

KYRION CM5000e

HIGH VIDEO QUALITY - ULTRA-LOW LATENCY HEVC, H.264, MPEG-2 CONTRIBUTION ENCODER



The KYRION CM5000e encoder is designed for contribution over satellite, IP, and ASI networks. Besides ensuring ultra-fast boot, it also enables high-quality OTT delivery, with ABR output and integrated Automatic Repeat reQuest (ARQ).

A future-proof solution, KYRION CM5000e enables you to start small and add extra features as your requirements grow: SD to HD to UHD, MPEG-2 to H.264 to HEVC.

Whether you need a single- or a dual-channel encoder, KYRION CM5000e meets your needs. You can add extensions such as the DVB-S/S2x modulator or SFP interfaces for SDI over IP with 2110 support. Audio boards for analog or digital inputs can be inserted on two extension slots.

KYRION CM5000e is based on the sixth generation of the AteME compression engine, delivering the highest video quality at minimum bitrates with ultra-low latency.

The front panel and web-based user interface of KYRION CM5000e provide quick access to configuration menus and immediate settings, ensuring a super-fast boot.

Key Features

- SD/HD/UHD HEVC, H.264, MPEG-2 up to 2160p60, 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

Value-Added Benefits

- Low OpEx link with high video quality at low bitrates
- Easy to use with front panel and WebGUI
- 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-key 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)
12G-SDI (SMPTE ST 2082)
SDR/HDR signaling: SMPTE ST 425-5
HDR/WCG metadata packing and signaling: SMPTE ST 2108

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 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 (950-2150 MHz)/IF band (50-180 MHz) RF SMA output

RF Outputs

Main output: -35/+3 dBm \pm 1 dB
Main output step size: 0.1dB, stability: \pm 0.1dB/10°C
Frequency step size: 1 Hz, accuracy 0.4 Hz
Symbol rate: 0.05 - 80 MBaud
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

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

DVB-S2, DVB-S2x

QPSK, 8PSK, 16APSK, 32APSK
CCM, ACM, VCM, short/long frames
Roll-off 0.05, 0.10, 0.15, 0.20, 0.25, and 0.35
Pilots on, off

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 & UHD: 1 to 120 Mbps
MPEG-2 (4:2:0/4:2:2 8-bit)
MPEG-4 AVC – I mode up to 150Mbps
UHD downscale additional output up to 1080p HEVC 4:2:2 12bits
Low resolution PiP up to SD

Video Processing

CABAC, CAVLC, MBAFF, PAFF
Resize & noise reduction filters
Psychovisual filter enhancements
Colorimetry: SDR/SDR WCG/ARIB STB-B67/DVB PQ10/DVB HDR10/DVB HLG10/ATSC HDR10/ATSC HLG/custom mode
HDR passthrough
Interoperable ultra-low latency mode
Still/freeze picture detection/input format detection
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

MPEG1-L2, MPEG-2/MPEG-4 AAC-LC, AAC-HEV1/HEV2 encode
DD/DD+ encode, Dolby Atmos, Dolby E decode
Dolby Digital E, DD/DD+, AES-302M passthrough

Output Transport Layer

MPEG-2 TS over UDP – unicast/multicast
MPEG-2 TS over DVB-ASI (EN 50083-9)
Zixi ARQ (on SPTS or MPTS), SRT, and RIST 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)
IRD watermarking remote management
VLANS – Route Table Editor – Multi-gateways

Configuration and Management

Web-based graphic user interface
In-band and out-of-band management
SNMP (MIB v2c) with remote SNMP supervisor
128 configuration presets memory slots

Physical and Environmental

Dimensions: 19" 1-RU (482 x 44 x 452 mm/19"x1.73"x 17.8")
Min weight: 4.9 kg/10.8 lbs. Max weight: 6.2 kg/13.7 lbs.
User serviceable air filters/cooling air flow from front to back
Redundant power supply: 100-240 VAC, 50/60 Hz
Typical consumption: 75 W single channel/37 s 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			
	HEVC Included ●	Mono ○/Dual ◎ Channel	Mono UHD ○/UHD Ready ◎/Dual UHD ●
CM5000e-1-HD-b		○	
CM5000e-1-HD-8		○	
CM5000e-1-HD-10	●	○	◎
CM5000e-1-UHD	●	○	○
CM5000e-2-HD-b		◎	
CM5000e-2-HD-8		◎	
CM5000e-2-HD-10	●	◎	◎/◎
CM5000e-2-UHD	●	◎	●

Hardware Options	
CM5000e-AES	Additional digital AES/EBU inputs audio board + audio cable; up to 16 audio inputs
CM5000e-ANL	Additional analog input audio board + audio cable; up to 8 audio inputs
CM5000e-MOD-SATx	Additional modulator L-band and IF
CM5000e-2110 (coming soon)	Additional SMPTE-2110 board
CM5000e-4x3G-SDI (coming soon)	Additional 4x3G SDI input board