

Kyrion

CM5000



High Video Quality – Ultra Low latency HEVC, H264, MPEG2 Contribution Encoder

The Kyrion[®] CM5000 encoder has been designed for contribution over satellite, IP and ASI networks, with all needed features, such as ultra-fast-boot, and added value features such as ABR output and integrated Automatic Repeat reQuest (ARQ).

The Kyrion[®]CM5000 is a future-proof solution, with HEVC⁴ software upgrade option and pay as you grow support: SD to HD to UHD⁽¹⁾, MPEG2 to H264.

The Kyrion[®] CM5000 can be used as a single, dual channel encoder, or a single channel with DVB-S/S2 modulator. Audio boards for analog or digital inputs can be added on two extension slots.

The Kyrion CM5000 is based on ATEME 5th Generation STREAM[®] compression engine, delivers the highest video quality at minimum bitrates with ultra-low latency.

The Kyrion[®] CM5000 front panel and web based user Interface provide quick access to configuration menus and immediate settings ensuring a super-fast boot.

Key features

- SD/HD/UHD HEVC, H264, MPEG2
- 12-bit 4:2:2
- Ultra low latency mode
- Confidence Audio / Video input monitoring
- Daisy-chain services re-multiplexing
- Contribution over Internet streaming
- FEC Pro MPEG and BISS - 0/1/E (with EBU-R139)
- BISS-CA encryption system support

Benefits

- Low OPEX link with high VQ at low bitrates
- Ease of use with front panel and web GUI
- Pay as you grow – future proof investment
- Ensures content fidelity
- Streamlined Encoder– Modulator configuration
- Immediate service with ultra-fast-boot and low latency

Front Panel

Confidence Audio/video monitoring on Front panel with LCD Menus
17-keys keyboard for input & navigation
Presets import and export from USB slot
Serviceable Air Filters

Rear Panel

Video Input

SD-SDI (SMPTE259M-C), HD-SDI (SMPTE292M), 3G-SDI (SMPTE-424M)

Audio Input

Embedded in SDI (up to 16 mono channels per video Input) (SMPTE272M, SMPTE299M)
AES-EBU input up to 16 mono channels with optional AES board
Analog input up to 8 audio balanced (-10 dBV to +20 dBV/600 ohms) with optional CM5000-ANL board

IP / ASI / RF

1x 100/1000 Mbps Gbe port for out-of-band for management
2x 100/1000 Mbps for service streaming
2 x ASI outputs per Video Channel
2 x ASI input for daisy-chain service re-multiplexing
L-Band RF SMA 50 Ohms output (950-2150MHz)
IF Band RF BNC 75 Ohms output (50-180 MHz)

RF Outputs

Main output: -40/ +5 dBm ± 1 dB
Main output step size: 0.1dB, stability: ±0.1dB
Frequency step size 100 Hz, Accuracy 0.2 Hz
Monitoring output -20dBm
Ref External 10 MHz, input/output

DVB-S

QPSK, Code rate 1/2, 2/3, 3/4, 5/6, 7/8
Roll-off 0.20, 0.25, 0.35, Symbol rate 0.1 - 45 MBaud

DVB-S DSNG

8PSK, FEC 8PSK 3/5, 2/3, 3/4, 5/6, 8/9, 9/10
Roll-off 0.20, 0.25, 0.35, Symbol rate 0.1- 45 MBaud

DVB-S2, DVB-S2x Software upgradeable

QPSK, 8PSK, 16APSK, 32APSK
CCM, ACM², VCM², Short/Long Frames,
Roll-off 0.05, 0.10, 0.15, 0.20, 0.25, and 0.35
Pilots ON, OFF, Symbol rate 0.1 - 68 MBaud

Video

Video Compression

HEVC, Main 12, Main 4:2:2 10, Main 4:2:2 12, 120 Mbps max
H.264 (4:2:0/4:2:2 8-bit, 4:2:0/4:2:2 10-bit)
SD: 0.5 to 30Mbps, HD: 1 to 120 Mbps
MPEG-2 (4:2:0/4:2:2 8-bit)
STREAM © compression engine
MPEG-4 AVC – I mode up to 150Mbps
Low Resolution PIP up to SD

