



H.264 HD Encoder Module

# EN9401

## DATASHEET

2016/05



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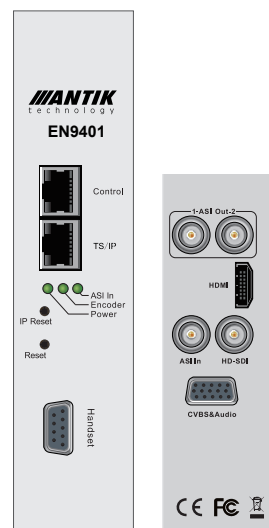
### EN9401

#### Single Channel H.264 HD Encoder

EN9401 is a highly adaptable single channel H.264 (MPEG-4 AVC) HD Encoder, which provides users a high-level operation experience to meet the requirement of the Digital broadcasting market. The EN9401 supports various input interface that include HD/SD-SDI, HD/SD-HDMI and CVBS. The compressed stream could output via GbE IP and ASI. EN9401 can encode two pairs of stereo audio with its 2nd audio daughter board. With built-in re-multiplexer, EN9401 could re-multiplex the SPTS generated itself and a MPTS input from ASI or IP, which makes EN9401 the most suitable deployment choice for any broadcast system.

#### Main features

- Fully compliant with H.264 HP@Level 4.0 and MP@Level 3.0
- Multiple video resolution including 1080p, 1080i, 720p, 576i and 480i
- Multiple inputs HD/SD-HDMI, HD/SD-SDI, and CVBS for encoding
- Support GbE TS/IP input/output(full duplex)
- Built-in Re-mux can multiplex services from ASI Input, IP input with encoded service.
- Can edit PSI/SI
- Support VBR and CBR encoding mode
- Support 2 pairs of analog stereo audio encoding with optional extension audio board
- Remote Control and Supervision by SNMP, HTTP WEB
- 4RU 19" chassis compact modular design, supporting up to 8 modules
- Support Down scale without changing frame rate.



## Order Information

Interface		Model	EN9401-XX			
			-30	-32	-40	-42
Input	HDMI		•	•	•	•
	CVBS		•	•	•	•
	Audio 1		•	•	•	•
	Audio 2			•		•
	SDI		•	•	•	•
	ASI		•	•	•	•
Output	ASI x2		•	•	•	•
TS/IP GbE				•	•	

## Specification

Video Input & Compression	
Video Input	1×HD/SD-HDMI(v1.3) 1×BNC for CVBS input 1×BNC for HD/SD-SDI input(for DMM-1520-3x and EN9401-4x model only)
Compression Standard	H.264/AVC HP@L4.0
Chrominance Space	4:2:0
Video Encoding Bit Rate	2Mbps~30Mbps
Video Resolutions & Recommended Video Encoding Bit Rates	1080p (1920×1080) @ 59.94 Hz,50Hz: SMPTE296M: 6~30Mb/s 1080 (1920×1080) @25Hz,29.97Hz, 30Hz:SMPTE274M: 6~24Mb/s 1080i (1440×1080) @25Hz,29.97Hz, 30Hz:SMPTE274M: 5~24Mb/s 720p (1280×720) @50Hz,59.94Hz, 60Hz:SMPTE296M: 4~24Mb/s 480i (720×480) @29.97Hz:SMPTE656M: 2~10Mb/s 576i (720×576) @25Hz: SMPTE656M: 2~10Mb/s
Audio Input & Compression	
Audio Input	HDMI Embedded Analog L,R audio input via a 2.5mm phone jack SDI Embedded(for EN9401-3x and EN9401-4x model only) 2nd analog L,R audio input via an extension audio board(for EN9401-x2 model only)
Compression Standard	MPEG1 Layer II Encoding (Mono, Stereo) MPEG2 AAC-LC Encoding (Stereo) MPEG4 AAC-LC Encoding (Stereo)
Sampling Rate	48KHz
Audio Compression Bit Rate	MPEG1 Layer II: 32~256Kb/s (Both 2 pairs of audio on EN9401-x2 model) AAC-LC: 128~512Kb/s (1st pair of audio only)

DVB-ASI Input	
Connector Type	1×BNC Female, 75Ω
Maximal Input Bit Rate	100 Mb/s
Packet Mode	Byte
Packet Length	188/204 Bytes
Signal Level	200~880mVp-p
DVB-ASI Output	
Connector Type	1×BNC Female, 75Ω
Effectual Output Bit Rate	1.5 Mb/s~70 Mb/s
Packet Mode	Byte
Packet Length	188/204 Bytes
Signal Level	800±80mV
GigE Full Duplex	
GbE Full Duplex	IEEE 802.3, 10/100/1000 Base-T
Maximal Effectual Output Bit Rate	80Mb/s
UDP/RTP Protocol	SPTS or MPTS IGMPv2
Control&Monitoring	
Connector Type	1×RJ45, 10/100 Base-T, for equipment Control
Remote Control	SNMP, HTTP(WEB interface)
Local Control	Handheld Programmer Unit
Software Upgrade	FTP loader and Telnet
Physical parameter	
Power supply	DC 3.3V/5V/12V, supplied by MR100 chassis
Power Consumption	<18W
Operating Temperature	0~45°C
Storage Temperature	0~45°C
Storage Temperature	-10~60°C
Humidity	10~90%, Non-condensed

## Block Diagram

