

Multi-Format AVC Encoder



H.264 HD/SD encoder for IPTV and broadcast

The ATEME Kyrion® AM2101 is the world's first High Definition (HD) MPEG-4/H.264 encoder targeting a broad range of DTV applications. Its large operating scale - from 0.5 to 60 Mbps, with advanced Main and High Profile encoding, allows bouquet aggregators, broadcasters, and video service operators to reach their audiences with a revolutionized picture quality.

Applying the latest ATEME compression technology, the Kyrion AM2101 produces bandwidth efficient HD streams for IPTV services. When used with the ATEME DR8100 receiver/decoder, Kyrion AM2101 is a perfect solution for broadcast contribution and distribution offering both low latency and high video quality transmission.

Kyrion AM2101 is a fully programmable hardware design offering a complete set of MPEG-4/H.264 tools including full support for interlaced video (MBAFF). The Kyrion encoder benefits from ATEME's MPEG-4 encoding expertise by enabling state-of-the-art compression algorithms in real-time.

KEY FEATURES

- HD/SD H.264 encoder
- 0.5 Mbps to 60 Mbps bit-rate encoding
- SNMP control support
- Pro MPEG FEC support
- BISS – E and AES/EBU options

BENEFITS

- SD upgradeable HD encoder for contribution
- High bit-rate contribution encoding
- High quality HD encoding at sub 5 Mbps for IPTV
- Integrates with DataMiner NMS solution for redundancy

VIDEO SPECIFICATIONS

One HD/SD input channel

MPEG-4 AVC / H.264 - Main and High Profile up to Level 4

GOP structure

- Fixed or adaptive configuration
- Automatic I frame insertion
- Automatic scene cut detection

Video input

- HD: 1080i/psf and 720p
- SD: 576i and 480i
- Automatic input format detection and configuration*

Resolutions

- 1080i x 1920, 1536, 1440, 1280 and 960 pixels
- 720p x 1280, 1024, 960 and 640 pixels
- 576i x 720, 576, 544, 480 and 352 pixels
- 480i x 720, 576, 544, 480 and 352 pixels

Frame rates

- 1080i @ 25, 29.97, 30 Hz
- 1080p @ 23.97, 24, 25, 29.97, 30 Hz
- 720p @ 50, 59.94 and 60 Hz
- 576i @ 25 Hz, 480i @ 29.97 and 30 Hz

Picture in Picture (PiP)

- MPEG-4 AVC / H.264 Baseline and Main Profile up to Level 3
- Flexible resizing from 352 x 288 down to 64 x 64 in 16 pixels steps (CIF, QCIF, SIF)
- Identical or independent GOP structure

Pre-processing

- Linear and nonlinear spatial filtering*
- Inverse telecine (3:2 pull-down)
- Logo insertion*

Rate control mode

- Multi-pass look-ahead CBR and capped VBR

Encoding bit-rate

- SD: 0.5 to 30 Mbps
- HD: 1 to 60 Mbps

Ancillary data

- Closed captioning compliant with EIA-608, EIA-708, SMPTE 334 and standard ATSC
- DVB Teletext/CEEFAX

Signaling

- Wide Screen Signaling (WSS)
- Active Format Description (AFD)

Standard: MPEG-2 TS / DVB / ATSC

AUDIO COMPRESSION

Compression formats

- MPEG-1 Layer II, 64 to 384 kb/s (stereo ch.)
- MPEG-2/MPEG-4 AAC-LC 16 to 512 kb/s (stereo ch.)
- HEV1-AAC, HEV2-AAC 16 to 512 kb/s (stereo ch.) (software option)
- Dolby Digital (AC.3/EAC.3) pass-through

Up to 8 stereo pairs, 5.1 channels management

Sampling frequency: 32, 44.1, 48 kHz

Rate control mode: CBR, capped VBR

OUTPUT TRANSPORT LAYER SPECIFICATIONS

- MPEG-2 Transport Stream over UDP/IP or RTP/UDP/IP
- RTP/RTSP over UDP
- Unicast / multicast streaming
- MPEG-2 Transport Stream over DVB-ASI
- PRO-MPEG FEC COP3r2
- Up to 4 multi network streams
- ASI and IP streaming simultaneously

INPUT/OUTPUT INTERFACES

Video input

- HD-SDI (SMPTE292M)
- SD-SDI (SMPTE 259M-C)

Audio input

- Embedded in SD-SDI (up to 8 stereo channels per SDI input)
- AES input: up to 8
- Analog input: up to 8 audio balanced (-10 dBV to +20 dBV / 600 Ohms)

Output interfaces

- 3 x independent Gigabit Ethernet ports (100/1000 BaseT connectors)
 - 2 x dedicated to service streaming
 - 1 x out-of-band, dedicated to management
- Up to 3 DVB-ASI (75 Ohms BNC connector)

Discreet I/O: alarms and synchronization on DB-9 connector*

CONFIGURATION AND MANAGEMENT

System Management

- SNMP (MIB v2c) with remote SNMP supervisor
- Embedded web server configuration
- Front panel with LCD/keypad

PHYSICAL

- Dimensions 19" 1-RU (482 x 44,5 x 508 mm / 19" x 1.75" x 20")
- Weight 7.5 kg / 16.5 lbs

ENVIRONMENTAL

- Cooling air flow from front to rear
- Operating temperature 5 to 40 °C / +41 ° to +104 °F
- Storage temperature -20 to 70 °C / +32° to +158 °F
- Operating humidity 5 to 90% (non condensing)
- Input voltage range 100-240 VAC , 50/60 Hz
- Typical consumption 80 W

CERTIFICATIONS

- ROHS
- Electrical compliance and safety § EN 55022 : 2006, § EN 55024 : 1998 / A1 : 2001 / A2 : 2003, § FCC PART 15 Class B : 2006, § EN 61000-3-2 : 2000 / A2 : 2005, § EN 61000-3-3 : 1995 / A1 : 2001 / A2 : 2005, § ENUL/CA 60950-1

*Contact us for availability

www.ateme.com