Video Processing

CABAC, CAVLC, MBAFF, PAFF
Resize & Noise Reduction filters
Psychovisual Filter Enhancements
Interoperable Ultra Low latency mode
Input format detection
Auto input format configuration mode
Seamless Channel Insertion (SCI)
Logo insertion – Emulated video output

Ancillary data

AFD, WSS, WST, VPS, VPI, VITC, ATC, CC, DPI, DVB
Teletext, V-Chip, SMPTE2031, OP47,
SCTE35 insertion via SCTE104 triggers
DVB-Subtitles ASI/IP multiplexing

Audio

Audio Compression

MPEG-1-L2, MPEG-2/MPEG-4 AAC-LC, AAC-HEV1/HEV2 encode
DD/DD+ encode
Dolby E decode
Dolby Digital E, DD/DD+, AES-302M pass-through

Output Transport Layer

MPEG-2 TS over UDP - Unicast / Multicast
MPEG-2 TS over DVB-ASI (EN 50083-9)
ATEME ARQ or SRT streaming option
ASI and IP streaming simultaneously
BISS 0/1/E encryption (Tech 3292-rev.2) with selectable PID (EBU R139)
BISS-CA encryption (Tech 3292-1)
VLANS - Route Table Editor - Multi-gateways

Configuration & Management

Web based Graphic User Interface
In-band and Out-Of-Band Management
SNMP (MIB v2c) with remote SNMP supervisor
128 presets configuration memory slots

Physical and Environmental

Dimensions 19" 1-RU (482 x 44 x 519 mm / 19"x1.73"x 20.4")
Min Weight 6.4 kg/14.1 lbs. Max Weight 7.3 kg / 17 lbs.
User Serviceable Air Filters / Cooling air flow from front to back
Redundant Power supply 100-240 VAC, 50/60 Hz
Typical consumption: 90 W Single Channel / 40s booting time
Operating temperature: 0 to 55 °C / +32 ° to +131 °F
Storage temperature: -20 to 70 °C / -4° to +158 °F
Operating humidity: 5 to 90% (non-condensing)

Hardware Versions				
	Dual Plug PSU ●	Mono ○ / Dual ⊙ Channel	L-Band ○ / IF ⊙ Modulator	AES Audio input ●
CM5000-DP-1-HD-b	●	○		
CM5000-DP-1-HD-8-H	●	○		
CM5000-DP-1-HD-10-AES-H	●	○		●
CM5000-DP-1-HD-HEVC12-AES	●	○		●
CM5000-DP-1-HD-8-MLB	●	○	○	
CM5000-DP-1-HD-10-MLB-AES	●	○	○	●
CM5000-DP-1-HD-8-MIF	●	○	⊙	
CM5000-DP-1-HD-10-MIF-AES	●	○	⊙	●
CM5000-DP-2-HD-b	●	⊙		
CM5000-DP-2-HD-10	●	⊙		

Hardware Options	
CM5000-AES	External Digital AES/EBU inputs audio board + audio cable - Up to 16 audio inputs
CM5000-ANL	External Analog inputs audio board + audio cable - Up to 8 audio inputs

Software Options					
	MPEG-2 ● / MPEG-4 ○ / HEVC ⊙	Audio number per video channel	MPEG-4 / HEVC profiles	Maximum bitrate	FEC ● BISS ○
CM5000-DP-1-HD-b	/ ○ /	4	4:2:0 - 8/*	20	/
CM5000-DP-1-HD-8-H	● / ○ /	8	4:2:0 - 8/*	42	● / ○
CM5000-DP-1-HD-10-AES-H	● / ○ /	16	4:2:2 - 10/*	120	● / ○
CM5000-DP-1-HD-HEVC12-AES	● / ○ / ⊙	16	4:2:2 - 10/12	120	● / ○
CM5000-DP-1-HD-8-MLB/MIF	● / ○ /	8	4:2:0 - 8/*	42	● / ○
CM5000-DP-1-HD-10-MLB/MIF-AES	● / ○ /	16	4:2:2 - 10/*	120	● / ○
CM5000-DP-2-HD-b	/ ○ /	4	4:2:0 - 8/*	20	/
CM5000-DP-2-HD-10	● / ○ /	16	4:2:2 - 10/*	120	● / ○

¹ via cascading

² Contact factory for availability