

Kyrion 2101 Series

Multi Network High Definition AVC encoder

ATEME Kyrion™ 2101 is the world's first High Definition (HD) MPEG-4/AVC encoder targeting a broad range of DTV applications. Its large operating scale - from 0.5 to 40 Mbps, with its advanced Main and High Profile encoding, allow bouquet aggregators, broadcasters, video service operators to reach their audience with a revolutionized picture quality.

Kyrion 2101 is a full programmable hardware design offering the complete set of MPEG-4/AVC tools including full support of interlaced video (MBAFF). Kyrion Encoder design benefits from ATEME MPEG-4 encoding expertise by enabling in real-time state-of-the-art compression algorithms.

ATEME is a world-leading provider of MPEG-4 / H.264 video compression solutions. ATEME's renowned technology supports both standard and HD content, deployed across any platform – from mobile to Ultra HD.

ATEME provides broadcasters and telcos with unmatched compression quality while simultaneously licensing its unique MPEG technology and expertise to select vendors.

KEY FEATURES

Kyrion 2101 ENCODER

- Multi network encoder SD or HD
- Constant and variable bit-rate encoding from 0.5 Mbps to 40 Mbps
- MPEG-2 TS over UDP or RTP
- Multi IP stream outputs with PID remap
- Fully programmable hardware

BENEFITS

- HDTV Broadcast quality at near SD bit rate
- Dual ASI and IP output for redundancy
- Multi ISP delivery from one single encoder
- SNMP Interface for easy integration with NMS
- Field upgradeability



Unique Main & High Profile
encoder offering broadcast
quality at near SD bit rates



VIDEO SPECIFICATIONS

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|----------------------|---|
| Input channel | One HD/SD channel (HD/SD-SDI) |
| Compression Standard | MPEG-4 AVC / H.264 - Main and High Profile up to Level 4 |
| Supported AVC tools | Interlace (MBAFF) and Progressive CABAC/CAVLC entropy coding I, P and B frames with multiple references All intra prediction modes, inte partitions down to 8x8 Weighted prediction In-loop deblocking filter (applied over the whole frame) |
| GOP structure | Fixed or adaptive configuration Automatic I frame insertion Automatic scene cut detection |
| Video input | HD 1080i and 720p SD 576i and 480i Automatic input format detection and configuration* PSF (Progressive Segmented Frame) support |
| Resolutions | 1080i x 1920, 1440, 1280 and 960 pixels 720p x 1280, 960 and 640 pixels 576i and 480i x 720, 544 and 352 pixels |
| Frame rates | 1080i@25, 29.97 and 30 Hz 720p@50, 59.94 and 60 Hz 576i@25 Hz, 480i@29.97 and 30 Hz |
| Picture in Picture | MPEG-4 AVC / H.264 Baseline and Main Profile up to Level 3 Flexible resizing from 352x288 down to 64x64 in 16 pixels steps Identical or independent GOP structure |
| Pre-processing | Horizontal resizing down to a factor of 2 (4/5 – 3/4 - 2/3 – 1/2) 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 | HD 4 to 40 Mbps and SD 0.5 to 10 Mbps |
| Ancillary data | Closed captioning extraction from VBI* DVB Teletext/CEEFAX |
| Signaling | Wide Screen Signaling (WSS), Automatic Format Detection (AFD) |

AUDIO COMPRESSION

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|---------------------------|---|
| Compression formats | MPEG-1 Layer II, MPEG 2–AAC-LC MPEG-4 LC-AAC, HEv1-AAC, Dolby Digital (AC.3) pass-through |
| Number of input channels | Up to 8 stereo pairs or 1x 5.1 channels (HD-SDI embedded) |
| Sampling frequency | 32, 44.1, 48 kHz |
| Rate control mode | CBR, Capped VBR |
| Compressed Output Bitrate | MPEG-1 Layer II 64 to 384 kb/s (stereo ch.) MPEG-2/MPEG-4 AAC 16 to 512 kb/s (stereo ch.) Dolby Digital (AC.3) Pass-through (same as input) |

OUTPUT TRANSPORT LAYER SPECIFICATIONS

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|-------------------------|---|
| Transport encapsulation | 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* |
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INPUTS / OUTPUTS INTERFACES

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|-------------------|---|
| Video Input | HD-SDI (SMPTE292M) SD-SDI (SMPTE 259M-C) with EDH error detection and correction |
| Audio Input | Embedded in HD/SD-SDI, up to 8 stereo pairs or one 5.1 multi-channel + 1 pair |
| Output Interfaces | 3x independent Gigabit Ethernet ports (100/1000 BaseT connectors) - 2x Dedicated to service streaming - 1x Out-of-band, dedicated to management 2x DVB-ASI (75 Ohm BNC connector)* |
| Discreet I/O | Alarms and synchronization on DB-15 connector* |

CONFIGURATION AND MANAGEMENT

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| System Management | SNMP (MIB v2c) with remote SNMP supervisor Embedded Web-server configuration Front panel with LCD/keypad |
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PHYSICAL

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| 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

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|----------------------------------|--------------------------------|
| 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) |
| Electrical compliance and safety | EN, FCC, UL |
| Input Voltage Range | 100-240 VAC , 50/60 Hz |
| Typical Consumption | 80 W |

*Contact Factory for availability