MAINCONCEPT LIVE ENCODER
Real-Time Video Encoding for Every Screen Size

Live streaming at a professional level doesn’t have to be complicated. MainConcept® Live Encoder is a powerful all-in-one encoding engine for up to HEVC 8K60 10-bit, using on-premise servers or AWS EC2 instances, simplifying common broadcast and OTT video workflows. With renowned MainConcept HEVC and AVC codecs built in, our intuitive user interface allows you to package content for multiscreen delivery using common input sources in real-time. In addition to media, broadcasting and entertainment, the MainConcept Live Encoder is widely used for distance learning and to deliver live sporting events.

COMPATIBILITY & SIMPLICITY BUILT IN
With MainConcept Live Encoder, you can set up a live workflow to ingest, prepare, and stream audio/visual content that is compatible with every type of consumer device. It doesn’t matter if you are delivering video directly to a CDN or to an online video platform via RTMP, MainConcept Live Encoder ensures your content is delivered reliably with the highest possible quality.

MainConcept Live Encoder includes a management layer for monitoring and controlling the encoder. It allows flexible management through an intuitive web interface or using a REST API for integration in existing workflows.

PROVEN, RELIABLE TECHNOLOGY
MainConcept Live Encoder has been proven at scale to handle 50K live events per year and stream 300+ live linear channels 24/7. MainConcept Live Encoder offers failover scenarios to provide uninterrupted service and automated channel recovery with user-defined 1+1 and N+M redundancy options.

HARDWARE & SOFTWARE RECOMMENDATIONS

**AVC/H.264 HD**
- 2x Intel® Xeon® E5-2640v3 2.6 GHz (8 cores/16 threads per CPU), 20M Cache, 8.00 GT/s QPI, Turbo, HT, 8C/16T (90W) Max Mem 1866MHz
- 64 GB RDIMM, 2133MT/s, Dual Rank, x4 Data Width
- Deltacast Delta-3g-elp-d 8c (Windows), AJA Kona 4, AJA Kona 5 or Blackmagic DeckLink Duo SDI capture board

**AVC OR HEVC 4K**
- 2x Intel® Xeon® E5-2699v4 2.2 GHz (22-cores/44 threads per CPU), 55M Cache (115W)
- 64 GB RDIMM, 2400 MT/s, Dual Rank, x8 Data Width
- Deltacast Delta-3g-elp-d 8c (Windows), AJA Kona 4 SDI capture board

**HEVC 8K**
- 2x Intel® Xeon® Gold 6230 (20 cores/40 threads per CPU) 2.1 GHz, 27.5M Cache, HT, 115W, Max Mem 2933 MHz
- 128 GB DDR4-2933 RAM
- 3x GPUs: 1x NVIDIA RTX 2070, 2x NVIDIA RTX 2070 SUPER boards; AJA Kona 5 SDI capture board

**HEVC 8K IN AWS EC2**
- AWS EC2 g4dn.12xlarge instance (48 CPUs)
- 192 GB RAM
- 4 GPUs (NVIDIA T4), 3 Layers: 8K, 4K, 1080p

**OPERATING SYSTEMS:**
- Microsoft Windows 10 or Server 2012
- Linux CentOS 7.2

50K+ LIVE EVENTS YEARLY COUNT ON LIVE ENCODER

**SIMPLIFY BROADCAST & OTT VIDEO WORKFLOWS**
Intuitive interface for real-time multiscreen encoding, packaging and playlist generation

**FLEXIBLE DEPLOYMENT VIA WEB UI & REST API**
XML-based public REST API provides easy integration into existing workflows

**LIVE ADAPTIVE BITRATE STREAMING**
Live encoding to Apple HLS, DASH-264 (8-bit) or DASH-265 (8-bit/10-bit) compliant streams in up to 8K 10-bit resolution & HDR-10 support

**KEY FEATURES**
- Live archiving to disk or cloud
- Built-in A/V processing
- Common SDI and IP input sources
- Hardware AVC and HEVC decoding using Intel Quick Sync Video and NVIDIA NVDEC
- Hybrid HEVC encoding with NVIDIA NVENC & MainConcept software encoding modes
- Parallel packaging of MPEG-DASH and HLS

OPTIMIZE WITH MAINCONCEPT PROFESSIONAL SERVICES

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PRODUCT SPECIFICATIONS

INPUT
• SDI capturing
• IP streams: UDP (MPEG-2/H.264 in MPEG TS), HTTP, RTMP, authenticated RTSP (in TS)
• Video: AVC/H.264, HEVC/H.265, MPEG-2, VC-1
• Audio: AAC, MPEG Audio Layer 1/2, MP3

ENCODING
• Live encoding to HLS (AVC/AAC) up to 1080p (8-bit), incl. playlist and packaging
• Live encoding to HLS (HEVC/AAC) up to 8K (8-bit/10-bit), incl. playlist & packaging
• Live encoding to DASH-264 (AVC/AAC) up to 1080p (8-bit), incl. MPD and packaging
• Live encoding to DASH-265 (HEVC/AAC) up to 8K (8-bit/10-bit), incl. MPD and packaging
• HEVC 8K60 live encoding using on-premise hardware or in AWS EC2 instances
• Parallel packaging of MPEG-DASH and HLS
• Simultaneous encoding of 8 MPEG-DASH or HLS quality layers

PROCESSING
• Closed Caption (EIA-608 & EIA-708)
• Ad-Insertion passthrough (SCTE-35 & SCTE-104)
• Logo and Slate insertion
• Signaling Hybrid Log Gamma (ITU-R BT.2100-1), PQ-10 (BT.2100 / SMPTE ST 2084) and HDR-10 (SMPTE ST.2086) encoding in HD, 4K, and 8K for both HEVC and AVC
• Loudness normalization (CALM-Act/EBU R128)
• Audio/Video Processing Tools
• Deinterlacing, framerate conversion, scaling
• Channel mapping

REAL-TIME WORKFLOW

OUTPUT
• Archive live streams to disk as MP4 or to Amazon S3 file storage
• IP streams: RTMP, UDP, RTP, RTSP, HTTP
• Program/Service Name, ID and Provider when outputting TS over UDP and TS over HTTP
• CDN Support: Akamai, Amazon CloudFront
• Apple HLS AES-128 common encryption

CONFIGURATION
• User Rights Management for administration and monitoring
• REST API
• SNMP Traps API
• Redundancy Management (1+1, N+M)
• Combined scheduler for encoding and publishing
• Configure multiple servers in parallel with settings propagation

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MORE INFORMATION
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