



# 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 reducing significantly the complexity and cost of the system.



### Technology benefits

- > Visually Lossless quality:
  - Up to 4:1
  - 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 (SMPTE2022 5/6 & RTP) and over SDI infrastructures (4K over 3G-SDI)



## Typical applications from HD to Ultra HD

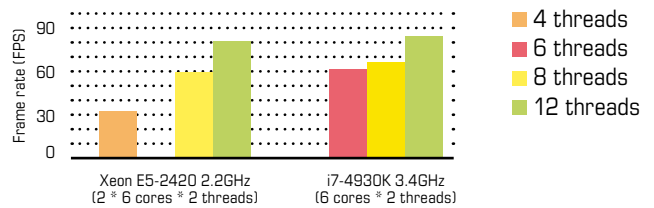


- Video over IP systems (SMPTE2022, VSF TR03, AVB, ...)
- Video recorders & players
- Video servers, router and switchers
- Cameras (high-res, real-time or high speed)
- Video monitors and displays
- Frame grabbers and video capture devices
- Cable extenders
- UHD/4K over 3G-SDI, over 10GbE
- UHD/8K 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 part or whole of their 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 up to 4:1 (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

- Support 422 10bit and 444 8/10/12 bit
- Start/Pro packages from HD to 4K UHD TV-1 (4096)
- Ultimate package up to 8K UHD TV-1 (8192)
- Frame rates 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

**HEADQUARTERS: intoPIX SA**  
 Rue Emile Francqui 9  
 B-1435 Mont-Saint-Guibert - Belgium  
 Tel.: +32 10 23 84 70  
 sales@intopix.com

**CHINA:** sales.hypersilicon@intopix.com  
 sales.waterstone@intopix.com  
**INDIA:** sales.india@intopix.com  
**ISRAEL:** sales.israel@intopix.com  
**JAPAN:** sales.japan@intopix.com  
**USA:** sales@intopix.com

