

ENC3440

PREMIUM HDMI/YPbPr/AV MPEG-2 H.264
4 channels Contribution Encoder



ENC3440 has proven itself as the most advanced encoding platform for DVB-C QAM Cable, USA ATSC Off Air, DVB-T, DVB-C, DMBT, ISDB-T Clear Modulation applications available today. The hardware platform has been widely deployed for **MPEG-2** and **MPEG-4 AVC HD** broadcasting applications with **Low latency**, Dolby **Digital AC-3** Audio, **Closed Captioning** and ASI cascading inputs support.

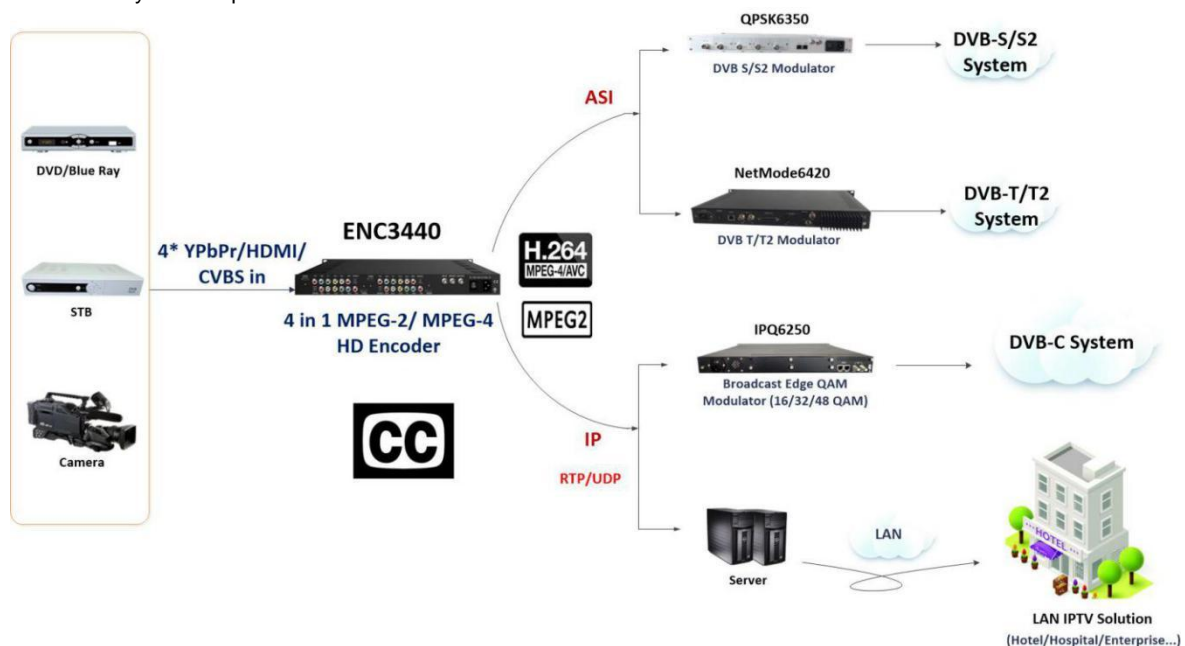
ENC3440 supports the most demanding video applications. It offers codec and transport flexibility, interoperability and feature richness. It is equipped with 4 channels HDMI, YPbPr, Composite inputs and multiple codec standard (MPEG-2 and MPEG-4 AVC/H.264 video encoding and MPEG1 Layer II, HE-AAC, LC-AAC, Dobby AC3, DD AC3 (2.0/5.1/7.1) passthrough audio encoding). It provides ultra-high quality video for your contribution workflows, IP as well as the DVB ASI output that meets MPEG-TS stream standard. The product is ideal for a broad range of applications including contribution and distribution.

