Features

- Multi-channel FMV encoding/ transcoding with KLV

- MotionDSP video enhancement: dehazing, stabilization, super-resolution, dynamic lighting correction

- Multi-model AI orchestration

- Geo-registration orchestration and smoothing

- Full API and web adminstrative portal

- Low-SWaP airborne/ground and enterprise/cloud options

Low-latency video transcoding, Filtering and AI Orchestration.

Cubic offers MotionDSP JET, a unique solution that integrates MotionDSP's patented real-time video enhancement algorithms with multi-channel transcoding, geospatial metadata correction, and AI/CV model orchestration. Jet is an open solution that scales from low-SWaP edge computing to enterprise cloud. With its RESTful API, JET integrates into existing airborne, ground, and enterprise ISR systems to improve visual quality and geospatial accuracy and efficiently orchestrate AI models.

Jet's Pixel Intelligence

Jet brings unique Pixel Intelligence to Full Motion Video (FMV) processing. JET demuxes, decodes, processes and resynchronizes FMV and geospatial metadata, integrating with multiple third-party AI/ML classification and orthorectification systems. During processing, JET's image-processing algorithms correlate and temporally correct and smooth geospatial metadata in real time, providing accurate and smooth KLV data for every frame of video, reducing the "shake" in Augmented Reality (AR) geospatial overlays, and vastly improving the AR user experience.

Technical Specifications

Video Input:

SMPTE 2110

Decklink

IP MPEG Transport Stream

Video Input Formats:

H.265/HEVC, Main Profile, MPEG Transport Stream, SRT

H.264, Baseline, Main, High Profile, MPEG Transport Stream, SRT

MPEG-2, MainProfile@HighLevel (HD), MPEG Transport Stream

Metadata Input:

KLV over IP

KLV over HD-SDI

Video Output:

IP MPEG Transport Stream

Video Output Formats:

H.265/HEVC, Main Profile, MPEG Transport Stream, SRT

H.264, Baseline, Main, High Profile, MPEG Transport Stream, SRT

Metadata Processing:

MISB 0601

MISB 0903

CC 608/708 to KLV conversion

KLV pass-through

KLV deletion

Temporal Correction/Smoothing

Video Processing:

De-interlacing*

Resizing/Downscaling

Configurable FrameRate

Stabilization*

Super-resolution*

Histogram Adjustment*

Contrast*

Dehazing*

Sharpening*

GeoSpatial Overlays*

* GPU optimized

System Requirements

Hardware Requirements:

x86

Intel/AMD CPU with 4 or more cores at 3.0GHz or higher

Discrete NVIDIA GPU required for image processing and AI orchestrationi (eg: RTX5000)

ARM

NVIDIA Jetson Xavier NX or AGX

OS Requirements:

Linux OS

Bare Metal or VM, Ubuntu 18.04+ or RedHat 7+

Docker, any Linux x86 or ARM64 OS