MAINCONCEPT

MainConcept HEVC SDK
Bandwidth-friendly Encoding and Decoding

MainConcept® HEVC SDK comes equipped with powerful new features you won't get from open source, including 8K/60fps live video encoding, Canon XF HEVC 4:2:2 10-bit decoder support, and advanced GPU acceleration to maximize video encoding performance on low-cost hardware—saving time and money!

ENCODING AND DECODING FOR HIGHER RESOLUTIONS

With 4K available on billions of devices and 8K hot on its heels, HEVC/H.265 has quickly become the next-generation video codec of choice (offering better compression than its predecessor, AVC). The MainConcept HEVC SDK, used today by many top companies in the industry to power their software offerings, delivers on the promise of higher performance with up to 30% greater bitrate efficiency than open source and it continually ranks at the top for overall codec quality. Widely deployed across streaming and broadcast use cases with plentiful features and powerful options, the MainConcept HEVC SDK offers unmatched reliability. And, you can create better, faster and smarter videos with our patented Smart Adaptive Bitrate Encoding Technology (SABET™).

NEW HEIGHTS FOR HIGH-EFFICIENCY VIDEO ENCODING

MainConcept takes video encoding to new heights! With the MainConcept HEVC/H.265 SDK, compression is improved over AVC and you can operate using less bandwidth than with open source. In fact, the most recent codec performance comparison by MSU proved MainConcept's HEVC encoding superiority and showed 30% greater bitrate efficiency than open source for fixed resolution video encoding.

ACCELERATED HYBRID GPU HEVC ENCODING

The Hybrid HEVC Encoder combines MainConcept's market-leading algorithms for bitrate control and encoding with the unrivaled GPU performance of NVIDIA RTX technology, delivering up to 2.5x faster processing.[1] This allows for more live channels per server with less demand for CPU resources when encoding, reducing overall hardware investments.

SMARTER ENCODING WITH SABET TECHNOLOGY

SABET, an optional feature available from MainConcept with the HEVC SDK, gives you intelligent adaptive bitrate (ABR) encoding in a single instance by sharing processing data across up to 12 different profiles, reducing the total encoding time by over 30%.[2]

OPERATING SYSTEM

- Microsoft Windows10 (64-bit, x86 and ARM)
- Apple macOS 10.11 and newer (64-bit x86), macOS 11 and newer (Apple Silicon)
- Linux Ubuntu 14.04 LTS, CentOS 7.9 (64-bit, x86), Ubuntu 18.04 (64-bit, ARM)

THE MOST EFFICIENT OTT & BROADCAST FORMAT IN USE TODAY

SAVE TIME

- 30% better bitrate encoding efficiency than open source
- 2.5x encoding performance increase with Hybrid GPU acceleration[1]
- 30% encoding time savings with MainConcept SABET™ technology[2]
- Fast integration

KEY FEATURES

- 8K live
- 4:2:2 10-bit chroma support for professional video encoding
- 8K60 Hybrid GPU accelerated 10-bit live video encoding
- HDR decoder with support for HLG/ PQ and SDR conversion
- Direct access to hardware-based encoding and decoding powered by NVIDIA, Intel Quick Sync Video and Intel ARC discrete GPUs
- SONY XAVC 2.2 ingest in MP4 and MXF containers with HEVC payload
- Improved threading mechanisms of video encoders and decoders to work on the next generation of Intel® Core™ processors (Meteor Lake) with low-power efficiency cores

OPTIMIZE WITH MAINCONCEPT PROFESSIONAL SERVICES

1 Compared to MainConcept HEVC encoder without hybrid GPU acceleration
2 Compared to MainConcept HEVC encoder without SABET

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ENCODER FEATURES

- Main, Main10 and Main422 profiles
- Intel Quick Sync Video, Intel ARC and NVIDIA NVENC hardware encoding
- Hybrid GPU accelerated encoding
- SABET™ intelligent ABR for efficient encoding of adaptive formats
- 2-pass encoding
- Encoding to SMPTE 2084 based HDR-10 including SMPTE 2086 mastering display metadata and MaxFALL, MaxCLL
- HLG transfer characteristics signaling in accordance with ITU-R BT.2100-0
- Intelligent, real-time parameter adjustment to ensure live encoding at best quality
- Optimal retention of film-grain to preserve cinematic look-and-feel
- I-, P-, B-Frames, Pyramid B-Frames, and fixed or adaptive GOP structure with scene change detection, adaptive B-Frame count
- ConstantQ, CRF (Constant Rate Factor), RDOQ, ABR

DECODER FEATURES

- 4:2:0 8-bit (Main), 4:2:0 10-bit (Main 10), 4:2:0 12-bit (Main 12) and 4:2:2 8-bit (Main 4:2:2), 4:2:2 10-bit (Main 4:2:2 10) and 4:4:4 10-bit (Main 4:4:4 10), 4:4:4 12-bit (Main 4:4:4 12) profiles
- Progressive and interlaced support, including deinterlacing
- Hardware video decoding for Intel Quick Sync Video, Intel ARC discrete GPUs and on supported NVIDIA boards
- Real-time PQ/HDR-10 to HLG, HLG to PQ/HDR-10 and PQ/HDR-10 to SDR conversion
- Fast Preview Modes for enhanced decoding speed in video editing, surveillance and monitoring
- WebASM support for decoding on supported internet browsers

PACKAGES

- **HEVC/H.265 Encoder SDK**
  HEVC encoder with supported multiplexers and audio encoders
- **SABET for HEVC Encoder**
  HEVC/H.265 Encoder SDK, plus SABET HEVC Encoder License
- **HYBRID GPU Accelerated Encoder**
  HEVC/H.265 Encoder SDK, plus Hybrid HEVC GPU Encoder License
- **4:2:2 Encoding**
  HEVC/H.265 Encoder SDK, plus 4:2:2 Encoder License
- **HEVC/H.265 Decoder SDK**
  HEVC decoder with supported demultiplexers and audio decoders
- **WEBASM for HEVC Decoder**
  HEVC/H.265 Decoder SDK for WebASM

STREAM TYPES & FORMATS

Elementary Stream: Generic HEVC/H.265 ES up to 4:2:2 10-bit

Transport Streams: Ultra HD, UHD; Generic HEVC/H.265 TS up to 4:2:2 10-bit

MP4: DASH-265, Ultra HD, UHD; Generic HEVC/H.265 up to 4:2:2 10-bit, SONY XAVC 2.0 (XAVC-HS) (decode only)

MXF: Canon XF-HEVC (decode only)