advanced media technologies®

MODEL

EN-31

DUAL CHANNEL HD/SD ENCODER

ADTEC Digital

FEATURES | BENEFITS

MPEG 2 and/or MPEG 4 AVC 4:2:0 Video Encoding

ASI Remux / Unit Cascade Feature

Analog Video and Audio Interfaces

BISS 1/E Encryption

Eight (8) Channels of Audio Encoding per Video Input

MPEG 1 Layer 2, AAC-LC, AAC-HE (v1/v2), Dolby Digital AC-3, 5.1 Audio Encoding

DVB-S / DVB-S2 / DVB-S2X Modulation

Simultaneous ASI, RF and IP Transport (IP Supports TCP, UDP, RTP, SMPTE 2022 FEC)

APPLICATIONS

ISDB-Tb, DVB-T/T2, ATSC Distribution, OTT

DSNG

Tier Two/Three Contribution

Private and MSO Cable Systems

Campus, Hospitality, Education

Contribution over IP

The EN-31 is a two-channel HD/SD-SDI contribution and distribution encoder supporting ATSC, DVB and ISDB applications via IP, ASI and optional DVB-S/S2/S2X RF transport. It inherits Adtec's broadcast quality compression, advanced feature set, service performance and reliability in a new dense two-channel platform targeted towards high value applications. The EN-30 boasts eight channels of audio per video service, VBI support, ASI Remux and easy to use interface. In addition to encoding MPEG 1 audio, the EN-30 adds support for Dolby Digital, AAC-LC and HE-AAC (v1 and v2) mixed mode audio encoding supporting stereo (2.0) and multi-channel surround (5.1) modes.

Over the top (OTT) video delivery is a growing segment. The EN-31 enables direct stream delivery to a CDN.

The EN-31 encodes two services multiplexed into an MPTS and concurrently transports services via ASI, IP and optional DVB-S/S2/S2X. The user has the ability to send MPTS or SPTS services to four IP destinations. The DVB-S/S2/S2X modulator is available has both IF and L-band with 10MHz L-Band insertion. Modulation modes range from QPSK up to 64APSK with 5% roll-off based on hardware/software options. Two or more units may be cascaded to increase channel density with the ASI remultiplex feature.

EN-31 Dual Channel HD/SD Encoder

VIDEO ENCODER PROFILES: *

EN-31-VE1-01 (MPEG2)

MPEG 2 SD Profile:	IS013818-2 MP@ML (1 – 15Mb/s) and 422P@ML (1 – 50Mb/s)
MPEG 2 HD Profile:	IS013818-2 MP@HL (7 – 59.5Mb/s)

EN-31-VE2-01 (MPEG4/AVC)

H.264 SD Profile:	ISO/IEC14496 MP@L3.0 (0.5 – 10Mb/s)
H.264 HD Profile:	ISO/IEC14496 HP@L4.0 (2 – 30Mb/s)

Supported Resolutions: 1920/1440x1080i@59.94/50, 1280x720p@59.94/50, NTSC (720x480i59.94) and PAL (720x576i50)

VIDEO INPUT:

Composite:

Interface:	SD Composite Analog (CVBS) NTSC and PAL
Connector:	2x BNC (75 Ohm)
SDI:	SD-SDI (SMPTE 259M - 270 Mbits) with embedded audio per SMPTE 272M HD-SDI (SMPTE 292M - 1.485 Gbits) with embedded audio per SMPTE 299M
Interface:	HD/SD-SDI Auto frame rate and resolution detection
Connector:	2x BNC (75 Ohm)

AUDIO ENCODER PROFILES:

Supported Audio:	(4 audio pairs per video encoder) * MPEG 1 Layer 2 encode AAC-LC and AAC-HEv1/v2* encode (2.0/5.1) AAC-6.0 surround encode Dolby Digital 2.0/5.1 (AC-3) encode Dolby Digital 2.0/5.1 (AC-3) passthrough Dolby E and LPCM passthrough Audio can be purposed for radio service feature

AUDIO INPUT:

Interface:	SDI, AES, Analog
Connector:	4x BNC (75 Ohm) and 2x DB9

EMERGENCY ALERT SYSTEM (EAS) INPUT:

EAS Video Interface:	Terminated D1 Composite Input with loop
EAS Audio:	Mono audio channel with loop
EAS Triggering:	GPI, Web UI, XCP

CONDITIONAL ACCESS: BISS 0/1/E standard w/ unique PID control

TRANSPORT I/O:

All outputs can operate concurrently (ASI, IP and RF)

ASI Output

Connector:	2x BNC (75 Ohm) IS013818-1 MPEG 2 TS per EN 50083-9:1997

Transport Over IP (TSoIP) Output

Connector:	2x RJ45 10/100/1000 GigE IS013818-1 MPEG 2 TS per EN 50083-9:1997 UDP, RTP, TCP, and SMPTE 2022 (COP3 FEC) RTMP for direct CDN delivery 4x IP Destinations, MPTS or SPTS user definable

