



EN-31

Dual Channel HD/SD Encoder



FEATURES | BENEFITS

- MPEG2 and/or MPEG4 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
- MPEG1 Layer 2, AAC-LC, HE-AAC (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)
- Zixi Feeder*

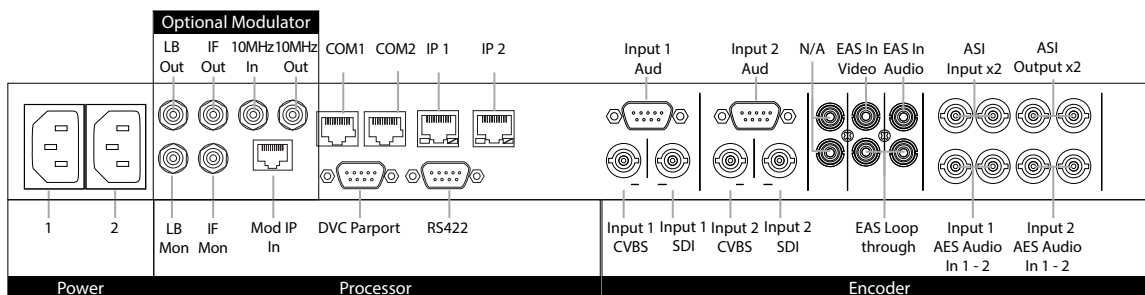
APPLICATIONS

- ISDB-Tb, DVB-T/12, ATSC Distribution, OTT
- DSNG
- Tier Two/Tier Three Contribution
- Campus, Hospitality, Education
- Private and MSO Cable Systems
- Contribution Over IP
- Public IP Transport via Zixi

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 two-channel platform targeted towards high value applications. The EN-31 boasts eight channels of audio per video service, VBI support, ASI Remux, easy to use web interface and encoding MPEG1 audio, the EN-31 adds support for Dolby Digital, AAC-LC and HE-AAC (v1 and v2) supporting stereo (2.0) and multi-channel surround (5.1) modes.

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 has both IF and L-band with 10MHz L-Band insertion. Modulation modes range from QPSK up to 64 APSK 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.

Flexible IP video delivery options allow video streaming over any network including private networks, VPN's and the public internet. The EN-31 supports both broadcast (UDP/RTP/SMPTE 2022) and OTT(RTMP and Zixi Feeder) delivery methods.



Dual Channel HD/SD Encoder

VIDEO ENCODER PROFILES: *

EN-31-VE1-01 (MPEG2)

MPEG 2 SD Profile: ISO13818-2 MP@ML (1 – 15Mb/s) and 422P@ML (1 – 50Mb/s)

MPEG 2 HD Profile: ISO13818-2 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 Mb/s) with embedded audio per SMPTE 272M
HD-SDI (SMPTE 292M - 1.485 Gb/s) 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 HE-AAC v1/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)
ISO13818-1 MPEG 2 TS per EN 50083-9:1997

Transport Over IP (TSoIP) Output

Connector: 2x RJ45 10/100/1000 GigE
ISO13818-1 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
Zixi Feeder*

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 separation

Connector: 7x BNC and 1x GigE

PHYSICAL:

Operating Temperature: 0 to +50°C/+32 to +122°F

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.