

# HEVC/H.265

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!

## AVAILABLE PACKAGES

<b>HEVC/H.265 ENCODER SDK</b>	HEVC encoder with supported multiplexers and audio encoders	HEVC/H.265 Video Encoder AAC Encoder Fraunhofer AAC Encoder MP4 Multiplexer MPEG Multiplexer
<b>SABET FOR HEVC ENCODER</b>	Add-on package to enable SABET™, Smart Adaptive Bitrate Encoding Technology, for Intelligent ABR	HEVC/H.265 Encoder SDK, plus SABET HEVC Encoder License
<b>HYBRID GPU ACCELERATED ENCODING</b>	Add-on package to enable GPU Accelerated Encoding on NVIDIA RTX boards	HEVC/H.265 Encoder SDK, plus Hybrid HEVC GPU Encoder License
<b>4:2:2 ENCODING</b>	Add-on feature enabling 4:2:2 support in the HEVC/H.265 encoder	HEVC/H.265 Encoder SDK, plus 4:2:2 Encoder License
<b>HEVC/H.265 DECODER SDK</b>	HEVC decoder with supported demultiplexers and audio decoders	HEVC/H.265 Video Decoder AAC Decoder MP4 Demultiplexer MPEG Demultiplexer
<b>CANON XF-HEVC INGEST FOR HEVC/H.265 DECODER SDK</b>	Add-on package to enable Canon XF-HEVC in MXF ingest	HEVC/H.265 Decoder SDK, plus Canon XF-HEVC Ingest License File MXF Demultiplexer
<b>HDR CONVERSION FOR HEVC/H.265 DECODER SDK</b>	Add-on package to enable PQ / HDR-10 to HLG, HLG to PQ / HDR-10 and PQ / HDR-10 to SDR conversion	HEVC/H.265 Decoder SDK, plus HDR HEVC Decoder License
<b>WEBASM FOR HEVC DECODER</b>	Add-on package to enable WebASM decoding across internet browsers supporting the standard	HEVC/H.265 Decoder SDK for WebASM

## OPERATING SYSTEM

- Microsoft® Windows® 10 (64-bit, x86 and ARM)
- Apple® macOS 10.9 and newer (Intel 64-bit), Apple® macOS 11 (M1)
- Linux Ubuntu 14.04 LTS or CentOS 7.2 and newer (64-bit)

**UP TO 30% MORE EFFICIENT THAN OPEN SOURCE**

### SAVE TIME

- Up to 30% better bitrate encoding efficiency than open source <sup>(1)</sup>
- 2.5x encoding performance increase with Hybrid GPU acceleration <sup>(2)</sup>
- 30% encoding time savings with MainConcept SABET™ technology <sup>(3)</sup>
- 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
- Extended HDR format signaling support for DVB Video encoding

### CODEC OPTIMIZATION WITH MAINCONCEPT PROFESSIONAL SERVICES

<sup>(1)</sup> Source: Moscow State University 4K codec performance comparison, <sup>(2)</sup> Compared to MainConcept HEVC encoder without hybrid GPU acceleration, <sup>(3)</sup> Compared to MainConcept HEVC encoder without SABET

## STREAM TYPES & FORMATS

### ELEMENTARY STREAMS:

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)

## SPECIFICATIONS

### ENCODER

- Main, Main10 and Main422\* profiles
- Intel Quick Sync Video 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

- 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
- DXVA 2.0 hardware accelerated video decoding
- Decoder fills a dedicated HDR-10, HLG and PQ-10 data structure provided by UCC
- Real-time PQ / HDR-10 to HLG, HLG to PQ / HDR-10 and PQ / HDR-10 to SDR conversion\*
- Slices and tiles decoding support
- Fast Preview Modes for enhanced decoding speed in video editing, surveillance and monitoring
- Decoder HM 11, 14, 16.2 and 16.9 compliant
- Demultiplexing only support for Canon XF-HEVC in MXF\*
- WebASM support for decoding on supported internet browsers

\* SABET, Hybrid GPU Encoding, 4:2:2 Encoding, HDR Conversion and Canon XF-HEVC decoding are optional features which can be purchased as an add-on to your existing HEVC/H.265 encoder or decoder license.