



ERICSSON EN8130 MPEG-4 AVC SD ENCODER AND RE-ENCODER MODULE

MPEG-4 AVC Standard Definition System Encoder

Achieving the best picture quality at the lowest bit-rate enables operators to broadcast more channels in their available bandwidth over digital cable, satellite and terrestrial networks - maximizing return on investment of this valuable resource. For broadband operators offering TV services over xDSL networks achieving the lowest bit-rate can provide multiple simultaneous services into the home, or be used to extend the loop length over which TV services can be carried from the DSLAM to the consumers' home - maximizing return on network investment.

Ericsson has always led the market in providing encoding platforms that give optimum quality at the lowest possible bit-rates. The EN8130 is Ericsson's latest generation of SD MPEG-4 encoder. A dedicated hardware and firmware implementation, based on over 18 years in-house experience of creating high performance real-time encoders, the EN8130 delivers 15 percent more efficient compression compared to the previous generation.

The EN8130 is also available as re-encoder variant to deliver a no compromise full decode / encode solution for cable and IPTV turnaround applications.

PRODUCT OVERVIEW

Add New Channels with Highest Performance Encoding

The EN8130 is Ericsson's latest generation of SD MPEG-4 encoder delivering a 15 percent improvement over the previous generation. This allows operators to add one extra channel in six or save one RF channel in five without loss in picture quality.

Efficient Rack Space

For installations where rack space is at a premium, the Video Processor Chassis delivers the highest density of any broadcast quality MPEG-4 encoder solution with up to six EN8130 option modules, halving rack space requirement in comparison to existing deployed systems. This high density enables a rolling upgrade of a headend with minimum spare rack space. The re-encoder variant of the EN7190 is just as space efficient allowing six high quality transcodes per rack unit.

Hot Swap Support and Module Level Redundancy

The EN8130 option module is hot swappable allowing in-field servicing and system expansion without disrupting other on-air channels.

Redundancy management under nCompass Control can be both module and chassis based for ultimate resilience without disruption non failed channels.

Environmental Benefits

A 20 channel system based on the EN8130 consumes half the power of a system based on previous generations of encoders, halving the carbon footprint of your headend.

OPTION MODULE FEATURES

EN8130 Encoder (VP/HWO/EN8130/ENC, FAZ 101 0118/69)

- The SD MPEG-4 AVC encoder option module supports:
 - Hot swappable
 - SD SDI video input
 - Digital AES-EBU and embedded SD SDI audio input
 - MPEG-1 Layer II Audio
 - Dolby® Digital (AC-3) 1 to 5.1 channel pass-through
 - 5.1 Audio Transcoding options
 - Fully exhaustive motion estimation
 - Control via nCompass Control by Ericsson

EN8130 Re-encoder (VP/HWO/EN8130/TRANS, FAZ 101 0118/74)

- The SD MPEG-4 AVC re-encoder option module has the same features* as the EN8130 encoder with the addition of a transport stream input over IP allowing the re-encoder variant of the EN8130 to be configured as an encoder or transcoder.

*Digital AES-EBU input is not available on the re-encoder variant



SOFTWARE OPTIONS

ERICSSON EN8130 MPEG-4 AVC SD ENCODER MODULE

Clarus™ Motion Compensated Temporal Filtering (VP/SWO/SD/MCTF, FAZ 101 0118/50)

- Superior professional-grade noise reduction to address the most demanding noisy video sources while preserving high spatial resolution

Reflex (VP/SWO/REFLEX, FAZ 101 0118/15)

- Enables Reflex statistical multiplexing allowing the encoder to be part of a stat-mux pool of encoders that share their bit-rate using a MX8400 multiplexer
- Reflex statistical multiplexing coupled with the EN8130's unique multi-point look-ahead encoders can deliver over 30 percent efficiency gain for large systems
- One license required per encoder module

Additional MPEG-1 Layer II Encoding (VP/SWO/M1L2, FAZ 101 0118/13)

- Enables one pair of MPEG-2 Layer II audio encoding
- Up to six additional pairs of audio per encoder module can be supported to make a total of eight pairs per module

Dolby® Digital Stereo Encoding (VP/SWO/DOLBY/AC3, FAZ 101 0118/12)

