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)

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.

APPLICATONS

- ISDB-Tb, DVB-T/T2, ATSC Distribution, OTT
- DSNG
- Tier Two/Three Contribution
- Private and MSO Cable Systems
- Campus, Hospitality, Education
- Contribution over IP

www.amt.com
EN-31 Dual Channel HD/SD Encoder

VIDEO ENCODER PROFILES: *
EN-31-VE1-01 (MPEG2)
MPEG 2 SD Profile: ISO/IEC14496-2 MP@ML (1 – 15Mb/s) and 422P@ML (1 – 50Mb/s)
MPEG 2 HD Profile: ISO/IEC14496-2 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
SDI:
Connector: 2x BNC (75 Ohm)
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
Connector: 4x BNC (75 Ohm) and 2x DB9

AUDIO INPUT:
Interface: SDI, AES, Analog
Connector: 4x 10/100/1000 GigE
4x BNC and 1x GigE

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 0/1/2 standard w/’ unique PID control

TRANSPORT I/O:
All outputs can operate concurrently (ASI, IP and RF)
ASI Output
Connector: 2x BNC (75 Ohm)
ISO13181-1 MPEG 2 TS per EN 50083-9:1997
Transport Over IP (TSoIP) Output
Connector: 2x RJ45 10/100/1000 GigE
ISO13181-1 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 ETSI-608-C (2005)
Wide Screen Signaling (WSS) per ETSI-302944 V1.1.1 (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 ETSI-708 (SMPTE 291 M), Teletext per OP47,
VITC per SMPTE 12M, EBU Teletext/Subtitled,
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

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 Mbps (FEC & interface dependent)
Baudrate range:
72 Mbaud
Selectable baseband shapings:
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 140mA)
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

Optional Modulator

Input 1 1
Input 2 2
ASI In
ASI In
ASI In
ASI In
ASI Out
ASI Out
ASI Out
ASI Out

Power Processor Encoder

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*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.