ENC-400-HDSDI

TERACUE

HD/SD 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 build-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 aluminium PORTABLE unit is ideal for broadcast contribution, IPTV and webcasting.

KEY FEATURES

- H.264 Baseline, main and high profile and MJPEG
- Full support 3G-SDI, HD-SDI, SD-SDI
- Embedded and analog audio input
- 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

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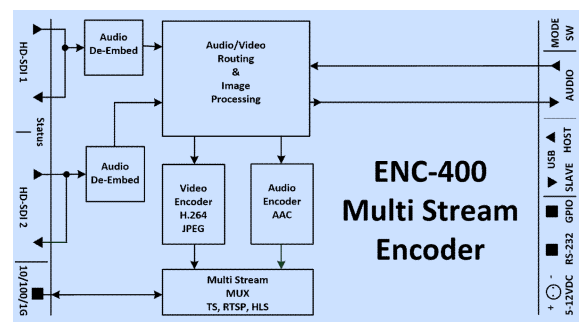| **TECHNICAL SPECIFICATION:**	
HDSDI input:	YC$_b$C$_r$ 4:2:2; loop through
Video encoding: Profiles:	H.264 (MPEG-4 AVC Part 10; ISO/IEC 14496-10) and MJPEG (ISO/ITU) Baseline, Main Profile, High Profile, signal can be scaled up to 3 instances
Video encoding bitrates:	300Kb/s – 16Mb/s, low latency support, adaptive CBR
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 (2 channel) per embedded HDSDI input (selectable from 4 embedded groups) 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 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 190mm, approx. 400g
Power:	5-12 VDC ≤ 5W per blade
Limited Warranty:	1 year standard limited warranty. Warranty extensions for up to 5 years available

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FEATURE OVERVIEW

HDSDI graphics interface:	2x in 2x loop out
Up to:	2x 1920x1080p60
Encoding up to:	1x 1920x1080p60 or 1x 1920x1080p30, 1x 1280x720p60, 1x 720x480p30 or 1x 1920x1080p60, 1x 720x480p30 or 2x 1920x1080p30, 1x 720x480p30
Simultaneous encodings video/audio:	3/2
Simultaneous streams:	3
Telnet/SSH/SNMP:	✓/✓/✓
A/V multiplexer, stream container:	RTSP, RTMP, TS, HLS, TCP
Resolutions:	1920x1080
Pro-MPEG FEC:	option
USB recording:	option
Logo insertion:	✓
Stream synchronisation, time stamping:	NTP
Adaptive bitrate:	✓
Transport stream with constant bitrate:	✓
Teracrypt/AES encryption:	✓/✓

ORDER INFORMATION

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

ENC-400 rear view

ENC-400 block diagram