



MPEG-2 / MPEG-4 SD/HD Encoder for Contribution over Satellite and IP networks

As the world's first H.264 4:2:2 10-bit Encoder supporting from Main to High 4:2:2 profile, Kyrion CM4101 is designed for contribution market where premium quality and performance are more important than ever.

The Kyrion CM4101, used in combination with ATEME IRD DR8400, is ATEME's cutting edge solution to Primary contribution, bringing Video Quality with 10-bit accuracy and controlled low latency.

Kyrion CM4101 allows upgradeability from 4:2:0 SD up to 4:2:0/4:2:2 SD/HD with a simple license, a future proof solution to protect your investment.

By offering the first H264 4:2:2 10-bit complete solution, ATEME takes another technology step improving Video Quality over 8-bit, securing your Video Quality, end to end, completing the Video Quality chain from Primary Contribution point to Distribution point.

KEY FEATURES

- 4:2:2 / 4:2:0 8-bit / 10-bit SD/HD support
- MPEG-2 SD and HD support
- Very Low Latency Mode
- FEC Pro MPEG and BISS - 0/1/E support
- AVC – I frame only mode up to 150Mbps

BENEFITS

- True H.264 4:2:2 10-bit Solution, with CM4101 in combination with the DR8400, no downscale format in the Contribution chain
- 10-bit accuracy allowing high video quality from source to distribution with the best bandwidth efficiently
- CM4101 soft upgradeability, opening a safe path of evolution from 4:2:0 SD to 4:2:2 SD/HD 10-bit

VIDEO SPECIFICATIONS

Video Compression

- SD/HD MPEG-4 AVC/H.264 10-bit or 8-bit – Main, High and High 4:2:2 Profile up to Level 4.1
- SD/HD MPEG-2 422P@ML /HL
- AVC – I frame only mode up to 150Mbps
- Options:
 - HD license.
 - 4:2:2 8-bit license.
 - 4:2:2 10-bit license.

Video formats

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

Encoding bit rate

- SD: 0.5 to 30 Mbps, HD: 1 to 80Mbps

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

Video Processing

- Noise Reduction filter
- 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 and 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 support.

Compression formats

- MPEG-1 Layer II
- MPEG-2/MPEG-4 AAC-LC
- HEV1-AAC, HEV2-AAC (optional)
- Dolby Digital E, DD, DD+ (AC3/AC3+) pass-through.
- Dolby Digital Options*:
 - Dolby Digital E decode to AAC LC, AAC HEV1 or Dolby
 - Dolby Digital (AC3) / Dolby Digital Plus (AC3+) Encode

Sampling frequency: 32, 44.1, 48 KHz

OUTPUT TRANSPORT LAYER SPECIFICATIONS

- MPEG-2 Transport Stream over UDP/ Unicast / multicast streaming
- MPEG-2 Transport Stream over DVB-ASI
- ASI and IP streaming simultaneously
- Options:
 - FEC Pro MPEG CoP3r2 (SMPTE2022)
 - BISS 0/1/E Encryption.

INPUTS / OUTPUTS INTERFACES

Video Input

- HD-SDI (SMPTE292M)
- SD-SDI (SMPTE 259M-C)
- 3G-SDI (SMPTE-424M)*

Audio Input:

- Embedded in SD-SDI
- (up to 8 stereo channel pairs SDI input)
- AES-EBU input up to 8 stereo pairs or Analog input up to 8 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).

CONFIGURATION AND MANAGEMENT

- 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
- Option-REV : back to sides airflow
- Operating temperature 5 to 65 °C / +41 ° to +149 °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