

ENC3411Plus

PREMIUM SD and HD MPEG-2/AVC
Contribution Encoder

HDMI SDI 1080P HD DD DOLBY DIGITAL H.264 MPEG-4/AVC MPEG 2

DIBVISION | DIBSYS



ENC3411 Plus has proven itself as the most advanced encoding platform for TV Studio Station, Cable, Satellite, IPTV, Terrestrial or ATSC applications available today. The hardware platform has been widely deployed for MPEG-2 and MPEG-4 AVC HD broadcasting applications with four pairs of Audio inputs. The significant advantage in **low latency** and **Dolby Digital AC3 audio encoding**. For telcos and other IP-based service providers, the encoder is highly bandwidth efficient MPEG-4 CBR encoding and native IP output make it possible to deliver exciting and competitive HD services. Especially use in Multi-Audio channel MPEG-2 HD 4:2:0 in High-End Cable TV or ATSC Application.

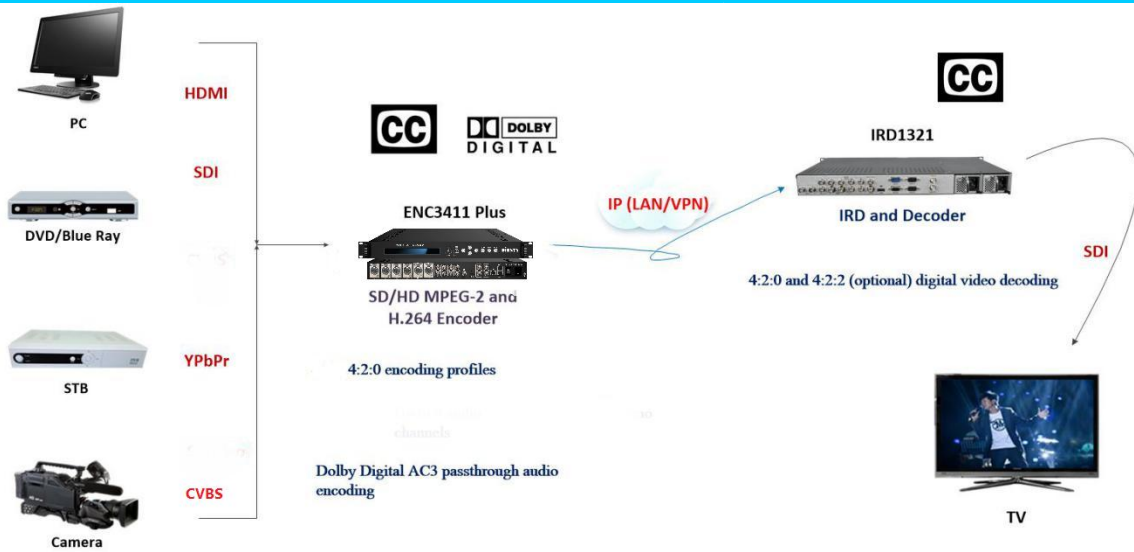
ENC3411 Plus is the industry's HD encoder based on ASIC processing technology and provides full 20-30% compression gain over the first generation of DSP-based MPEG-4 HD encoders. Additionally, embedded audio as well as support of closed captions transferred in the HD-SDI and CVBS means efficient routing and simpler back-up system designs. Further more, to the encoding format **4:2:0** for single channel encoding in contribution applications, and can be combined with LOGO, OSD and QR Code insertion of your customized design.

Features

- MPEG-4 AVC and MPEG-2 SD/HD encoding per chassis
- 1*HD-HDMI/HD-SDI/YPbPr, Composite video inputs
- Up to 2 audio stereo or 4 mono channels with 2 XLR, 2 RCA, Embedded SDI, 2 AES audio inputs
- Embedded audio on HD-SDI and HDMI input
- MPEG1 Layer II, LC-AAC, HE-AAC v1, HE-AAC v2 and Dolby Digital AC3 (2.0) audio encoding
- **Dolby Digital AC3 pass through** audio encoding for SDI and HDMI optional
- Aspect Ratio:4:3, 16:9
- **Low latency mode**
- Low resolution channels for applications such as picture-in-picture (PIP) under developing
- Operators can insert advertisement picture, own LOGO, QR code, OSD content during encoding picture
- 4:2:0 encoding profiles for highest video quality
- Advanced Closed Caption insertion and transmission: EIA 608 and EIA 708
- Support video buffer, free to switch video sources (all video interface available)
- Flexible GOP structures with Adaptive I-frame and B-frame insertion
- ASI output and IP over UDP and RTP (FEC, SMPTE 2022-1/2) output
- Bitrate: 2.5-19Mbps, VBR/ CBR control
- Management via embedded Web server
- One rack unit high, low-power consumption, stackable
- passed the EU CE certification

Application

- HD MPEG-2 for Digital Cable and ATSC
- Point to Point video and audio over IP In TV studio station
- Remote live Rebroadcasts and real-time transmission
- Better quality and increased reach for IPTV
- Increased channel capacity for Satellite



