MPEG-4 AAC-LC", "MPEG-4 HE-AAC", "Dolby Digital", "Dolby Digital 4PES", "1080P@23.98Hz, 24Hz, 50Hz, 59.94Hz, 60Hz", "TS over IP", "BISS", and "Ancillary Data" functions are optional.		
					*2	*2 The Analog Audio Input is optional. Conversion level: +4dBm to -18dBFS, Saturation level: +20dBm		
					*3		*3 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.
- When exporting our products or technologies, please comply with the Foreign Exchange and Foreign Trade Law.
- Dolby is a trademark of Dolby Laboratories.



NTT Electronics Corporation

Overseas System Business Department

New Stage YOKOHAMA, 1-1-32 Shin-urashimacho,
Kanagawa-ku, Yokohama-shi, Kanagawa 221-0031, Japan

TEL: +81-45-414-9180

FAX: +81-45-453-9710

E-mail: sys-info-w@ntt-el.com

URL: <http://www.ntt-electronics.com/en>