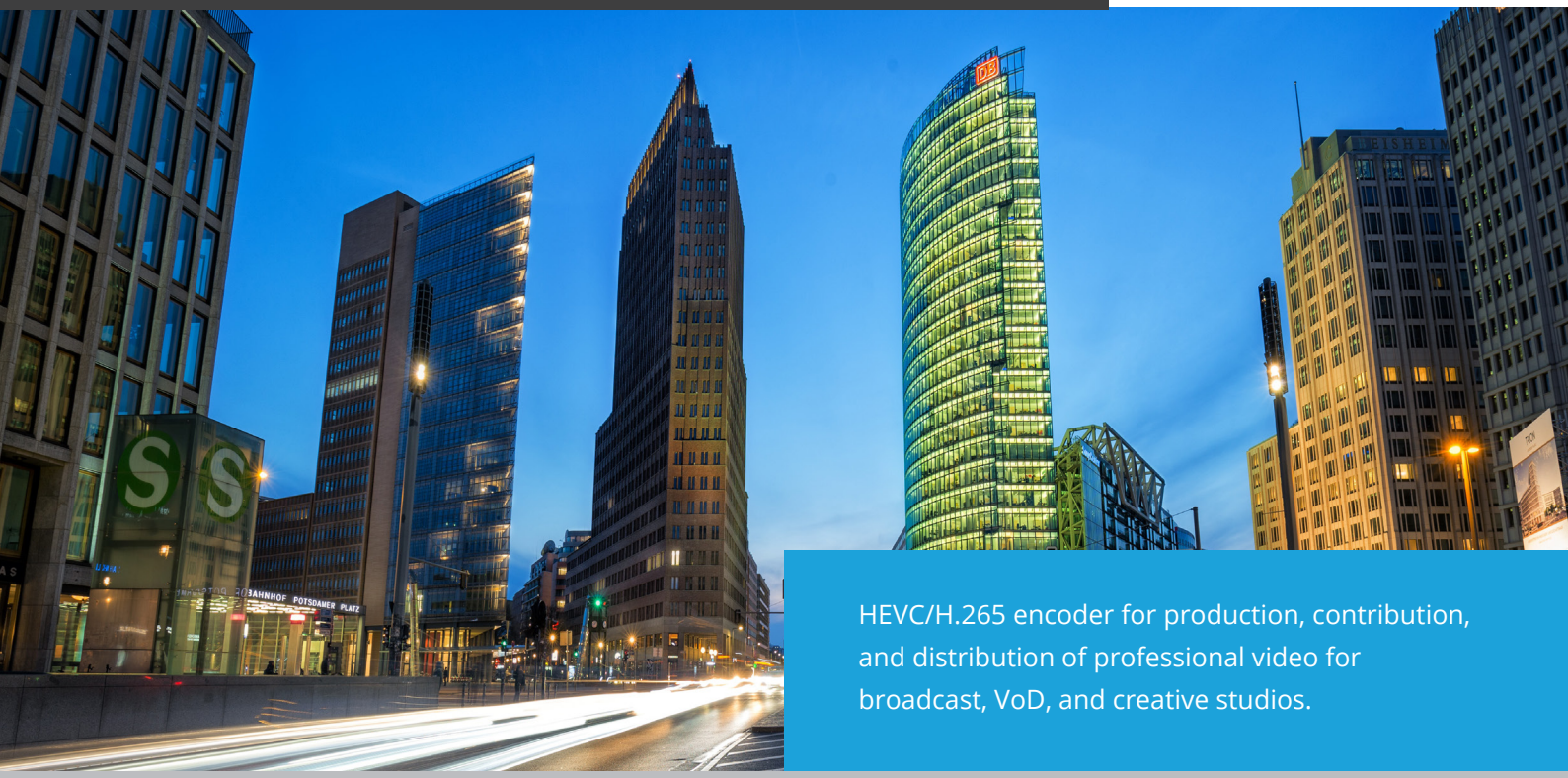
**Spin Digital HEVC/H.265 software encoder (Spin Enc)** enables ultra-high-quality video with the highest compression level. Encoding, transmission, and storage of video in 4K, 8K, and beyond are now possible with commodity computing technologies.

spin enc



HEVC/H.265 encoder for production, contribution, and distribution of professional video for broadcast, VoD, and creative studios.

