

HERO EVENT

MULTISCREEN LIVE EVENTS ENCODER

MEDIAEXCEL
EXCELLENCE IN TRANSCODING

Media Excel's portable HERO Event Encoder (HERO EE) is a multi-channel, multi-format, multi-screen remote on-location transcoding solution for broadcast of all your most important events, regardless of the venue.

APPLICATIONS

- SPORTS
- CORPORATE EVENTS
- HOUSES OF WORSHIP
- MEDICAL
- EDUCATION/TRAINING
- REGIONAL CONTRIBUTION
- CONTENT AGGREGATION
- SOCIAL MEDIA DELIVERY

RELATED PRODUCTS

- **HERO 5000EE EVENT ENCODER**
Multiscreen Encoder for Live Events.
- **HERO 5000L LIVE ENCODER/TRANSCODER**
Multiscreen Encoder/Transcoder for Live.
- **HERO 5000C CLOUD TRANSCODER**
HERO virtualized software running on your hardware for Live and VoD cloud transcoding services.
- **HERO MANAGEMENT**
Centralized network management solution.

KEY FEATURES

- Highest video quality across the delivery chain
- Proven & reliable multi-channel, multi-rate field encoder
- Compact/portable form factor with redundant PSU
- Local & remote monitoring and control
- Digital and analog A/V input
- 2 HD Channels of input per 1RU platform
- Simultaneous output for all adaptive technologies
- Local storage/recording options
- Virtual playout and content replacement options



#1 SPORTS CAMERA1	
INPUT STATISTICS	
VIDEO RATE, FPS	AUDIO RATE, LEVEL
711.214mbps, 29.97 fps	1.405mbps, 63.3dB
ASPECT RATIO	
16:9	
FRAMES	
4,459,831	
PACKETS (LOST/TOTAL)	
0 / 4459831	
BYTES (LOST/TOTAL)	
0 / 12,542TB	
OUTPUT STATISTICS	
VIDEO RATE, FPS	AUDIO RATE
1.930mbps, 29.97 fps	440bps
MUX RATE	
1.973mbps	
FRAMES	
4,459,801	
DISP	
-	
LOAD	
-	
UPTIME	
16:17:20:13	

#2 SPORTS CAMERA2	
INPUT STATISTICS	
VIDEO RATE, FPS	AUDIO RATE, LEVEL
711.132mbps, 29.97 fps	1.405mbps, 57.8dB
ASPECT RATIO	
16:9	
FRAMES	
4,457,266	
PACKETS (LOST/TOTAL)	
0 / 4457266	
BYTES (LOST/TOTAL)	
0 / 12,535TB	
OUTPUT STATISTICS	
VIDEO RATE, FPS	AUDIO RATE
5.672mbps, 29.97 fps	440bps
MUX RATE	
5.716mbps	
FRAMES	
4,457,227	
DISP	
-	
LOAD	
-	
UPTIME	
16:17:18:48	

HERO EVENT ENCODER

When you want to broadcast that next remote event and need to push your content to multiple media outlets and formats, don't stop with the cameras, microphones and lighting. Be sure to remember the right encoding platform, one that can handle all your live streaming event production demands. The HERO EE's simple setup and comprehensive workflow deliver the live signal from the camera or switchboard to your local and global viewing audience - ON ANY DEVICE, ANY PLATFORM, ANYWHERE - enhancing your service quality and overall production value. Further, HERO EE offers a multitude of local and remote monitoring & management features for confidence check and end-to-end telemetry and quality of service.

