

ISDB-Tb Multi format Encoding



H.264 HD/SD/One-Seg Encoder

The Kyrion® AM2101 is ATEME's 3rd Generation High Definition (HD) MPEG-4/H.264 encoder and targets a broad range of DTV applications. The Kyrion® AM2101 provides throughput rates ranging from 0.5 to 30 Mbps.

The Kyrion® AM2101 also offers advanced Main and High Profile encoding, and allows bouquet aggregators, broadcasters, & video service operators to reach their audiences with revolutionary picture quality.

The Kyrion® AM2101 applies state-of-the-art compression technology, and features an Ultra Efficiency mode enabling perfect HD below 5Mbps for IPTV or high density Terrestrial Distribution.

The Kyrion® AM2101 is highly versatile and can also be offered as a One-Seg encoder. Based on a unique FPGA design the AM2101 can deliver an unmatched mobile viewing experience.

The Kyrion® AM2101 provides an advanced audio feature with up to 8 stereo pairs and an option to encode Dolby AC3/AC3+ or decode Dolby digital E and encode to Dolby AC3/AC3+.

The Kyrion® AM2101 also offers a fully programmable hardware design and a complete set of MPEG-4/H.264 tools including full support for interlaced video (MBAFF).

KEY FEATURES

- SD or HD H.264 High Profile Encoder
- One Seg encoding capable
- Native HE-AAC V2 audio encoding
- ISDB-Tb certified
- SD/HD Automatic switching
- SNMP control support

BENEFITS

- Easy migration from SD to HD
- 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:
- One-Seg encoding mode: 320x180, 320x240
- 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
One-Seg: 128Kbps to 1MBps

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
320x180, 320x240

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

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 ARIB B-24, ARIB-B37
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 /ISDB-Tb/ SBTVD (ABNT-NBR 15602)

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) 24/32/48/64 Kbps
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)

Synchronisation

- BlackBurst input
- GOP generator input (STC over ASI)

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 front to back
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/CA 60950-1

*Contact Factory for availability