**Spin Digital HEVC/H.265 encoder** is ready for the next generation of high-quality video systems, providing support for Ultra HD (UHD), High Dynamic Range (HDR), High Frame Rate (HFR), Wide Color Gamut (WCG), and Virtual Reality (360° video).

## Product Highlights

- Fast offline encoding software solution
- Ready for 8K and beyond
- Significantly better compression and quality than competing encoders
- Enables WCG and HDR with up to 12-bit video
- Compatible with ARIB STD-B32 standard
- Versatile high-precision pre-processing filters
- Preserves color resolution with 4:2:2, 4:4:4, and RGB formats
- 22.2-ch AAC audio encoding and decoding

## HEVC/H.265 Encoder Package

- **Encoder: standalone HEVC/H.265 encoder**
- **Transcoder: HEVC/H.265 decoder and encoder integrated in FFmpeg**
- **SDK: encoder plugin for FFmpeg (Libavcodec)**

spin digital

# SPIN DIGITAL HEVC/H.265 ENCODER

spin enc

Support for the HEVC standard:
- Main and Main 10 profiles
- Range Extensions (HEVCv2) profiles
- ARIB STD-B32 version 3.9

Resolutions: 4K, 8K, and beyond

Color formats: 4:2:0, 4:2:2, 4:4:4, RGB

Bit depths: 8-, 10-, 12-bit

Color spaces: BT.601, BT.709, DCI-P3, BT.2020

HDR support: ST2084 transfer function, ST2086 HDR metadata, HLG

Coding configurations:
- Intra-only, low-delay, random-access, chunk-based
- Hierarchical GOP sizes: 1, 2, 4, 8, 16, 32 frames
- Constrained motion vectors for tiled encoding

Rate control: CBR, VBR, constant quality

Advanced Audio Coding (AAC): Multichannel up to 22.2

Quality enhancements for 360° video, mono and 3D (stereo)

Performance optimizations:
- Advanced multithreading: wavefront, tiles, frame-level parallelism
- SIMD processing: SSE4.1, AVX2

| | Input Formats | Output Formats |
|---|---|---|
| **HEVC encoder** | Raw: YUV, RGB | Elementary Stream |
| **HEVC transcoder** | DPX, TIFF, PNG, ProRess, DNxHD, CineForm | MP4, MPEG2-TS, MKV, HLS, DASH |

## COMPRESSION PERFORMANCE

Bitrate reduction for the same objective quality and encoding speed compared to x265 version 2.9 (preset faster) and Intel SVT-HEVC version 1.3 (preset 3).

| | 4:2:0 10-bit | | 4:2:2 10-bit | | 4:4:4 10-bit | |
|---|---|---|---|---|---|---|
| | 4k | 8k | 4k | 8k | 4k | 8k |
| **x265 v2.9** | 35% | 23% | 34% | 23% | 37% | 27% |
| **SVT-HEVC v1.3** | 35% | 17% | Not supported | | Not supported | |

## HIGH-PRECISION VIDEO PRE-PROCESSING FILTERS

Resolution scaling: nearest neighbor, bilinear, bicubic, lanczos2, lanczos3

Chroma sampling and pixel format conversion: 4:2:0, 4:2:2, 4:4:4, RGB

Bit depth conversion: 8-, 10-, 12-bit

Color space conversion: BT.601, BT.709, DCI-P3, BT.2020

Transfer function conversion: SDR, PQ (ST2084), HLG (BT.2100) with tone mapping

Cropping, padding, rotation, mirroring

Blending: image overlays

Spherical format conversion: equirectangular, cubemap, dynamic viewport, rotation

Filters can be used individually or combined for complex conversions

Automatic filter chain generation based on desired target format

## PLATFORM SUPPORT

| | |
|---|---|
| **Processor** | X86_64 |
| **OS** | Linux, Windows 7/8.1/10 |

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