Features

- Superior-quality low-bitrate MPEG-2 and MPEG-4 AVC encoding of SD or HD video pre-processing technologies
- Up to 4 Group of HDMI/YPbPr/AV per chassis (1-RU)
- Automatic SD & HD Detection
- 1080p(only h.264),1080i,720p,480i,576I @50/60/59.94fps
- Mpeg-1 L2,Mpeg2-AAC,Mpeg4-AAC,AC3-5.2 audio encoding
- AC3(2.0/5.1/7.1) Passthrough HDMI,SPDIF
- VCT(Virtual Channel Table) support for 8VSB ATSC and DVB-C QAM
- **Time to Live (TTL) support**
- Flexible Group of Pictures (GOP) controls and settings in Manual of Low delay mode
- 18Mbps MPEG2 HD application in DVB-C and ATSC standard
- The dialogue normalization function of AC3 encoding nicely
- Low Latency available 70-120ms
- Support CC (Closed Caption) EIA608 (from CVBS only)
- **LCN (Logical Channel Number) support**
- **ASI input for External Transport Stream Multiplexing**
- Simultaneous output via 4*SPTS/MPTS over UDP/RTP IP,ASI
- CBR & VBR rate control
- PCR correction to accurately correct several PCR of the input data
- Low power consumption and high reliability with MTBF(Mean Time Between Failure) \leq 87600 Hours
- Easy-to-Use System Management via Web/LCD Panel

Applications

- Lowest latency encoding
- Diverse Application Needing AVC and MPEG-2 Flexibility
- Satellite, ATSC, Cable TV headend applications
- Concurrent ASI and IP delivery for multipath transmission



TECHNICAL SPECIFICATIONS

Video Inputs

4x HDMI(HDCP) 1.4a; 4x CVBS/YPbPr(RCA)
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Audio Inputs

4* HDMI embed/SPDIF, 4*R/L Analog

Stream Output

DVB-ASI	2 identical ASI output, 75Ω, BNC, 1-99Mbps, 188Bytes
RJ45 Port	100M Base-T, Ethernet, RJ45 MPTS and 4*SPTS over IP, DVB MPEG-2 TS over UDP, unicast, and multicast streaming MPEG-2 TS over RTP 7x188Bytes, Filter Null Packet , TTL

Stream Input

DVB-ASI Input	Built-in multiplexer for encoder cascading
Bitrate	1-100 Mbps Selected by PID Programs Muxed to all Outputs

Video Processing

Video Compression	MPEG-2 and H.264
Profiles	HP@ L3 and L4 and L5; MP@ L3 and L4 BaseLine(h.264)@L2 and L3 Simple(mpeg2)@L2 and L3
Encoding Schemes	VBR, CBR
Video Bitrate	1-19.5Mbps
GOP Structure	B frame=2(<=3);P frame=4(<=6) When set
Manual in	Low delay, Could be change B, P frames
Aspect Ratio	4 : 3, 16 : 9
Chroma	4:2:0(MPEG2/AVC)
DTS Delay	1-500Ms
Low Delay	Normal 300-500ms Mode 1 100-300ms Mode 2 70-120ms
Advanced Preprocessing	Noise reduction, Sharpening

Source	Input & Output
HDMI, YPbPr	1920*1080p(Only h.264), 1920*1080i, 1280*720p,720*576i,720*480i
CVBS	720*576i,720*480i

Resolutions

Frame Rates	50fps, 59.94fps, 60fps
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Audio Processing

Sample rate	48KHz
Bit rate	64/96/128/192/256/320kbps
Encoding	MPEG1 Layer II; MPEG2-AAC;MPEG4-AAC; AC3(2.0/5.1/7.1) Passthrough HDMI AC3(2.0/5.1/7.1) Passthrough SPDIF DD AC3 5.2 –Option
Audio Gain	0-400%
Audio Source	Auto, Analog, SPDIF
Dialogue normalization	-31 to -1dB

Data Processing

CC (closed caption)	On/Off, EIA608 (Fo CVBS Only)
PSI/SI edition	PMT PID, Video PID, Audio PID, PCR PID, Service ID NIT Table,LCN
VCT (Virtual Channel Table)Mode: CVCT,TVCT	Major/Minor Channel Number Modulation Mode/Carrier Frequency/TSID

