

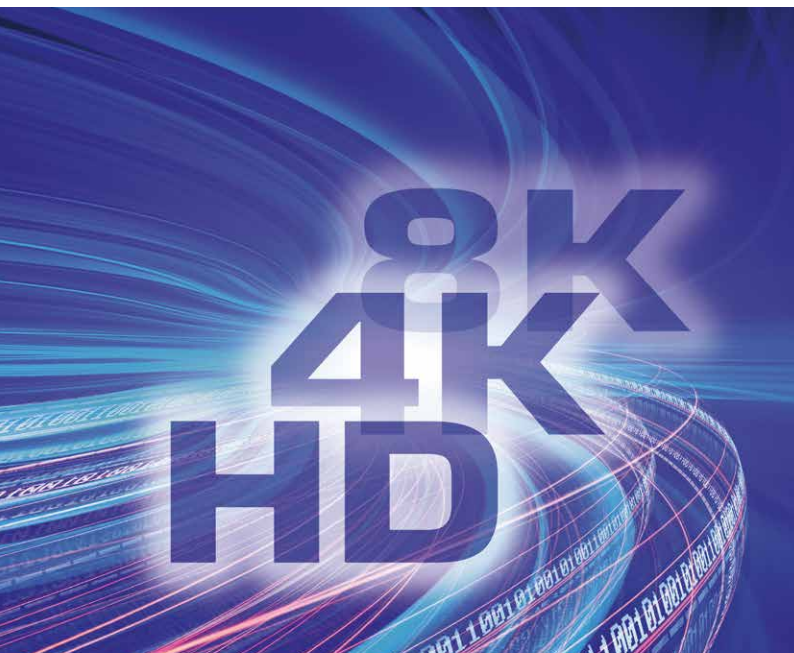


The disruptive **visually lossless** light **video compression, powerful in CPU**

A TECHNOLOGY SERVING THE GLOBAL AV INDUSTRY

TICO is a new visually lossless compression specifically designed for the industry. This revolutionary technology is fast and powerful in software (CPU) and extremely tiny in hardware (FPGA, ASIC), robust for real-time operation with no latency.

Up to now, image and video are sent or stored uncompressed into many displays and systems such as cameras, videos servers, or recorders. TICO is a smart upgrade path to manage higher resolutions (4K, 8K, ...) and frame rates while assuring visual quality, keeping power and bandwidth at a reasonable budget, and significantly reducing the complexity and cost of the system.



Technology benefits

- > Visually Lossless quality:
 - 2:1 to 8:1
 - Robust over multiple encoding generations
 - Math. lossless at lower compression ratio
- > Fixed latency: less than one frame in pure CPU, down to few lines in FPGA/ASIC
- > Powerful, real-time or faster than real-time in CPU
 - Intel-compatible CPU (SSE4.1 or newer)
- > Compatible with different resolutions, from mobile, HD to 4K/8K UHD TV, via multiple usual transport schemes
- > Designed to be a standard for industry-wide support: TICO compression technology is available on multiple software and hardware technologies code, hardware IP-cores and software libraries are available
- > SMPTE RDD35 Compliant: TICO over IP (SMPTE 2022 5/6 & RTP for SMPTE 2110) and over SDI infrastructures (4K over 3G-SDI)



Typical applications from HD to Ultra HD

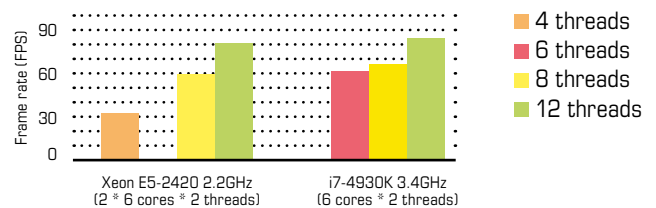


- Video over IP systems (SMPTE 2022, SMPTE 2110, AVB, ...)
- Video recorders & players
- Video servers, router and switchers
- Cameras (high-res, real-time or high speed)
- Video monitors and displays
- Frame grabbers and video capture devices
- Cable extenders
- UHD/4K over 3G-SDI, over 10GbE
- UHD/8K over 12G-SDI, over 25GbE/40GbE, ...
- (...)

TICO is a smart solution to

- Support higher data stream using existing systems & infrastructures (HD/4K/8K/HFR)
- Increase the stream configuration
- Reduce the internal video bandwidth (and power!)
- Cost effectively increase video buffer and storage capacity
- Reduce the number of lanes needed to transport a stream at a display interface or at an image sensor to save power, cost or both

4K UHD Decoding Performance of TICO (3840x2160 - 4:2:2 - 10bpp compression)



intoPIX TICO SDK Packages

TICO SDK – Start

- Standalone TICO encoder or decoder SDK
- The highest quality visually lossless codec for the optimization of SDI and IP infrastructures
- TICO is ideal for simple test applications, single recorder/player or anyone starting in the field of zero-latency, lossless video coding

TICO SDK – Pro

- Complete TICO encoder & decoder with support for multiple UHD-4K streams and higher frame rates in HD, on all operating systems
- TICO Pro is perfect for all professionals looking to deploy zero-latency, lossless encoding over parts of or their whole infrastructure
- Enables the access to Premium Support & Customization Program

TICO SDK – Ultimate

- Includes all the features of TICO Pro and adds UHD-8K, 4K hi-frame rates and specific image inputs with extreme parallel processing
- TICO Ultimate is optimized for top productions and the future of broadcast

intoPIX TICO SDK Key Features

Quality & Latency

- Best-in-class visually lossless video codec (Lossless at lower compression rate)
- Ultra low latency (below a single frame)

CPU footprint, speed performances

- Optimized for real-time operations on 100% CPU
- Extra small CPU footprint
- Highly parallelized processing
- Intel Compatible (SSE 4.1 or newer)

Image formats & frame rates

- Supports 422 10bit and 444 8/10/12 bit
- Start/Pro packages from HD to 4K UHDTV-1 (4096)
- Ultimate package up to 8K UHDTV-1 (8192)
- Frame rate depends on CPU performance & SDK packages

Compression

- Compliant & support of TICO Profile 1 & Profile 2 (SMPTE RDD35)
- Proxi x2 decoding (HD decode from 4K codestream) – with Pro & Ultimate package

Rate Control

- Adjustable compression rate
- CBR or optional Capped VBR mode

Supported platforms

- Windows & Linux (32-bit/64-bit)

SDI Addons

- Support of the SMPTE RDD35 SDI mapping to map UHD4K stream over a single 3G-SDI

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