www.intopix.com | sales@intopix.com

Mission-Critical Compression for Space

Satellites, spacecraft, airborne platforms and drones generate massive sensor data. intoPIX delivers ultra-low-power, line-based compression engineered for space imaging excellence — trusted by leading aerospace, defense & earth-observation programs.

MINIMUM MEMORY | ULTRA-LOW POWER

MAXIMUM IMAGE QUALITY

Lower your system cost retaining lossless-quality, microsecond latency compression. Engineered for real-time links and ultra-efficient on-board workflows.

CAPTURE MORE. TRANSMIT FASTER. STORE SMARTER.

The Challenge: Exploding Space Data

MODERN PAYLOADS DELIVER

- Higher resolutions up to 200 Mpixels
- Higher bit-depths (12–16 bits)
- Monochrome / RAW / Bayer / multispectral sensors
- Real-time on-board vision & AI demands

BUT PLATFORMS FACE...

- Restricted memory bandwidth & mass storage constraints
- Power-critical embedded compute
- Real-time operation requirements
- Limited downlink bandwidth

Legacy compression? Too slow. Too heavy. Too lossy. JPEG 2000, CCSDS, ICER — limited by design.

Space-Ready Image Compression

JPEG XS

On-board Lightweight Compression

WHY JPEG XS FOR SPACE MISSIONS

- 4×–16× compression, lossless quality
- Ultra-low power & ultra-low memory (no DDR)
- Smaller size hardware, sub-millisecond latency
- Ideal for large images, live video & efficient downlink
- ISO/IEC 21122 Standard

Reduces data movement, memory footprint & buffering — simplifying TMR- and ECC-protected space designs while limiting the impact of radiation-induced SEU events.

TicoRAW

High-performance RAW Bayer Compression

WHY TICORAW FOR RAW SPACE SENSORS

- 5×–12× RAW compression
- Preserves all sensor data & dynamic range
- Perfect for scientific imaging & analytics
- Ultra-low complexity hardware & software options
- ISO/IEC 21122 Standard

Mission-Critical Advantages

BENEFITS

- Maximize downlink capacity & satellite data return
- Reduce on-board data storage & payload weight
- Preserve sensor quality for analytics & AI
- Extend mission capability & lifetime
- Scalable from cubesats to GEO satellites & high-altitude platforms

WE DELIVER

- Flight-proven FPGA IP cores
- CPU and GPU SDKs
- Design services

APPLICATIONS

- Earth Observation & Hyperspectral Imaging
- Defense & Intelligence ISR
- UAV / HALE / HAPS platforms
- Space science payloads & lab instruments
- Real-time situational awareness & AI processing

Smarter Space Imaging Starts Here.

Do more with every pixel.

Get in touch
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