With its exceptional quality and proven reliability, HERO EE is the perfect solution for:

- On-site, multiscreen content encoding
- Delivery of the highest quality video, with lowest latency and best bandwidth efficiency anywhere you need
- AVC/H.264 applications for content distributors, aggregators, broadcasters and producers
- Real-time local and remote monitoring, DRM keys, CDN author/publishing, overlays, recorder and scheduler

HERO EVENT TECHNICAL SPECIFICATIONS

INPUT

INPUT PORTS (up to 2 ports) *

- HD/SD-SDI
- DVB-ASI
- HDMI
- Component HD
- Composite/S-Video PAL/NTSC
- 4ch balanced audio
- 2ch unbalanced audio
- Gigabit ethernet (up to 6 ports)

INPUT FORMATS

- Uncompressed analogue audio/video
- Uncompressed digital audio/video
- MPEG-2 TS via DVB-ASI or RTP/UDP *
- MPEG-2 TS FEC ProMPEG (SMPTE 2022) *
- RTMP *
- HLS *
- Virtual Playlist: 3GP, AVI, DNxHD, DVCPRO, FLV/F4V, IMX, MFX, MJPEG, MOV, MP4, ProRes, TS, WMV, XDCAM, JPEG, PNG *

OUTPUT

STREAMS

- Apple HTTP Adaptive (HLS)
- Adobe RTMP
- Microsoft Smooth Streaming
- MPEG-DASH
- MPEG-2 TS
- RTP/RTSP ISMA, 3GPP, 3GPP6 multi-rate

CODECS/FORMATS

- H.264/AVC BL/MP/HP
- DV recording
- MPEG-2
- AAC/AAC-HE, v.1 & 2
- Dolby E/AC3/AC3+ (Pass-through)
- MPEG-1 Audio Layers I & II
- 3GP2, 3GPP (.3GP) with SAP/SDP
- MPEG-2 TS/PS Unicast and Multicast
- TS, MP4 segmentation and recording
- fMP4, CMAF for low latency
- JPEG periodic thumbnail generation

INPUT AUDIO/VIDEO CODECS

- H.264/AVC
- MPEG-2 (4:2:2, 4:2:0)
- MPEG-4
- PCM
- MPEG-1 Audio Layers I, II & III
- AAC/AAC-HE (MPEG-2, MPEG-4)
- AC-3 (DD), E-AC-3 (DD+)

NETWORK

- ATSC, ARIB
- DVB-ASI
- DVB-S/T
- LTE/eMBMS *
- SNMP v.2
- IGMP v.3, SSM

FORMATS

- Progressive and interlaced output
- 1080, 720, 540, PAL, NTSC, etc
- Custom resolutions down to QCIF

AUXILIARY DATA

- Line 21, CEA 608/708 closed captions
- OP-47, DVB-Teletext subtitles
- WebVTT, TTML, DFXP, ISMT subtitles
- DVB-Teletext passthrough
- Multiple audio tracks/languages
- MIPs KLV metadata sync/async
- Nielsen ID3 tag conversion
- SCTE-35/104 ad signal conversion

ENCODING & TRANSCODING FEATURES

PRE-PROCESSING

- Automatic & manual Program selection
- Aspect ratio detection (AFD, V-Index, WSS)
- VBI black-out control
- Contrast/Brightness/Gamma control
- Audio gain control
- Error concealment logic
- De-blocking & noise reduction filters
- Content adaptive de-interlacing
- Frame scaling with anti-aliasing options
- Smoothness/Sharpness control
- Cropping per output
- Graphic overlay (4 layers with alpha color)
- Virtual playlist/playlist support (file & live)
- Timecode burn-in
- EIA 608/708, OP-47, DVB-Sub burn-in

POST-PROCESSING

- Adaptive/multi-rate output
- NTP-synced, GOP-aligned outputs
- Multiple audio tracks/languages output
- Multiple publishing points for redundancy
- Auto-generation/retrieval of DRM keys
- Network traffic shaping/smoothing
- Aspect ratio adaptation
- Streaming & recording modes
- WebDAV/FTP/HTTP support
- R-sync/reverse-proxy support
- CDN authentication and publishing
- Xixi and SRT native support

VIDEO

- Frame rates (Hz): 1 – 60
- Rate control: CBR, VBR, ABR
- Progressive and interlaced encoding
- High quality frame rate conversion
- Low latency mode