Management

Local interface	LCD + control buttons
Configuration	Web Interface
Port	RJ45, 10/100BaseT
Language	English
Save/Restore/Facture Set/Backup/Load Setting/Reboot	

Environment

Cooling	air flow front to side
Voltage range	100 to 120/200 to 240V AC ±10%; 50/60Hz
Operation Temperature	0 ~ 45℃
Storage Temperature	-20 ~ 80℃
Dimensions	482mm (L) x 400mm (W)x 44mm (H)
Weight	4.5 kg

Products Information

Models	Description
ENC3341	4Channels HDMI Inputs, Option-AC3
ENC3345	4Channels SD/HD-SDI Inputs, Option-AC3
ENC3440	4Channels HDMI/YPbPr/AV inputs. Option-AC3

ORDERING INFORMATION

Product category	Product Model	Detail Description	Application
Related Products	4* MPEG4 AVC Broadcast Encoder ENC3345/ENC3341	4* SD/HD-SDI or HDMI(HDCP) inputs, H.264/AVC, MPEG1 L2, AAC(option), 1080P, 1080I, 720P,576I,480I,60/59.94/50fps; 4*SPTS/1*MPTS over UDP/ RTP, DVB-ASI out;	-DVB-C/DVB-T2/DVB-S2 -Deliver video to IP, ASI -TV Studio Station
	4* MPEG2/AVC Broadcast FullHD Encoder ENC3445/ENC3441	4* SD/HD-SDI or HDMI(HDCP) inputs, MPEG2/H.264, MPEG1 L2, AAC, AC3 (option),1080P, 1080I, 720P, 576I, 480I, 60/59.94/50fps; 4*SPTS/1*MPTS over UDP/ RTP, DVB-ASI out; Close Caption, Low latency	-DVB-C/ATSC -Low latency encoding -MPEG-2 HD
	4* HD-SDI H.264 IPTV Encoder Caster-T315	4 * SD/HD-SDI or HDMI input, H.264/AVC, MPEG1 L2/AAC/AC3/Passthrough 1080P, 1080I, 720P, 576I, 480I, 30/25fps; SPTS over UDP/RTMP/RTSP/HLS/HTTP	-Cable TV operator; IPTV -Distribute Video to Ethernet -Wowza Server, Android/Apple
Companion Products	Professional DVB-S2 Satellite Modulator QPSK6350	1* 100M FE port/4*ASI inputs, DVB-S2 QPSK/8PSK/16APSK/32APSK modulation, 1pps/10Mhz, 24DVC over L band RF out, 0.5-45Mbaud (QPSK/8PSK/16APSK); 1-40mbaud(32APSK); BISS encryption	-Satellite Uplink -End to end Microwave transmission -Hotel
	Carrier-grade IP QAM Modulator IPQ6250	Up to 48QAM, 16QAM no-adjacent/Two GbE IP per Module, 3 Modules/48QAM per 1RU, Annex A/B/C, Multiplexer/Scrambling; 5Year Warranty	-Cable TV operator -Distribute video to QAM Network
	IP to 6* ATSC Modulator IPM6000A	Two GbE IP input; 16QAM/32QAM/8*DVB-T/ 8*ATSC /6*ISDB-T RF out as mirror of IP out	-Low cost digital TV operator; Hotel; -DVB-ATSC/ISDB-Tb
	PREMIUM HD-SDI MPEG2 /AVC HD Encoder Modulator EMI3445/ENC3440	4 HDSDI or HDMI/AV/YPbPr inputs, MPEG1 L2/AAC/AC3/AC3 Pass; Up to 1080p60/ 59.94/50fps; MPEG2/H.264;Low delay; 4*DVB-C/2*ISDB-T/2*DVB-T/ 4*ATSC ; DVB-ASI in/ASI out/4 SPTS UDP/RTP IP	-DVB-ATSC off air -Campus, Hotel, Hospital, Public place, Airport lobby