

Multi Format 4:2:2 AVC Encoder



H.264 HD/SD Encoder for Contribution over Satellite and IP networks

ATEME's Kyrion CM3101 is designed for contribution and distribution markets where premium quality and performance are more important than ever.

Applying the latest ATEME compression technology, the CM3101 includes support for H.264 with the 4:2:2 chroma subsampling profile.

CM3101 combined with DR8300 offers complete 4:2:2 H.264 contribution solution, providing the highest possible level of video quality with vastly improved bandwidth efficiency compared to legacy codecs.

CM3101 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.

The 4:2:2 profile contains twice as much chroma information than the 4:2:0 distribution profile allowing you to maintain a high quality video signal through multiple stages of post-production processing.

KEY FEATURES

- 4:2:0 & 4:2:2 support
- SD and HD resolution
- Very Low Latency Mode
- FEC Pro MPEG and BISS - 0/1/E support

BENEFITS

- Complete H.264 4:2:2 solution, when CM3101 used in combination with the DR8300, allowing higher video quality and best bandwidth efficiency
- Very Low End-to-End Latency for Interview contributions
- Large operational bit rate range, CM3101 can address Contribution over Satellite or IP

VIDEO SPECIFICATIONS

Video Compression

Main SD/HD channel MPEG-4 AVC/H.264 - Main and High Profile up to Level 4.
Upgradeable from SD 4:2:0 to SD/HD 4:2:2/4:2:0
Options:
- HD license.
- 4:2:2 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 62.5Mbps

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

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 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 Digital E decode to AAC LC, AAC HEV1 or Dolby Digital 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
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)

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).

Discreet I/O*

Alarms and synchronizations triggered 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