

ENC-400-HDMI



HD/SD HDMI H.264 and MJPEG Encoder

PRODUCT DESCRIPTION

This HD/SD H.264 fanless video encoder is able to deliver multiple streams in multiple bitrates and protocols to multiple destinations. The built-in frame synchronizer guarantees stable signal processing. Both inputs provide loop through outputs and can be used for redundancy switching or as sources for two individual encodings. Besides the latest in H.264 encoding technology, the ENC-400 features MJPEG for legacy as well. Both for live streaming and recording. The compact fanless and lightweight aluminum PORTABLE unit is ideal for broadcast contribution, IPTV and webcasting.

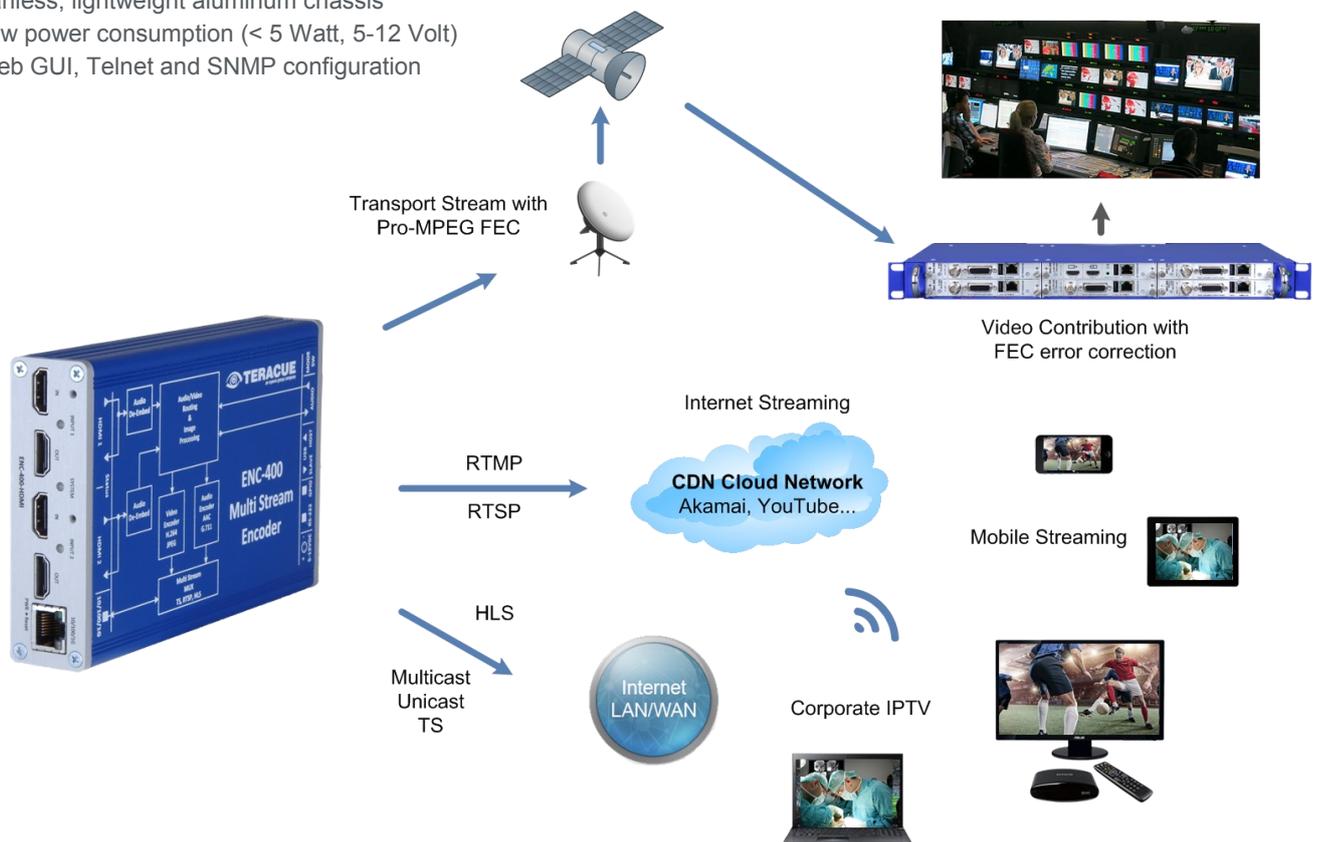


KEY FEATURES

- H.264 Baseline, main, high profile and MJPEG
- Up to 1920x1200@p60, 3440x1440@p24 or 4K@p15
- Embedded and analog audio inputs
- Logo, time and text inserter
- Adjustable frame rate and auto scaler
- Up- and downscaling with cropping
- Frame synchronizer for seamless switching
- Teracrypt and AES-128 encryption
- Pro MPEG FEC
- TS, RTSP and RTMP streaming
- HLS with adaptive bitrate support
- Simultaneous stream & record in various formats
- Fanless, lightweight aluminum chassis
- Low power consumption (< 5 Watt, 5-12 Volt)
- Web GUI, Telnet and SNMP configuration

APPLICATION

- IPTV solutions
- AV over IP streaming
- Broadcast contribution
- Event webcasting & internet streaming
- Digital signage streaming
- Training & education
- Medical & campus TV
- Remote desktop streaming
- Wireless & mobile streaming
- Networked conference room
- Control room & HQ surveillance



TECHNICAL SPECIFICATION:

Dual or Single HDMI input:	RGB 4:4:4, YCbCr 4:4:4, YCbCr 4:2:2; loop through (without HDCP)
Video encoding: Profiles:	H.264 (MPEG-4 AVC Part 10; ISO/IEC 14496-10) and MJPEG (ISO/ITU) Baseline, Main Profile, High Profile, signal can be scaled up to 3 instances
Video encoding bitrates:	300Kb/s – 16Mb/s, low latency support, adaptive CBR
HDMI resolutions:	3840x2160@p15, 3440x1440@p24, 2560x1600@p30, 2048x1536@p30