TECHNICAL SPECIFICATIONS

Video Inputs

1×SDI SD-SDI (SMPTE 259M), HD-SDI (SMPTE 292M)
800mV Level. 75Ω unbalanced, BNC
Return loss ≥ 15 dB, 5 to 1.4 GHz
Bit rate 1.485 Gbit/s ±10 ppm
1×CVBS PAL, NTSC, BNC, 75Ω unbalanced, BNC
Return loss ≥ 35 dB, 10Hz to 5.5MHz
1×YPbPr

1×HDMI

2×ASI Input for Remux

Audio Inputs

Default Embedded audio
Support 2 stereo audio encoding(2×XLR, 2×AES, 2×BNC, 1×SDI, 1×HDMI)

Stream output

DVB-ASI 2 identical ASI output, 75Ω ,BNC, Bitrate 1 to 100Mbps,188Bytes, Burst/Byte Mode
RJ45 Port MPEG Transport Stream over UDP/RTP (FEC, SMPTE 2022-1/2) , 100M Base-T Ethernet(multicast/unicast), 7x188Bytes Ts out Filter Null Packet
Total Bitrate 0.5-60Mbps(Should be More than TS bitrate)

Resolution

Source	Input	Output
HDMI, SDI	1920×1080p @60/59.94	1920×1080p @60
	1920×1080p @50	1920×1080p@50
HDMI, SDI, YPbPr	1920×1080p @60/59.94	1920×1080i @60
	1920×1080i @50	1920×1080i @50
	1280×720p @60/59.94	1280×720p @60
	1280×720p @50	1280×720p @50
SDI, HDMI	720×576i @50	720×576i @50
	720×480i @60	720×480i @60

Frame Rates 50fps, 59.94fps, 60fps

Video Processing

Video Compression MPEG2 and H.264
HP@ L3 and L4 and L5; MP@ L3 and L4
BaseLine(h.264)@L2 and L3
Simple(mpeg2)@L2 and L3
Bitrate range 2.5 Mbps ~ 19Mbps
Encoding Schemes CBR /VBR

GOP Structure IP, IBBP, IBBBBP
Aspect Ratio 4:3, 16:9 (for HD video)
Chroma 4:2:0(MPEG2/AVC)
Code Mode Frame, Field, MBAFF
Sync Loss Image Color Bar;Black Frame
Advanced Preprocessing Noise reduction,Sharpening

Audio Processing

Audio Inputs Embedded SDI (up to 2 pairs per video input)
2* R/L analog inputs, 2* XLR, 2*AES/EBU
Encoding MPEG-1 Layer II, HE-AAC (v1&v2)
LC-AAC; Digital Dolby-AC3 2.0
Digital Dolby AC3 pass through-for SDI and HDMI (optional)
Sampling rate 48KHz
Resolution 24-bit
Operating Modes Stereo, L-Mono, R-Mono
Volume Level 1-4
Audio Delay -500 to +500ms
Bit-rate 32Kbps~384Kbps

Low Delay Encoding

170ms (No B frames)
220ms
350ms
670ms
the max number of B frames is 2 for 29.97/25Hz,
3 for 60/50Hz
the max number of B frames is 1 for 29.97/25/24Hz,
2 for 60/50Hz

Data Processing

Insert advertisement picture
CC (closed caption)
PSI/SI edition
LOGO, QR code, OSD
EIA 608 and EIA 708 (for CVBS/SDI in)
PMT PID, VIDEO PID
PCR PID, PCR Interval
Stream ID; SDT Insert
over UDP/RTP/RTSP

MPTS

Management

LCD/keyboard and web management
Language English
Ethernet software upgrade

Environmental

Power consumption 25W
Operation temperature 0~45°C
Storage temperature -20~80°C
Voltage range 100 to 120/200 to 240V AC ±10%; 50/60Hz
Dimensions 482mm×405mm×44.5mm (W×D×H)
Weight 4.5Kg

Ordering Information

Product category	Product Model	Detail Description	Application
Similar Encoders	PREMIUM SD MPEG-2/AVC ENCODER ENC3111	1Ch SD -SDI/AV; 2Ch RCA/XLR Audio Encoding ; MPEG2/H264 SD; 4:2:0; DVB-ASI Cascading; AAC/MPEG1L2; Small/SD Res; CBR/VBR	Point to Point Enc/Dec; DVB/ISDB-T On Seg, IPTV
Similar Encoders	PREMIUM HD/SD ENCODER ENC3411	1Ch SD/HD-HDMI /HDSDI/Ypbpr and 1Ch SD-AV; 2Ch RCA/XLR/1Ch AES Audio Encoding ; MPEG2/H264 SD/HD; 4:2:0/4:2:2; DVB-ASI Cascading; AAC/MPEG1L2/AC3Pass; Small Res PIP /HD_SD res; CBR	Point to Point Enc/Dec; DVB/ISDB-T On Seg, IPTV
Related products	Professional ISDB-Tb Modulator MOD6500	TS(one Layer) / BTS(3 Layers) Over ASI/IP Input; linear/No-Linear DPD ; 30~960MHz; MER>42dB; 10Mhz/1pps In and Loop out;	ISDB-T/Tb
Related products	Digital TV UHF Transmitter DTT5900	Typical powers: 100/200/ 300 /800W; Single/Broadband freq; 470 to 860MHz; Up to 80Mhz band pass filter; Low power consumption and minimized non-linear distortion; AGC ;	ISDB-T/Tb