

With their unique multi-pass processing the E5770 and E5775 provide world-class encoding performance for statistical multiplexing systems.



Business Benefits

- Retain your viewers with the highest performance compression and flawless picture quality.
- Maximize bandwidth utilization by minimizing bit-rates. This is achieved by a unique combination of pre-processing and multi-pass encoding techniques.
- Increase revenue opportunities by enabling additional services in your transmission.

Application

The E577x series multi-pass MPEG-2 encoder is 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 a Reflex™ (statistical multiplexing) group.

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
- “Pixel Perfect” fully exhaustive motion estimation
- Advanced pre-processing
- Adaptive de-interlacing
- SDI and composite video inputs
- 3 ASI outputs
- Analog, digital AES-EBU and embedded SDI audio input
- Control via front panel, SNMP, RS-232/RS-485, web browser or TANDBERG nCompass Control systems

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 3 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.

Software Options (continued)

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

For professional editing quality pictures, 1.5 Mbit/s to 50 Mbit/s.

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/ES02/525VBI DATA)

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.

Hardware Options

Please contact TANDBERG Television 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 24dB
- MPEG Layer II audio encoding
- Dolby Digital® (AC-3) encoding
- Dolby Digital® (AC-3) 1 – 5.1 channel and Dolby E pass-through
- Linear PCM and DTS pass-through

One audio option card may be fitted in the E5770 supporting a total of 4 stereo pairs in the unit.

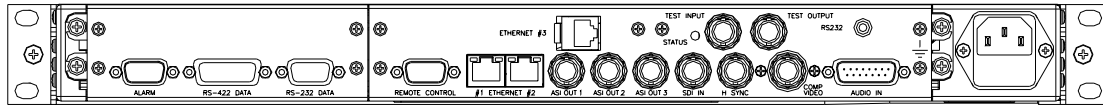
Up to three audio option cards may be fitted in the E5775 supporting a total of 8 stereo pairs in the unit.

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 TANDBERG Television or an approved reseller for further details.

Typical Configuration



INPUTS

Video

- Analog composite video (PAL/NTSC) 10bit sampling
- SNR >60dB
- 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

- 2 stereo pairs input via analog, AES-EBU or SDI
- Analog audio balanced 600Ω/20kΩ
- Input levels: 12, 15, 18, 21, 22 and 24dB
- Up to 4 stereo pairs can be de-embedded from SDI

OUTPUTS

- 3 x ASI copper Single Program Transport Stream

VIDEO ENCODER

MPEG-2 MP@ML

- 1.5 to 15 Mbit/s (without performance upgrade)
- 0.256 to 15 Mbit/s (with performance upgrade)
- Performance Upgrade option enables long GOP and adaptive GOP features.

MPEG-2 422P@ML (option)

- 1.5 to 50 Mbit/s
- "Pixel Perfect" fully exhaustive motion estimation
- TANDBERG Reflex™ Statistical Multiplexing support (option)
- Vertical Resolutions 576, 288 (PAL), 480, 240 (NTSC)
- Horizontal Resolutions 720, 704, 640, 544, 528, 480, 352

AUDIO ENCODER

2 x stereo audio channel processing

MPEG Layer II audio encoding standard

- Encoding rates from 32kbit/s to 384kbit/s

Dolby Digital® (AC-3)

- Encoding rates from 56kbit/s to 640kbit/s
- Dolby Digital® (AC-3) 1 – 5.1 channel, Dolby-E, linear PCM and DTS pass-through

VBI

- World Standard Teletext (WST – ETS300472) 625 only
- Closed Captioning EIA-608, EIA-708 and SCTE 20
- Nielson data AMOL I & 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 & processing
- Border processing
- TANDBERG professional grade adaptive spatio & temporal noise reduction offering 4 adaptive levels plus 3 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, coloured image, last good video frame with selectable text message
- Input freeze frame and audio silence detection
- Logo insertion
- SCTE 35 controlled by DV525 or GPI contact closure

DATA

- RS-232. Supported baud rates 1200, 2400, 4800, 9600, 19200, 38400 baud
- RS-422 n x 64 kbit/s from 64 kbit/s to 2048 kbit/s (selectable) or n x 56 kbit/s from 56 kbit/s to 1792 kbit/s (selectable)

CONTROL

- Front panel
- TANDBERG nCompass Control supported via dual Ethernet
- RS-232 & RS-485 interfaces for remote control
- Support for external SNMP control
- Support for SNMP traps
- Full control & 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)

Approx Weight

- 7.5kg

Power Input

- 100 – 120 Vac or 220 – 240 Vac wide ranging, or -48Vdc

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, IEC60950