AUDIO

- Audio-only/radio processing option
- Pass-through option
- Re-sampling, down-mix processing
- Up to 32 audio tracks/languages
- Dynamic audio normalization
- Loudness management

AUTOMATION FEATURES

- Virtual playlist/playlist ingestion support
- MP4 & TS archival/recording automation
- Source blocking/replacement automation
- nPVR/CatchUp recording automation
- Dynamic mosaic screen generation
- Customizable thumbnail extraction
- ID-3 metadata injection
- Integration with SDI/ASI routers
- Ad avail generation (CableLabs ESAM)
- Ad replacement/blocking automation
- Ad Server integration mDialog, Yospace
- Ad recording/clipping
- Scrolling text automation

MANAGEMENT

MANAGEMENT/CONTROL

- Central management of Live & File flows
- Web-based management console
- SOAP/XML & REST APIs
- LDAP-based multi-tier user authentication
- Batch, secure remote firmware upgrade
- Configurable audio/visual alarms
- Service and platform level failover options

- N+M, N+1, 1:1 redundancy options
- SNMP v.2 traps/alarms
- NMS/CMS integration hooks
- NIC bonding/teaming & VLAN support
- Task scheduler
- NAS integration (NFS, SAMBA)

ECOSYSTEM

MEDIA SERVERS/OVPs

- Azure Media Services
- Unified Streaming Platform (USP)
- Wowza Streaming Server
- Amazon, Azure, Google, IBM, Fujitsu, KT
- Youtube, Facebook, Twitter, Piksel, ThePlatform, Ustream, SimpleStream, Dacast, Ooyala, LiveU, iStreamPlanet, Kaltura, Brightcove

CDNs

- Akamai, EdgeCast, Level3, Octoshape, Limelight Networks, Broadpeak

DRM/CAS/KMS

- BuyDRM, CoreTrust, Irdeto, Verimatrix
- Apple HLS native AES-128, Microsoft PlayReady v.2, Google Widevine, Vualto

CHASSIS

FORM FACTOR

- 1U standard 19" wide (rack mount)
- 1.75" (44mm) high x 16.9" (429mm) deep
- 16.5 lbs (7.5 kg)

POWER SUPPLY

- Auto-switch AC 90-264V (47- 63Hz)
- 300w

DISPLAY & INTERFACE

- 32-character liquid crystal display (LCD) control panel (2x16) with backlight

REDUNDANCIES

- Redundant SSD *
- Dual hot-swappable power supply
- Up to 6 GbE ports (teaming/bonding)

CERTIFICATIONS & COMPLIANCE

- FCC Class A
- CE/RoHS 5-compliant
- WEEE-compliant
- EN61000-6-2 EN55022/24
- EN60950:2000
- UE 89/336/EEC, UE 73/23/EEC

SYSTEM CONFIGURATION TABLE

HERO MODEL	CH	AUDIO/VIDEO INPUT PORTS (per channel)
HEE.5001.S	1	SDI HD/SD (BNC) up to 1080i60, 8ch embedded audio
HEE.5002.S	2	
HEE.5001.DA	1	HDMI (Type A) up to 4Kp30, 8ch embedded audio
HEE.5002.DA	2	Component (3 BNC) HD/SD, 2ch (RCA) audio
HEE.5001.SDA	1	Composite/S-Video (RCA) PAL/NTSC, 2ch (RCA) audio
HEE.5002.SDA	2	SDI HD/SD (BNC) up to 1080i60, 8ch embedded audio
		HDMI (Type A) up to 4Kp30, 8ch embedded audio
		Component (3 BNC) HD/SD
		Composite/S-Video (RCA) PAL/NTSC
		Balanced 4ch (1/4" jack) audio
		Unbalanced 2ch (AES/EBU) audio

* Option available in specific models only.

- Specifications subject to change without notice.