ASI Input:

Connector:	1x BNC (75 Ohm) ASI Input used for ASI remultiplex / Cascade, DVB-subtitles or third Party PSIP generator

VBI / VANC PROCESSING:

Waveform / Analog (Composite or SD-SDI)
Closed Captions per CEA-608-C (2005)
Wide Screen Signaling (WSS) per ETSI 0294 V1.4.1 (2003-04)
Teletext per ETSI EN 300472 V1.3.1 (2003-05)
**High throughput teletext via composite only*

Ancillary (ANC) per SMPTE 291M (Native via SD/HD-SDI)
Closed Captions per CEA-708 (SMPTE 291 M), Teletext per OP47,
VITC per SMPTE 12M, EBU Teletext/Subtitles,
WSS/Teletext/NABTS/CEA-608/TVG2X/AMOL48/96,
AFD/Bar Data/Pan Scan per SMPTE 2016
Waveform Bridging and Conversion of Video User Data
CEA 608 to CEA 708 up-conversion

Caption Bridging:	CEA-608 via Composite merged with video via SDI (Similar frame rates required)
Teletext Bridging:	Waveform Teletext via Composite merged w/video via SDI
WSS Bridging:	Waveform WSS via Composite merged w/video via SDI

Transport Stream User Data Carriage SCTE 127-2007, ETSI EN 301 775, v1.2.1 (2003-05)

IF AND L-BAND MODULATOR (IF-LB-10M-02) - Optional:

Requires factory installation
QPSK / 8PSK / 16APSK / 32APSK / 64APSK / 128APSK / 256APSK *

Interface Rate:	Up to 200 Mb/s (FEC-& interface dependent)
Baudrate range:	72 Mbaud
Selectable baseband shaping:	
	5%, 10%, 15%, 20%, 25%, 35% DVB-DSNG compliant per EN 301210 DVB-S compliant per EN 300421 DVB-S2 compliant per EN 302307 DVB-S2X
Output level:	-35 to +7dBm (+/- 2dB)
L-Band Frequency:	950 - 2150MHz
IF:	-35 to +5dBm 50 - 180MHz 10MHz reference insertion on L-Band capability DVB RF and NIT Carrier ID
MOD ASI and IP Inputs:	Used for Multistream ISI, redundancy or encoder/modulator function seperation
Connector:	7x BNC and 1x GigE

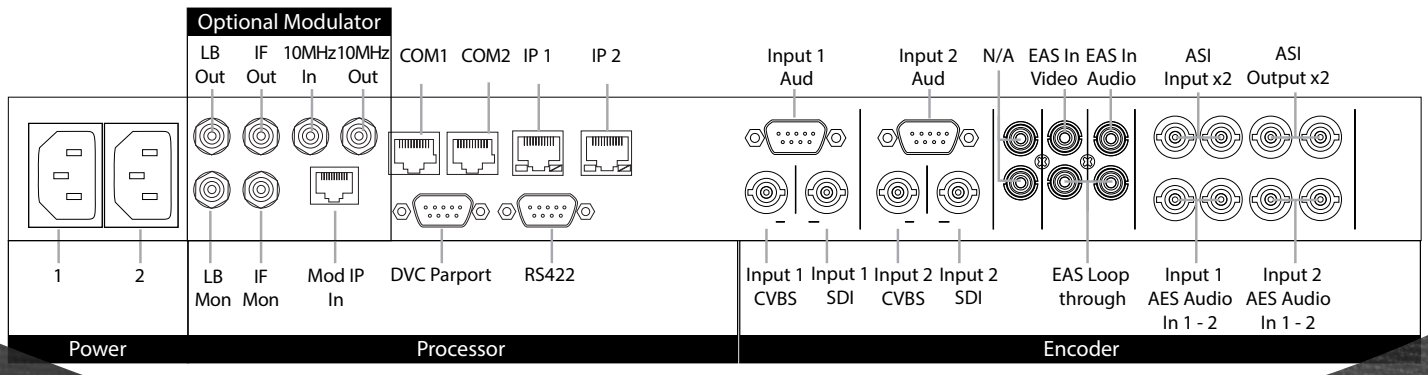
PHYSICAL:

Operating Temperature:	0 to +50ºC/+32 to +122ºF
Power Supply (nominal):	100 - 240 VAC
Power Consumption (nominal):	33.6W (120V @280mA)
Weight:	9.5 lbs with modulator
Measurements:	(H X W X D) 1.73" X 19" X 13.32"

MANAGEMENT:

Front Panel Control with password protection capability
Browser-based Web Interface with Advanced Security Features
SNMP v2c available for NMS integration

*Software keys are required to unlock full hardware support. There may be some constraints depending on configuration. Specifications are subject to change. Please contact your sales person for more info.



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