ERICSSON EN8190
MPEG-4 AVC HD ENCODER MODULE

MPEG-4 AVC High Definition System Encoder

The EN8190 MPEG-4 AVC HD encoder provides the best MPEG-4 AVC HD compression in the world using new technology, designed from the ground up.

In combination with DVB-S2 satellite modulation and the PREKOR™ Dynamic Pre-correction System by Ericsson enables operators to gain maximum performance from a satellite transponder. This product enables the most HDTV channels per transponder in the industry.

PRODUCT OVERVIEW

Innovation Delivers Outstanding Coding Efficiency

Based on 18 years of encoder design experience, the EN8190 option module is a radical new design. The EN8190's unique multi-point look ahead supports an iRDO (Interpolating Rate Distortion Optimization) engine that extracts the maximum efficiency possible from the MPEG-4 AVC specification. This efficiency gain coupled with Reflex™ Statistical Multiplexing typically allows operators to get more HDTV channels into their transmission bandwidth than any other solution.

Efficient use of Spectrum

The EN8190 option module delivers compression efficiency that allows;

- Five to six HD channels in a typical digital terrestrial transmission channel using DVB-T2
- Seven to eight HD channels on a typical satellite transponder using DVB-S2 and PREKOR™
- Eight to 10 HD channels on a typical DVB-C cable TV network

Hot Swappable Support and Module Level Redundancy

The EN8190 option module is hot swappable allowing in-field servicing and system expansion without disrupting other on-air channels.

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

OPTION MODULE FEATURES

EN8190 Encoder (VP/HWO/EN8190/ENC)

- The HD MPEG-4 AVC encoder option module supports;
  - Hot swappable
  - 3 Gbps HD SDI video input
  - Digital AES-EBU and embedded HD 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
  - Closed caption support input via HD SDI SMPTE 334
  - Conversion of EIA 608 to EIA 708 format closed captions
  - OP47 support for Teletext services
  - Control via nCompass Control by Ericsson

SOFTWARE OPTIONS

Clarus™ Motion Compensated Temporal Filtering

(VP/SWO/HD/MCTF)

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

Reflex™ (VP/SWO/REFLEX)

- 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 EN8190's unique multi-point look-ahead encoders can deliver over 25 percent efficiency gain for a typical 12 channel system
- One license required per encoder module

Additional MPEG-1 Layer II Encoding (VP/SWO/M1L2)

- 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)

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

Dolby®E to Dolby® Digital 5.1 Transcoding

- This functionality is enabled with a DolbyE decode option (VP/SWO/DE/DEC) and three Dolby Digital stereo encode options
- Transcode includes a down-mix to a LPCM stereo pair which can be encoded as MPEG-1 Layer II
- Automatic selection of a back-up pair on loss of DolbyE, including meta data generation
- Up to two transcodes can be support on each EN8190 module

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

SPECIFICATIONS

HD MPEG-4 AVC Video and Audio Encoder Option Module

One to two HD MPEG-4 AVC encoder option modules

Full support for module level hot swap

HD MPEG-4 AVC Option Module Inputs

Video

HD SDI serial digital video with EDH error detection and health monitoring

HSYNC support for single PCR operation (option)

Audio

Up to eight stereo pairs embedded on HD SDI

Up to four stereo pairs via AES EBU

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

Video Encoder

MPEG-4 MP / HP@L4.0 Encoding

1 Mbps to 25 Mbps

"Pixel Perfect" fully exhaustive motion estimation

Reflex™ by Ericsson Statistical Multiplexing support (option)

HD Resolutions

1080 x 1920/1440 i 25

1080 x 1920/1440 i 29.97

720 x 1280/960 p 50

720 x 1280/960 p 59.94

GOP processing includes adaptive GOP structure and adaptive GOP length

Audio Encoder

8x stereo audio channel processing

MPEG-1 Layer II audio encoding standard

Encoding rates from 32 kbps to 384 kbps

Dolby® Digital (AC-3)

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

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

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

VANC Data Extraction

SMPTE 334-1 Closed Captions

SMPTE 2016-3 AFD and Bar Data

OP47 Teletext

Advanced Pre-processing

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

Frame re-synchronization

Features

Internal test tone and test pattern generation

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

Physical and Power

Approximate Weight

0.66 kg (1.5 lbs) per HD MPEG-4 AVC option module

Power Consumption per module

110W

Environmental Conditions

Operating Temperature

-10°C to 50°C (14°F to 122°F)

Operating Humidity

<95% non-condensing