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Spin Digital File Encoder

Professional HEVC/H.265 software encoder enabling ultra-high-quality video with the highest compression level. Spin Enc File is tailored to offline media workflows for broadcast, VoD, and creative studios.

Product Highlights

- Fast offline transcoding software solution
- Significantly better compression and quality than competing encoders
- Higher transcoding speed than hardwareaccelerated solutions
- Optimized HEVC-to-HEVC transcoding workflow
- Support for WCG and HDR with up to 12-bit video
- Preserves color resolution with 4:2:2, 4:4:4, and RGB formats
- Versatile high-precision pre-processing filters



ENCODER FEATURES

	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
- II-	Color spaces: BT.601, BT.709, DCI-P3, BT.2020
	HDR support: ST2084 transfer function (PQ), ST2086 HDR metadata (HDR10), HLG
	Coding configurations:
	Intra-only, low-delay, random-access, chunk-based
F	Hierarchical GOP sizes: 1, 2, 4, 8, 16, 32 frames
	Presets: slow, balanced, fast, faster
	Rate control:
	Broadcast-level CBR
	Constrained VBR
	Constant QP
	Advanced Audio Coding (AAC):
	Multichannel: 2.0, 5.1, 7.1, 22.2 ch.
	Performance optimizations:
	Advanced multithreading: wavefront, tiles, frame-level parallelism
	SIMD processing: SSE 4.1, AVX2, AVX-512, VNNI
	Input formats: DPX, TIFF, PNG, ProRes, DNxHD, CineForm
	Output formats: MP4, MPEG2-TS, MKV, HLS, DASH
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HIGH-PRECISION VIDEO PRE-PROCESSING FILTERS

Video conversion filters:			
	Format conversion: chroma formats, bit depths, pixel layouts		
	Resolution scaling: nearest, bilinear, bicubic, lanczos		
	Color conversion: RGB/YUV, color space, SDR/HDR, custom LUT conversions		
	Cropping, padding		
	Overlay: blends an overlay into each image		
	Orientation: flip, rotate, mirror		
	Geometry conversion: equirectangular, cubemap, cylinder, viewport extraction		
	Texture compression: compresses or decompresses BC4 textures		
Filter chain:			
	Filters can be used individually or combined for complex conversions		
	Automatic filter chain generation based on desired target format		
Highly optimi	zed for CPUs: memory locality, SIMD, multithreading		
	Video conver Filter chain:		

COMPRESSION AND PERFORMANCE FOR 8K TRANSCODING

Key performance indicators:

Similar quality to software solutions at significantly higher transcoding speeds Higher quality than hardware-accelerated solutions at higher transcoding speeds



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Input: ProRes 8K 4:4:4 12-bit - Output: HEVC 8K 4:2:0 10-bit





TEST SETUP

Transcoding framework: FFmpeg - version: 4.3.1

ProRes decoder	HEVC decoder	HEVC encoder
FFmpeg	Spin Digital HEVC	Spin Enc File - v2.0
FFmpeg	FFmpeg (OpenHEVC)	x265 - v3.4
FFmpeg	FFmpeg (OpenHEVC)	SVT-HEVC - v1.5.0
FFmpeg	FFmpeg (OpenHEVC)	Nvidia NVENC - GeForce RTX 3070

Encoding settings:

	Tuned for Video-on-Demand: VBR, long GOP, 2-s intra period	
	Seven 8K (7680x4320 pixels) videos	
Encoding sys ⁻	stem:	
	AMD Ryzen Threadripper 3990X (64 cores)	
Metrics:		
	Bitrate increase for the same quality (PSNR) referred to Spin Enc File	-
	Transcoding speed for 8K video on a 64-core workstation	DH
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PLATFORM REQUIREMENTS FOR FAST 8K TRANSCODING

1D Ryzen Threadripper 3990X (64 cores), or
Intel Xeon Gold 6248R (2x24 cores)
ountu 20.04 (64-bit), or
dHat 8.1 (64-bit)

MINIMUM REQUIREMENTS

Processor:	
	64-bit x86 CPU
	With support for SSE4.1 (minimum), AVX2 (recommended)
RAM: 8 GB	
OS:	and the
	Linux: Ubuntu 20.04 (64-bit), or RedHat 8.1 (64-bit)
	Windows 10 (64-bit)

TRANSCODER PACKAGE

spinffmpeg - FFmpeg with Spin Digital's optimized modules:	
HFVC/H 265 decoder	
Video processing filters	
HEVC/H.265 encoder	

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