TANDBERG television
Part of the Ericsson Group

EN5920

SMPTE VC-1 Standard Definition Encoder

Achieving the best picture quality at the lowest bitrate 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 bitrate can providing 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.

TANDBERG Television has always led the market in providing encoding platforms that give optimum quality at the lowest possible bitrates. The EN5920 combines SMPTE VC-1 and Windows Media® Video 9 Series encoding and the latest audio compression algorithms with the TANDBERG Standard Definition Intelligent Compression Engine (SD-ICE). A dedicated hardware and software implementation based on over 10 years in-house experience of creating high performance real-time encoders.

PRODUCT OVERVIEW

Market Leading Performance

Extensive video pre-processing help get the best picture whatever the source. A proven history of providing customers with in-field performance improvement upgrades over time, keeps our customers ahead of the market.

Reliable Service Delivery for any Application

Designed with all the proven system interconnect and control that our MPEG-2 product range enjoys today. In combination with the rest of the TANDBERG Television product range this makes SMPTE VC-1 and Windows Media® 9 Series deployable today in any broadcast or broadband application.

Enabling Hybrid Networks Operators and Legacy Migration

The EN5920 can provide MPEG-2 and SMPTE VC-1 or Windows Media® 9 Series encoding of same source in a single one solution. This dual format encoding enables support for migration of your consumer base from MPEG-2, or operators to broadcast across simultaneous multi-networks.

Advanced Features for IPTV

Options for encoding of a low resolution, low bitrate simultaneous Picture-in-Picture (PIP) service, and direct IP Multicasting from the encoder enable the EN5920 to be deployed in any IP distribution or TV over xDSL application.

BASE UNIT FEATURES

EN5920 Encoder (EN5920/BAS)

- SMPTE VC-1 and Windows Media® 9 Series real-time video encoding
- SDI and composite video inputs
- Extensive video pre-processing including:
  - Noise reduction (option)
  - Resolution changing
  - Professional quality de-interlacing
- 1/4 to full D1 NTSC/PAL resolutions
- Constant bitrate encoding from 0.256 Mbit/s to 5 Mbit/s, depending on resolution
- Stereo Audio encoding:
  - MPEG-1 Layer II and Dolby Digital® (AC-3)
  - Digital, analog and SDI embedded inputs
- Control and monitoring via web browser, the front panel or TANDBERG nCompass Control
- MPEG-2 Transport stream (ASI) output

EN5920 Encoder (EN5920/BAS/48V)

- As EN5920/BAS except with –48Vdc power supply

SOFTWARE OPTIONS

Professional Grade Noise Reduction (EN5900/SWO/NR)

- Improve picture quality and reduce bitrate requirement
- Fully adaptive spatial, temporal noise reduction

Simultaneous MPEG-2 Encoding and Multiplexing (EN5900/SWO/MPEG2)

- Professional grade MPEG-2 compression engine
- 256 kbit/s – 15 Mbit/s MPEG-2 MP@ML
- Shared video and audio inputs with SMPTE VC-1 encoder
- Multiplexing of MPEG-2 and SMPTE VC-1 services
- Encoder output is Multi-Program Transport Stream (MPTS) via ASI, or IP transport Stream output if option fitted
- Simultaneous mode controlled by TANDBERG nCompass device level control

Simultaneous Picture-in-Picture Video Service Encoding (EN5900/SWO/PIP)

- Simultaneous encoding of low resolution version of main video service
- SMPTE VC-1 or Windows Media® Video 9 Series real-time encoding
- Fixed resolution and bitrate
- Single box solution for PIP functionality in IPTV applications

Conversion to MPEG-4 AVC (UPG/SD/SWO/MPEG4)

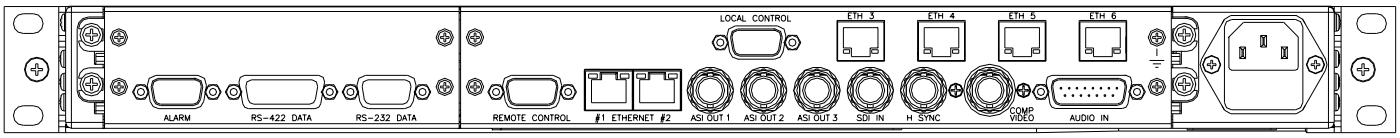
- Software conversion to EN5930 SD MPEG-4 AVC encoder

HARDWARE OPTIONS

Dual Port IP Transport Stream Output (EN5900/HWO/IPTSDUAL)

- UDP/IP or RTP/UDP/IP encapsulation of MPEG-2 transport stream output
- Dual port 100/1000BaseT Ethernet physical interface
- CBR or VBR multicast outputs
- Multicasts MPTS transport stream from encoder
- Splits MPEG-2, MPEG-4 and PiP services into three individual SPTS for multicasting
- User configurable network and multicast parameters

SAMPLE CONFIGURATION



SPECIFICATIONS

Inputs

Video

SDI serial digital video with EDH error detection and health monitoring

Composite video (PAL/NTSC)

SDI component 625 and 525 line standard supported

Audio

2 stereo pairs input via analog audio balanced 600Ω/20kΩ or AES-EBU or SDI

Up to 4 stereo pairs can be de-embedded from SDI

Studio Reference

625 and 525 line HSYNC

Outputs

MPEG Transport Stream

DVB-ASI (3 ports)

MPEG-TS over IP (100/1000BaseT 2 ports) (option)

Video Encoder

Windows Media® AVC Video Compression

Advanced profile at level 3 (AP@L1)

0.256 Mbits/s to 5 Mbits/s, depending on resolution

Interlace & Progressive encoding support

MPEG-2 Video Compression (option)

Main profile at Main level (MP@ML)

0.256kbits/s – 15Mbits/s

Picture-in-Picture (option)

Windows Media® AP@L3 progressive encoding

Fixed resolution and bitrate

Audio Encoder

MPEG-1 Layer II

Dolby Digital® (AC-3)

Up to 2 stereo pairs audio encoding

Windows Media® Audio

Supported Video Resolutions

Resolutions supported by MPEG-4 AVC Encoder

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

Advanced Video Pre-processing

TANDBERG adaptive spatial and temporal noise reduction (option)

Closed captioning extraction from VBI

Image resizing (multiple resolutions)

Professional grade de-interlacer

Features

Easy-to-use front panel control

Web based control

Auto frame-rate input switching

Simple pre-configured set ups

Accurate bitrate control

No frame loss guarantee

Physical and Power

2RU 19” Rack mountable chassis

Dimensions (W x H x D)

442.5 x 545 x 44.5mm (17.5” x 20.7” x 1RU)

Approximate Weight

7.5Kg

Power Input

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

Consumption

150W (250W fully populated)

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