ericsson.
com

ERICSSON
E5770 / E5775

MPEG-2 Standard Definition Multi-pass Encoders

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 DTH operators offering TV services over satellite, cable or terrestrial networks, achieving the lowest bit-rate can be used to provide multiple simultaneous services into the home, reduce transmissions costs and extend the reach of their broadcasts with higher levels of error correction - maximizing return on network investment.

Ericsson has always led the market in providing encoding platforms that give optimum quality at the very lowest possible bit-rates. The E5770 is the result of over fifteen years in-house experience of creating high performance real-time encoders. With their unique multi-pass processing, the E5770 and E5775 provide world-class encoding performance for statistical multiplexing systems.

PRODUCT OVERVIEW

Outstanding Quality and Market Leading Performance
The E5770/75 bring multi-pass MPEG-2 encoding to the E5700 series encoder range for the best possible performance with Reflex™ Statistical Multiplexing. They are especially well suited for multi-channel TV systems where the ultimate in compression efficiency is required to maximize the number of TV services carried in the |available bandwidth.

Supports local and remote statistical multiplexing
With extensions to the standard Reflex statistical multiplexing technology, the iSIS 8000® solution enables E5770/75 encoders located over a Wide Area Network to be grouped as part of a Reflex Statistical Multiplex. The E5770/75 encoders, enabled with IP output options, can be statistically multiplexed with local encoders and can form part of the same Reflex group. Where remote encoders are statistically multiplexed over the IP network, the contributing feeds do not require a decode-recode process. The original picture quality is retained.

Comprehensive Operational Options
The E5770/75 offers breadth and depth in operational capabilities including Variable Bit-Rate (VBR) and Constant Bit-Rate (CBR) modes, Reflex statistical multiplexing and audio capabilities allowing operators to design their ideal encoding system and maximize their bandwidth capacity.

Reliable, Efficient Management
The E5770/75 can be remotely controlled via a web browser and can also be efficiently managed and maintained through integration into the nCompass Control System by Ericsson. This scalable system enables reliable, remote management and monitoring, reducing the need for costly, on-site operation.

BASE UNIT FEATURES

E5770 Encoder (M2/ENC/E5770)
E5775 Encoder (M2/ENC/E5775)
The 1RU E5770 encoder features one physical expansion slot for hardware options and has a range of software enabled options for flexibility to suit specific applications. The E5775 is a 2RU version of the multi-pass encoder and features four physical expansion slots.

- Unique “multi-pass” processing optimizes bit-rate allocation during critical scenes
- Support for remote statistical multiplexing when used with the MX8400 multiplexer
- SDI and composite video inputs
- Analog, digital AES-EBU and embedded SDI audio input
- MPEG-1 Layer II Audio
- Dolby® Digital (AC-3) 1-5.1 and Dolby®E channel pass-through
- “Pixel Perfect” fully exhaustive motion estimation
- Extensive pre-processing features
- Support for a wide range of VBI data formats
- Closed caption support input via RS-232 or SDI SMPTE 334
- Conversion of EIA 608 to EIA 708 format
- Support for splice points and special features for VOD Ingest
- Three ASI outputs plus wide range of optional telco Interfaces
- Control via front panel, SNMP, RS-232/RS-485, Web browser or nCompass Control systems
- Film mode detection (3:2 pull-down)
- Data insertion supporting RS-232 data and RS-422

ERICSSON

HARDWARE OPTIONS

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

Audio Option Card (M2/EOM2/AUDLIN2)

- Two stereo pairs supported per card
- Analog input levels: 12, 15, 18, 21, 22 and 24 dB
- MPEG-1 Layer II audio encoding
- Dolby® Digital (AC-3) 2.0 encoding
- Dolby Digital (AC-3) 1 - 5.1 channel and Dolby®E pass-through
- Linear PCM and DTS pass-through
- AES 3 compliant input

One audio option card may be fitted in the E5770 supporting a total of four stereo pairs in the unit.

Up to three audio option cards may be fitted in the E5775 supporting a total of eight stereo pairs in the unit.

IP Output (M2/EOM2/IPTSDUAL)

- Dual output, with 100/1000BaseT Ethernet physical interfaces
- UDP/IP or RTP/UDP/IP encapsulation of MPEG-2 transport stream output
- Multicast or unicast capable
- Supports multiple SPTS streams

GPI Contact Closure Input (M2/EOM2/GPI)

- Reads one of eight input signals to trigger SCTE 35 messages
- Other functions and encoder parameters may be controlled by contact closures. Please contact Ericsson or an approved reseller for further details.

