

## INGRON2308ES Eight-Channel MPEG-2/H.264 SD Encoder



### Features

- Video compression: MPEG-4 AVC/H.264, MPEG-2
- Audio compression: MPEG-1 Layer II, LC-AAC, and HE-AAC(v2)
- Video input interface: 4\*CVBS, or 4\*SD-SDI, or 2\*CVBS +2\*SD-SDI
- Audio input interface: 4\*unbalanced stereo L/R, or 4\*SD-SDI embedded, or 2\*unbalanced stereo LR + 2\*SD-SDI
- PAL/NTSC modes available
- Providing ASI and IP (UDP) output
- Equipped with empty packets filtering of IP out
- Able to multiplex local signals with external TS from ASI input
- 1\*MPTS or 1\*MPTS/4\*SPTS IP out optional
- Multi-pass LookAhead CBR or VBR encoding
- Built-in PCR capability
- Low latency, low bit rate performances
- Providing PSI/SI compilation and NIT, LCN insertion
- Easy operation and upgrading by keyboard or LCD
- SNMP or WEB management for control
- Upgrading by Ethernet interface

### Specifications

#### Video Compression

Video Compression	MPEG-4 AVC/H.264, MPEG-2
Video Input	4*CVBS / 4*SD-SDI / 2*CVBS+2*SD-SDI optional
Analog Video Input	PAL, NTSC
Resolution	NTSC / 720*480_59.94i, 352*288_59.94i, 320*240_59.94i, 320*180_59.94i, 176*144_59.94i, 160*120_59.94i, 160*90_59.94i; PAL / 720*576_50i, 352*288_50i, 320*240_50i, 320*180_50i, 176*144_50i, 160*120_50i, 160*90_50i
Bit-rate	0.25~15Mbps for MPEG-4 AVC/H.264 compression, CBR/VBR; 0.5~15Mbps for MPEG-2 compression, CBR/VBR
GOP	IPPPP, IBPBP, IBBPB, IBBBP
Video Pre-processing	De-Interlacing, Noise Reduction, Sharpen

#### Audio Compression

Audio Compression	MPEG-1 Layer II, LC-AAC, HE-AAC(V2)
Audio Input	4*unbalanced stereo LR / 4*SD-SDI embedded / 2*unbalanced stereo LR+2*SD-SDI
Sampling Rate	48 KHz
Sampling Accuracy	24-bit
Bit-Rate	32Kbps~384Kbps (for any channel)

#### Input

Video	4*CVBS or 4*SD-SDI or 2*CVBS+2*SD-SDI, BNC interface
Audio	4*unbalanced stereo LR or 4*SD-SDI embedded or 2*unbalanced stereo LR+2*SD-SDI, BNC interface

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TS	1*ASI, BNC interface
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Multiplexing

Multiplexing with external ASI(1*SPTS or 1*MPTS) in
Multiplexing with 4 local encoded programs
Providing PSI/SI compilation and NIT, LCN insertion

Output

ASI Output	Number	1*ASI+1*ASI(backup)
	Standard	EN 50083-9 ASI
	Output Bit Rate	Max. 170 Mbps
	MPEG Frame	188/204 byte
	Reflection Loss	>10 dB
	Connector Type	75 Ω, BNC interface
IP Output	Transport Protocol	TS over IP output, UDP protocol
	IP Output Channel	1*MPTS or 4*SPTS
	Mode	unicast / multicast
	Connector Type	RJ45, 10/100M
	Support empty packets filtering	

Management

Connector	1*RJ-45, 10/100 Base-T (NMS interface)
Remote Control	by NMS
Local Control	LCD and keyboard on front panel
Upgrading	by Ethernet software

General

Voltage	100~240V AC, 50/60Hz
Consumption	25 W
Environment	0~45°C (Operation), -20~80°C (Storage)
Dimension (W*D*H)	482*455*44 mm
Gross Weight	4.0 KGS

Introductions

Integrated with MPEG-2 and MPEG-4 AVC/H.264 compression formats, INGRON2304ES Four-Channel MPEG-2/H.264 SD Encoder realizes multi-function and powerful operations of SD encoders. Flexible designs and configurations of inputs, 4\*CVBS, 4\*SD-SDI, and 2\*CVBS+2\*SD-SDI, provides more options for diversified applications in a cost-effective way. The device supports MPEG-1 Layer II, LC-AAC and HE-AAC audio compression formats, with 4\*unbalanced stereo LR or 4\*SD-SDI embedded for options. INGRON2304ES offers an additional ASI input interface, making input local programs to be multiplexed with its SPTS or MPTS signals. This feature makes it more powerful, functional and not only limited as an encoder. INGRON2304ES performs well in ultra-low bit rate and low latency for each channel. The device outputs with ASI and TSoIP(in 1\*MPTS or 4\*SPTS, UDP protocol), to meet variety of needs in digital TV industry, such as IPTV, DTV broadcasting head-end systems, and so on.

Rear Panel



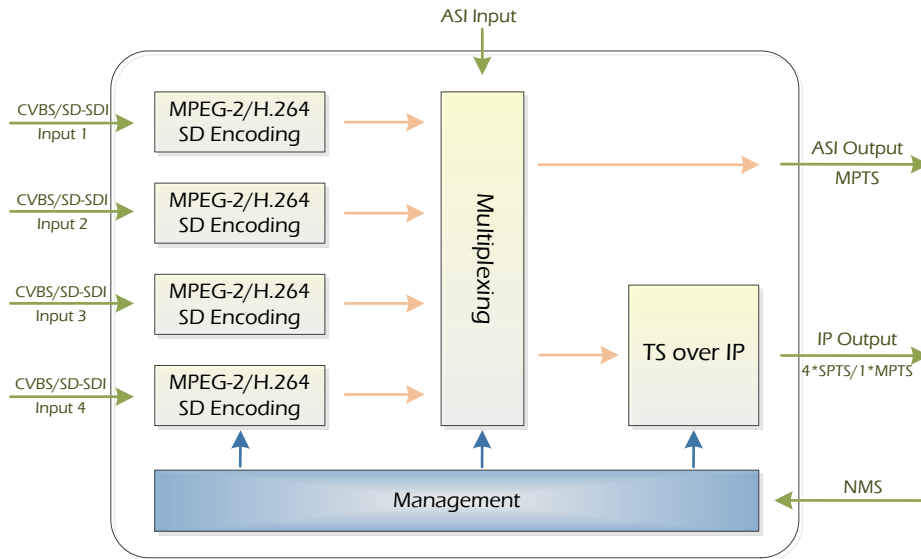
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Diagram



Options

	Four-Channel		Eight-Channel	
	INGRON2304ES -10	INGRON2304ES -20	INGRON2308ES -10	INGRON2308ES -20
CVBS In	4*CVBS	/	8*CVBS	/
SD-SDI In	/	4*SD-SDI	/	8*SD-SDI
ASI In	1*ASI	1*ASI	1*ASI	1*ASI
IP Out	1*MPTS & 4*SPTS		1*MPTS & 8*SPTS	