ERICSSON CE-aJ2K OPTION MODULE

The Ericsson CE-aJ2K JPEG 2000 encoder module solves the challenge of delivering high quality HD at low latency over fibre contribution links. With many sports centres, entertainment venues and broadcast centres having access to gigabit Ethernet, cost-effective use can only be achieved by utilizing the connectivity effectively with the use of JPEG 2000.

The CE-aJ2K uses wavelet based JPEG 2000 at 4:2:2 sampling with 10-bit precision to deliver SD or HD at up to 1080i25/29.97 resolutions. Because no GOP structure is used, latency is low and subsequent editing is easy.

A unique capability of Ericsson's JPEG 2000 implementation is that MPEG-2, MPEG-4 AVC and JPEG-2000 encoder modules can be mixed within a single encoding chassis, such as the AVP2000 Contribution Encoder or AVP3000 Voyager.

Hot swappable architecture and optional dual power supplies means maximum operational flexibility, easy upgrades and reliable operation - all maximising ROI.

PRODUCT OVERVIEW

Broad supporting palette

CE-aJ2K fits into DSNG (mobile news, sports, entertainment) applications, as well to fixed broadcast contribution. C&D service providers can use Ericsson’s AVP2000 Contribution Encoder or AVP3000 Voyager for encoding JPEG-2000, the RX8200 receiver for decoding, and nCompass Control for system control.

Operational advantages

Precise color representation and I-frame only operation ensures hassle-free color correction, keying and editing, therefore a seamless post-production process.

Ultra low latency - Interactive live content

Ultra low-latency compression technology enables broadcasters to produce interactive content in a more professional way, differentiate their offering and drive advertising revenues.

Robust video transmission

The robustness of wavelet based transformation combined with the reliability of our products minimizes the possibility of service disruption and potential revenue loss.

Hot Swappable Support

CE-aJ2K modules are hot-swappable to allow onsite servicing, unit repurposing and maximum portability.

Software Upgradeability

CE-aJ2K modules are based on a future-proof, software upgradeable platform. This enables the SD to HD upgrade using a SW license, without any additional hardware expense.

BASE UNIT FEATURES

CE-aJ2K Encoder Card

(CE/HWO/CE-a/J2K, FAZ 101 0119/79)

(CE/UPG/HWO/CE-a/J2K, FAZ 101 0119/81)

Video Features

- Up to 6 modules per chassis depending on configuration
- HD/SD-SDI, video input
- JPEG-2000 HD/SD 4:2:2 encoding
- 10 bit quantization
- MPEG Transport Stream based flow
- High bit-rate operation, 20 Mbps to 190 Mbps video bit-rate
- Seamless production workflow

Audio Features

- Extraction (pass-through) of up to 4 channels from the SDI input
- De-embedding 16-bit and 20-bit AES data
- SMPTE 302M: LPCM pass-through (2 channels per stream, accuracy of ±2ms)

SOFTWARE OPTIONS

HD Encoding

(CE/SWO/CE-a/HDJ2K, FAZ 101 0119/85)
(CE/UPG/SWO/CE-a/HDJ2K, FAZ 101 0119/86)
Enables the HD resolution for the JPEG-2000 encoder

SPECIFICATIONS

CE-aJ2K Video and Audio Encoder Option Module

Up to 6 CE-aJ2K option modules per chassis

Full support for module level hot swap

Inputs

Video

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

HSYNC support for single PCR operation (separate hardware option for HSYNC input)

Input Level 800 mV ptp ±10 percent

Return loss >15 dB, 10 MHz to 270 MHz

Audio

Up to eight stereo pairs embedded on HD-SDI

Up to four stereo pairs via AES EBU (Connector via

D-Type to XLR)

Supports both balanced (AES3) and unbalanced

(AES3id) digital audio inputs

48 kHz sampling rate

Video Encoder

JPEG-2000 HD/SD encoder

10-bit encoding precision

4:2:2 chroma sampling

20 Mbps to 190 Mbps bit-rate range

Video Resolutions

HD resolutions:
1920 x 1080i 25
1920 x 1080i 29.97
1280 x 720p 50
1280 x 720p 59.94

SD resolutions:
720 x 576i 25
720 x 480i 29.97

Audio Encoder

Up to 4x stereo audio channel processing

Dolby®E pass-through
Up to four streams

Linear PCM pass-through
Up to four independent stereo pairs

Ancillary Data

VBI in picture (SD only)

SMPTE 2038 Generic VANC data extraction,

up to 2 Mbps

Features

Optional PID elimination on loss of input

Supported by nCompass Control System

Physical and Power

Approximate Weight
0.33 kg (0.73 lbs) per CE-aJ2K option module

Power Consumption per module
Less than 40 Watts

Environmental Conditions

Operating Temperature
-10°C to 50°C (14°F to 122°F)

Operating Humidity
< 95% non-condensing

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