ENC-300-HDSDI

TERACUE
an eyevis group company

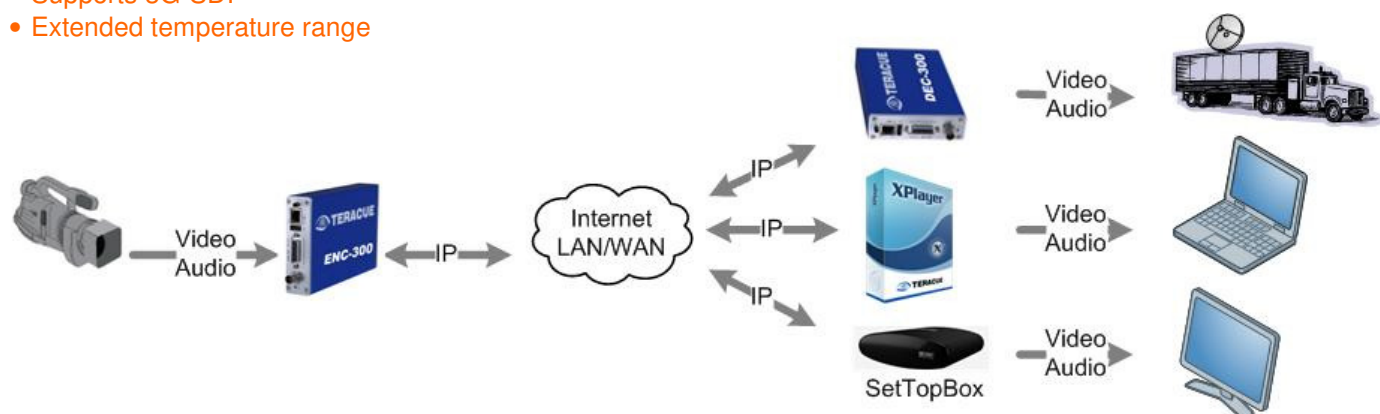## H.264 MPEG-4 AVC HD/SD ENCODER BLADE AND PORTABLE DEVICE

The ENC-300 H.264 HD encoder is designed for IPTV and live streaming. It is ideal when camera signals, broadcast or monitoring video feeds need to be distributed over IP networks, for internet streaming, for broadcast and CDN contribution. The ENC-300 encoder series provides low delay, pure hardware encoding based on open-standards.

Unique features and benefits:

- Robust hardware solution for 24/7 operation
- Real-time encoding of SD-SDI, HD-SDI, CVBS, YPbPr, YC and RGB/VGA signals
- Forward error correction Pro-MPEG FEC
- KLV metadata insertion (STANAG 4609)
- SDI and YPbPr resolution: up to 1080i
- Logo inserter for SD & HD
- Audio talkback conferencing
- Adjustable framerate (e.g. 5 fps)
- Low-latency compression technology
- UDP & TCP (error correction) streaming
- RTMP & RTP/RTSP streaming
- Low power consumption
- Supports 3G-SDI
- Extended temperature range

Applications:

- Broadcast & CDN IP contribution
- Wireless & mobile streaming
- Digital signage streaming
- IPTV/OTT streaming
- Security monitoring
- Stadium & event TV
- Training & research
- Video monitoring
- Military IP transmission
- Medical & campus TV
- Telemedicine
- Control rooms & command centres

Professional quality and easy configuration

ENC-300-HDSDI encoders incorporate low latency compression, creating full resolution video streams in HD or SD resolution. To access the intuitive graphical user interface use your standard web browser from any PC on the network, no special or additional tools are required. Remote network configuration is also supported over SNMP, by Telnet and by control over the local COM port.

Portable and blade based operation

Multiple ENC-300 blades are operated inside the FR frame series. The encoder is also available as the compact PORTABLE device. High-density requirements are solved by operating the ENC blades in the FR-2000-24 (4 RU rack mount) or FR-610 (1 RU rack mount) multi-channel racks. Different types of DEC decoder blades, ENC encoder blades and DVB/IP videogateways can be "mixed and matched" inside the FR-frame series.

PORTABLE	1 RU Rack mount FR-610	ENC/DEC-200/300	4 RU Rack mount FR-2000-24

ENCODING SPECIFICATION:

