

## Multi Format AVC Encoder



## *H.264 HD/SD Encoder for IPTV and Broadcast*

The ATEME Kyrion® AM2101 is the Third Generation High Definition (HD) MPEG-4/H.264 encoder targeting a broad range of DTV applications. Its large operating scale - from 0.5 to 30 Mbps, with advanced Main and High Profile encoding, allow bouquet aggregators, broadcasters, and video service operators to reach their audiences with a revolutionized picture quality.

Applying the latest ATEME compression technology, the AM2101 is featuring the Ultra Efficiency Mode enabling perfect HD below 5Mbps for IPTV services.

AM2101 is coming with advanced audio feature with up to 8 pair stereo and option to encode Dolby AC3/AC3+ or transcode Dolby digital E to Dolby AC3/AC3+.

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

- SD or HD H.264 Encoder
- SNMP control support
- FEC Pro MPEG support
- Ultra Efficiency mode for low bit rate Encoding
- Dolby Digital E to AC3/AC3+ audio transcode

### BENEFITS

- SD upgradeable HD encoder.
- Up to 8 Audio pairs with advanced Dolby audio processing featuring Dolby E to AC3/AC3+.
- High quality HD encoding at sub 5 Mbps for IPTV with the Ultra Efficiency mode.
- Integrated with DataMiner NMS solution for redundancy

## VIDEO SPECIFICATIONS

### Video Compression

- Main stream SD/HD MPEG-4 AVC/H.264 - Main and High Profile up to Level 4.
- Options and License:
  - Second stream for low resolution channel or Picture in Picture.
  - Ultra Efficiency Mode: Advanced encoding mode allowing highest Video Quality, perfect in Ultra low Bit rate encoding.
  - HD License

### Video formats

- HD: 1080i, 720p and 1080psf
- SD: 576i and 480i
- Input format detection

### Encoding bit rate

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

### 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, 640, 576, 544, 480 and 352 pixels

### Frame rates

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

### Picture in Picture or Low resolution

- Resolutions: 288x352, 240x352, 144x176, 120x176, 96x128, 96x96.

### Video Processing

- Fixed or adaptive configuration
- Automatic I frame insertion
- Automatic scene cut detection
- Multi-pass look-ahead CBR and Capped VBR
- Linear and nonlinear spatial filtering\*
- Inverse telecine (3:2 pull-down)
- Logo insertion

### Ancillary data signaling

- Closed captioning compliant with EIA-608, EIA-708, SMPTE 334 and standard ATSC.
- DVB Teletext/CEEFAX
- Vchip parental control
- VITC Time code
- Wide Screen Signaling (WSS)
- Active Format Description (AFD)

### Digital Program Insertion (DPI)\*

- SCTE35 insertion via SCTE104 triggers or GPIO

### Standard: MPEG-2 TS / DVB / ATSC / ISDB

## AUDIO SPECIFICATIONS

### Number of Channels

- Native Encoding up to 8 stereo pairs, 5.1 audio service supports.

### Compression formats

- MPEG-1 Layer II
- MPEG-2/MPEG-4 AAC-LC
- HEV1-AAC, HEV2-AAC (optional)
- Dolby Digital E, AC.3/EAC.3 pass-through.
- Dolby Digital Options\*:
  - Dolby AC.3/EAC.3 Encode
  - Dolby E decode to AAC LC, AAC HEV1 or Dolby AC.3/EAC.3 Encode

### Sampling frequency: 32, 44.1, 48 KHz

## OUTPUT TRANSPORT LAYER SPECIFICATIONS

- MPEG-2 Transport Stream over UDP/IP or RTP/UDP/IP
- RTP/RTSP over UDP
- Unicast / multicast streaming
- Up to 4 multi network streams
- MPEG-2 Transport Stream over DVB-ASI
- ASI and IP streaming simultaneously
- Option: FEC Pro MPEG CoP3r2 (SMPTE2022)

## INPUTS / OUTPUTS INTERFACES

### Video Input

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

### Audio Input:

- Embedded in SD-SDI (up to 8 stereo channel pairs SDI input)
- Audio Options:
  - AES-EBU input up to 8 stereo pairs.
  - Analog input up to 16 Audio balanced (-10 dBV to +20 dBV/600 ohms)

### Output Interfaces

- 3 Gigabit Ethernet ports (100/1000 BaseT connectors): 2 ports for service streaming, 1 port out-of-band for management.
- 3 DVB-ASI outputs (75 Ohm BNC connector).

### Discreet I/O\*

- Alarms and synchronization on GPIO DB-9 connector.

## CONFIGURATION AND MANAGEMENT

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

## PHYSICAL

- Dimensions 19" 1-RU (482x44,5x 508 mm /19"x1.75"x 20")
- Weight 7.5 kg/16.5 lbs

## ENVIRONMENTAL

- Cooling air flow from right side to left side
- 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
- CE and FCC class B Certifications, ECM Compliancy:
  - 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,
- Safety :
  - EN/UL/CSA 60950-1

\*Contact Factory for availability