- Enables one pair of Dolby Digital (AC-3) stereo audio encoding
- Three licences enable 5.1 encoding
- Up to six pairs per encoder module can be supported

Dolby® Digital Plus Stereo Encoding (VP/SWO/DOLBY/PLUS, FAZ 101 0118/58)

- Enables one pair of Dolby Digital Plus stereo audio encoding
- Three licences enable 5.1 encoding
- Up to six pairs per encoder module can be supported

AAC Encoding (VP/SWO/AAC, FAZ 101 0118/55)

- Enables one pair of Dolby Digital (AC-3) stereo audio encoding
- Includes support for AAC-LC, HE AAC and HE AACv2
- Three licences enable 5.1 encoding
- Up to eight pairs per encoder module can be supported

Dolby® E to Dolby® Digital 5.1 Transcoding

- This functionality is enabled with the Dolby-E decode option (VP/SWO/DOLBY E/DEC, FAZ 101 0118/63) and three Dolby Digital stereo encode options
- Transcode includes a down-mix to a stereo pair which can be encoded as MPEG-1 Layer II
- Automatic selection of a back-up LPCM pair on loss of Dolby-E, including meta data generation
- Two transcode per encoder module can be supported

ALC (Automatic Loudness Control) (VP/SWO/ALC, FAZ 101 0118/113)

- This feature corrects sustained audio level mismatches between interstitials and main program content
- Each licence enables ALC for one audio pair of encoding in any audio format
- Two ALC licences enable ALC for a 5.1 surround sound encode
- ALC can be applied to an audio transcode as well as straight encode from a LPCM audio input.

Please contact Ericsson or an approved reseller to confirm which combinations of options are supported.

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SAMPLE CONFIGURATION



SPECIFICATIONS

SD MPEG-4 AVC Video and Audio Encoder Option Module

Up to six SD MPEG-4 AVC encoder option modules per chassis

Full support for module level Hot Swap

SD MPEG-4 AVC Option Module Inputs

Video

SDI serial digital video 625 and 525 line standard supported

Studio Reference

625 and 525 line HSYNC for single PCR operation (requires external sync option module)

Audio

Up to eight stereo pairs embedded on HD SDI

Up to four stereo pairs via AES EBU (Encoder only)

Supports both balanced (AES3) and unbalanced (AES3id) digital audio inputs (Encoder only)

Video Encoder

MPEG-4 MP / HP@L3 Encoding

0.5 to 10 Mbps

"Pixel Perfect" fully exhaustive motion estimation

Ericsson Reflex statistical multiplexing support (option)

SD Resolutions

576 lines x 720/704/640/576/544/528/480/352 pixels

480 lines x 720/704/640/576/544/528/480/352 pixels

288 lines x 352/320 pixels

240 lines x 352/320 pixels

GOP processing includes adaptive GOP structure and adaptive GOP length

Audio Encoder

MPEG-1 Layer II audio encoding standard

Encoding rates from 32 kbps to 384 kbps. First two pairs standard. Up to an additional 6 pairs (option)

Dolby Digital® (AC-3)

Encoding rates from 56 kbps to 640 kbps (option) - maximum of three pairs

MPEG-2 AAC-LC (option), up to five stereo pairs

MPEG-4 HE-AAC v1 (option), up to five stereo pairs

MPEG-4 HE-AAC v2 (option) up to five stereo pairs

Pass through of pre-encoded Dolby® Digital (AC-3) 1 – 5.1 channel

Transcode (option) from Dolby® E to Dolby Digital (AC-3) 5.1 channel

VBI

World Standard Text (WST - ETS300472) 625 only

Closed captioning EIA-608, EIA-708 and SCTE 20

Closed captions inserted by line 21 or SMPTE 334-1

SMPTE 2016-3 AFD and Bar Data

Wide screen signaling (WSS) 625 only

Advanced Pre-processing

Clarus™ professional grade Motion Compensated Temporal Filtering. (option)

Frame re-synchronization

Features

Internal test tone and test pattern generation

Auto-switching on loss of input source to test pattern, colored image, last good video frame with selectable text message

Physical and Power

Approximate Weight

0.33 kg per SD MPEG-4 AVC option module

Power Consumption per module

35 Watt

Environmental Conditions

Operating Temperature

-10°C to 50°C (14°F to 122°F)

Operating Humidity

<95% (Non-condensing)