Video inputs:	SD/HD/3G-SDI input: 0,8 V$_{P-P}$, 75 Ohm (BNC, embedded audio support), (SMPTE259M, SMPTE292M, SMPTE424M);
Breakout cable inputs:	Composite, S-Video, Component and VGA
Video encoding:	H.264 (MPEG-4 AVC Part 10; ISO/IEC 14496-10). Profiles: Baseline, Main, High
Video encoding bitrates:	250Kb/s – 14Mb/s, CBR/VBR, low latency support
Video resolutions:	1920x1080p 30/29.97/25Hz, 1920x1080p 60/59.94/50Hz (with 2:1 frame converter) 1920x1080i 60/59.94/50Hz, 1280x720p 60/59.94/5030/29.97/25Hz, 720x480/576i 60/59.94/50Hz
VGA (RGB) resolutions:	1280x1024 60Hz, 1024x768 60Hz, 800x600 60Hz
Audio inputs:	1x stereo, unbalanced, AC-coupled
	Audio nominal level: -10 dBV (0,316Vrms), maximum level: 2 V$_{P-P}$
	Microphone nominal level: -60 dBV (1mVrms), gain control for microphone and line input
	SDI embedded audio 2CH (SMPTE 272M, SMPTE 299M)
Audio encoding:	MPEG-4 AAC LC (ISO/IEC 14496-3), 48 kHz, 16Bit Sample Rate, 16-576 kbit data rate
Audio outputs (TALKBACK):	1x stereo, unbalanced, AC-coupled
	Output gain adjustment from (off) -78 dB to +9 dB
	TALKBACK: 16 bit stereo, PCM, sample rate 48kHz, 22,05 kHz
Multiplex format:	ISO/IEC 13818-1 Transport, ISO/IEC 14496-10 NAL (Network Abstraction Layer)
	Stream types: transport stream and elementary audio/video stream
Scaling:	Downscaling from 720p and 1080i to 720, D1 or CIF, adjustable frame rate divider
Additional features:	Logo inserter for SD and HD. Presets can be saved, downloaded and uploaded

I/O SPECIFICATION:

Network:	10/100TX Ethernet, RJ45, half/full duplex, auto-sensing or manual control
Streaming traffic:	Unicast and multicast traffic supported, up to max. 5 output streams/destinations
	RTMP push and pull mode and RTP/RTSP up to 5 clients*
IP protocols:	HTTP, TCP/IP control protocol, UDP/RTP/TCP streaming, IGMP, SAP, unicast/multicast, SNMPv2, DHCP
Error correction:	Pro-MPEG FEC* (forward error correction) and TCP
KLV metadata:	NATO standard STANAG 4609, MISB standard 0603.1, 0604.2, 0605.3, SMPTE 12M-2*
RS-232 :	RS-232 connection via console (remote control for non IP devices via TCP/IP serial command tunnelling)
GPIO:	1x In, isolated, 1x Out, isolated (FR-610)

MANAGEMENT: Web browser, SNMP, Telnet and RS-232, software updates via web browser
Fault measurement with log generation, authorization via user password, RTC (Real Time Clock) support

ENVIRONMENTAL:

Agency approvals:	CE, RoHS, EN 55103-1, EN 55103-2, EN 55022
Humidity:	Up to 90%, non-condensing
Temperature:	-35 to +50℃ and +60℃ up to 5 hours environment temperature; fanless when operated as –PORTABLE
Blade weight:	Approx. 160 grams
Blade dimensions (H/W/D):	20mm x 130mm x 190mm, Europe Card (160mm x 100mm, 3HE), conform to IEC60297-3/-4
PORTABLE weight:	Approx. 690 grams
PORTABLE dimensions:	(H/W/D) 28mm x 105mm x 192mm
Power:	5Vdc ± 5% / 8W per blade
Limited Warranty:	1 year standard limited warranty. Warranty extensions for up to 5 years available

ORDER INFORMATION:

ENC-300-HDSDI	MPEG-4 AVC H.264 SD/HD encoder blade with SD/HD SDI input (with embedded audio) and Composite*, S-Video (Y/C), Component (YP$_b$P$_r$) or analog VGA (RGB) input
ENC-300-HDSDI-Portable	MPEG-4 AVC H.264 SD/HD portable encoder device with SD/HD SDI input (with embedded audio) and Composite, S-Video (YC), Component (YP$_b$P$_r$) or analog VGA (RGB) input
300-UPG-FEC	Upgrade option for ENC-/DEC-300-Series for forward error correction
300-UPG-KLV	Upgrade option for ENC-/DEC-300-Series for KLV metadata insertion
300-UPG-RTMP	Upgrade option for ENC-300-Series RTMP Flash streaming and RTP/RTSP
BREAKOUT-CABLE-S	YC (miniDIN), Composite (RCA jack), analog audio in/out (RCA jack). RCA plug to 3.5 mm phone jack adapter. Breakout cable S is included in delivery
BREAKOUT-CABLE-P-3E	Composite/YC/YP$_b$P$_r$/RGBHV (all BNC female), analog audio in/out (RCA jack), RS-232 (Sub-D 9-pin), GPI connectors (Sub-D 9-pin)
BREAKOUT-CABLE-VGA	RGBHV, analog audio in/out (RCA jack) connectors
FR-610	1RU Rack mount chassis for max. 6 blades
FR-610-DPS	1RU Rack mount chassis for max. 6 blades with redundant power supply
FR-2000-24	4RU Rack mount chassis for up to 21 blades (depends on blade combination) with redundant power supply

COMPLEMENTARY PRODUCTS:

DEC-300-HDSDI	H.264 HD & MPEG-2 HD decoder blade with HD-SDI-, embedded audio, analog video/audio output.
XPLAYER	PC Live stream playback software. Licence packages are available
MC-ROUTE-1RU	1RU appliance for live UDP, TCP, FEC, RTSP and HLS streaming and unicast/multicast bridging

* available as software option

***PLEASE NOTE: Live streaming/multicast streaming requires specially designed and configured networks. Minimum requirements include: Layer-3 switched ethernet, multicast enabled, IGMPv2/3, network and multicast routing supported.