HDMI resolutions: p60	2048x1080, 1920x1200, 1680x1050, 1600x1200, 1600x900, 1280x1024, 1280x960, 1280x800, 1280x768, 1024x768, 800x600, 640x480
HD Video resolutions:	1920x1080@p60/59,94/50/30/29,97/25/24, i60/i59,94/i50 1280x720@p60/59,94/50
SD Video resolutions:	720x576@i50, 720x480@i59,94
Audio inputs:	1x Stereo embedded HDMI for Single version, 2x Stereo embedded HDMI for Dual version 1x Stereo, unbalanced, AC-coupled, mini-jack 3.5, 10 kOhm MIC/LINE level: +4/0/-3/-6 dBu selectable
Audio encoding:	MPEG-4 AAC LC (ISO/IEC 14496-3), 48 kHz, 16Bit sample rate, 32-320 kbit data rate
Audio outputs (TALKBACK):	1x Stereo, unbalanced, AC-coupled, via mini-jack 3.5, Output gain: -78 dB to +9 dB 16 bit stereo, PCM, sample rate 48/44,1/32/16/8 kHz
TS Multiplexer:	ISO/IEC 13818-1 Transport, ISO/IEC 14496-10 NAL (Network Abstraction Layer)
Streaming types:	Up to 3 simultaneous unicast or multicast streams TS over UDP, TS over RTP, TS with Pro-MPEG FEC, TS video only, TS audio only, TS over TCP, RTP/RTSP (UDP or interleaved, RFC 3984), RTMP push, HLS
IP protocols:	HTTP, TCP/IP control protocol, UDP/RTP/TCP streaming, IGMP, SAP, unicast/multicast, SNMPv2, DHCP, IPV4, DNS, NTP
USB:	USB host device for recording
Network:	10/100/1000 TX Ethernet, RJ45, half/full duplex, auto sensing
Scaling and frame synchronizer	Up- and downscaling and cropping for each encoder, adjustable frame rate divider, auto scaling for seamless switching and fixed resolution or output follows input
Additional features:	Inserter for Logo, Text, Time and Date Error correction with Pro-MPEG FEC
Recording:	Simultaneous streaming and recording to USB drive (TS and MP4)
RS-232:	RS-232 console mode for local control, com-server mode for RS-232 IP bridging
GPIO:	1x GPI in TTL level, 1x GPO out 10mA TTL
Management and security:	Web browser, SNMP, SSH/Telnet and RS-232, software updates via web browser Fault measurement with log generation, authorization via user password, IEEE802.1X, RTC, (Real Time Clock) support