SOFTWARE OPTIONS

Auto-Concatenation (M2/ESO2/ACON)

- Aligns the encoder to the previous encoder's GOP structure to significantly reduce coding artifacts caused by successive coding and decoding

Noise Reduction (M2/ESO2/NR)

- Four levels of professional-grade adaptive noise reduction plus three fixed levels of noise reduction

Reflex and VBR (M2/ESO2/VBR)

- Automatic variable bit-rate at a fixed quality setting for optimum bandwidth usage in stand-alone or Reflex Statistical Multiplexing modes

SMPTE 2022 Pro-MPEG FEC (M2/ESO2/PROFEC)

- Enables SMPTE 2022 Pro-MPEG FEC protection in the Dual IP output card for robust IP streaming

MPEG-2 422P@ML (M2/ESO2/422)

- For professional editing quality pictures, 1.5 Mbps to 50 Mbps

Dolby® AC-3 Two Channel Encoding (M2/ESO2/AC3)

- Enables Dolby Digital (AC-3) stereo encoding. The first two stereo pairs are free of charge

DTS (Digital Theater Sound) (M2/ESO2/DTS)

- Enables pass-through of pre-encoded DTS audio

NABTS VBI Extraction (M2/ES02/525VBIDATA)

- Enables the extraction of GEMSTAR and EIA 516 NABTS data from the VBI and carriage in a transport stream packet

Digital Program Insertion (M2/ESO2/DPI)

- Enables carriage of DPI messages as per SCTE 35 controlled by either DVS 525 or contact closure read by the GPI input option card

ericsson.com

SPECIFICATIONS

Inputs

Video

Analog composite video (PAL/NTSC) 10-bit sampling

SNR >60 dB

SDI serial digital video 625 and 525 line standard supported with EDH error detection and health monitoring

HSYNC support for 625 and 525 line

Audio

Two stereo pairs input via analog, AES-EBU or SDI

Analog audio balanced 600Ω/20kΩ

Input levels: 12, 15, 18, 21, 22 and 24 dB

Up to four stereo pairs can be de-embedded from SDI

Outputs

3x ASI copper Single Program Transport Stream

Video Encoder

MPEG-2 MP@ML
0.256 Mbps to 15 Mbps

"Pixel Perfect" fully exhaustive motion estimation

Long GOP and adaptive GOP

Vertical Resolutions 576, 288 (PAL), 480, 240 (NTSC)

Horizontal Resolutions 720, 704, 640, 544, 528, 480, 352

Ericsson Reflex statistical multiplexing support (option)

MPEG-2 422P@ML (option)

1.5 Mbps to 50 Mbps

Audio Encoder

2x stereo audio channel processing

MPEG-1 Layer II audio encoding standard
Encoding rates from 32 kbps to 384 kbps

Dolby® Digital(AC-3) (option)
Encoding rates from 56 kbps to 640 kbps

Dolby Digital (AC-3) 1 to 5.1 channel, Dolby®E, linear PCM and DTS (option) pass-through

VBI

World Standard Text (WST - ETS300472) 625 only

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

Closed captions inserted by line 21, SMPTE 333 or SMPTE 334

Nielsen data AMOL I and AMOL II, 525 only

NABTS - 525 line only (option)

Video Index and Active Format Descriptor (AFD)

Video programming signal (VPS) 625 only

Wide screen signaling (WSS) 625 only

Time code from VITC

Advanced Pre-processing

Adaptive de-interlacing

Adaptive bandwidth

Despeckle filter

Ticker tape detection and processing

Border processing

Ericsson professional grade adaptive spatial and temporal noise reduction offering four adaptive levels plus three fixed levels (option)

"Auto-Concatenation" I frame detection and alignment system – optimizes re-encoding performance (option)

Film mode inverse 3:2 pull-down

Scene cut detection

Frame re-synchronization

Features

Selectable range of delay modes for low latency operation

Front panel LCD with easy set up and operation

16 fully adjustable operational configurations

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

Input freeze frame and audio silence detection

Logo insertion

Splicing and SCTE 35 messages controlled by SCTE 104 or GPI contact closure

Data

VANC data extraction up to 500 kbps

RS-232. Supported baud rates 1200, 2400, 4800, 9600, 19200, 38400 baud

RS-422 n x 64 kbps from 64 kbps to 2048 kbps (selectable) or n x 56 kbps from 56 kbps to 1792 kbps (selectable)

Control

Front panel

nCompass Control supported via dual Ethernet

RS-232 and RS-485 interfaces for remote control

Support for external SNMP control

Support for SNMP traps

Full control and monitoring via Web browser

Physical and Power

Dimensions (W x D x H)
442.5 x 545 x 44.5mm (17.5" x 20.7" x 1RU)

Approximate Weight
7.5 kg (16.5 lbs)

Power Input
100 VAC to 120 VAC or 220 VAC to 240 VAC wide-ranging, or -48 VDC

Consumption
85W no options, 150W maximum, depending on the option cards selected

Environmental Conditions

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

Compliance

CE marked in accordance with EU Low Voltage and EMC directives

EMC Compliance
EN55022, EN55024, AS/NZS3548, EN61000-3-2 and FCC CFR47 Part 15B Class A

Safety Compliance
EN60950, IE60950

Americas
Ericsson Television Inc.

Tel: +1 (678) 812 6300
Email: tvsalesamericas@ericsson.com

Asia Pacific
Ericsson Television Limited

Tel: +852 2590 2388
Email: tvsalesapac@ericsson.com

Australasia
Ericsson Television Pty Limited

Tel: +61 2 9111 4999
Email: tvsalesanz@ericsson.com

EMEA
Ericsson Television Limited

Tel: +44 (0)23 8048 4000
Email: tvsalesemea@ericsson.com