ENVIRONMENTAL

Housing:	100% lightweight closed aluminium case, no fan
Agency approvals:	CE, RoHS
Humidity:	Up to 90% RH, non-condensing
Temperature:	0 to +45°C
Dimensions and weight:	(H/W/D) 30mm x 105mm x 170mm, approx. 400 grams
Power:	5-12 VDC ≤ 5W per blade
Limited Warranty:	1 year standard limited warranty. Warranty extensions for up to 5 years available

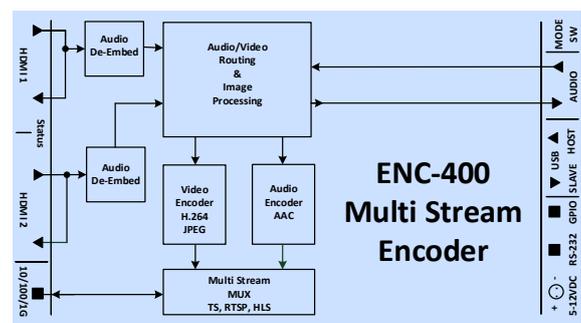
FEATURE OVERVIEW	ENC-400-HDMI	ENC-400-HDMI2
HDMI graphics interface:	1x in 1x loop out	2x in 2x loop out
Up to:	1x 1920x1200p60	2x 1920x1080p60 or 1x 1920x1200p60 or 1x 2560x1600p30 or 1x 3840x2160p15
Encoding up to:	1x 1920x1200p60 or 1x 1920x1080p30, 1x 1280x70p60 or 1x 1920x1080p60, 1x 720x480p30	1x 1920x1200p60 or 1x 1920x1080p30, 1x 1280x70p60, 1x 720x480p30 or 1x 1920x1080p60, 1x 720x480p30 or 2x 1920x1080p30, 1x 720x480p30 or 1x 2560x1600p30 or 1x 3840x2160p15
Simultaneous encodings video/audio:	3/1	3/2
Simultaneous streams:	3	3
Telnet/SSH/SNMP:	✓/✓/✓	✓/✓/✓
A/V multiplexer, stream container:	RTSP, RTMP, TS, HLS	RTSP, RTMP, TS, HLS
Resolutions:	up to 1920x1200	up to 4K
Pro-MPEG FEC:	option	option
USB recording:	option	option
Logo insertion:	✓	✓
Stream synchronisation, time stamping:	NTP	NTP
Adaptive bitrate:	✓	✓
Transport stream with constant bitrate:	✓	✓
Teracrypt/AES encryption:	✓/-	✓/✓

ORDER INFORMATION

ENC-400-HDMI-PORTABLE	H.264 and MJPEG HD/SD portable encoder with single HDMI input (with embedded audio) and loop through output .
ENC-400-HDMI2-PORTABLE	H.264 and MJPEG HD/SD portable encoder with dual HDMI input (with embedded audio) and loop through outputs.
400-OPT-FEC	Upgrade option for Pro-MPEG FEC.
400-OPT-REC	Upgrade option for USB recording.
FR-620	1RU Rack mount chassis for max. 6 boards.



ENC-400 rear view



ENC-400 block diagram