CUBIC Digital Intelligence

MotionDSP

MotionDSP .JET

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.

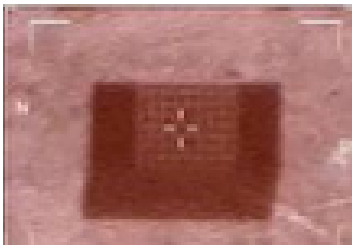
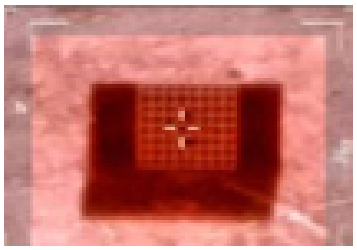
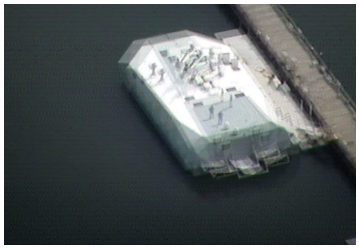
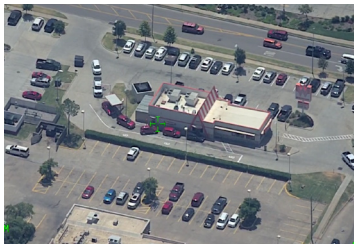
Jet's Pixel Intelligence

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.

CUBIC Digital Intelligence

MotionDSP

Examples below captured from real-world video of Cubic's video conditioning provide a view into how we leverage this technology to increase lethality and survivability, and improve mission success today.

Pre-Conditioning	Image Processing Algorithm	Post-Conditioning
	**Super Resolution** Patented algorithm automatically analyzes and reconstructs each video frame with the best information from 51 adjacent frames of video.	
	**Contrast** Contrast-limited adaptive histogram equalization adjusts for non-uniform illumination and reveals new detail within shadows and low-contrast areas.	
	**Dehaze** Estimates the amount of haze in the image in a non-uniform manner, and adapitvely increases contrast, regardless of depth discontinuities.	
	**Stabilization** Corrects camera shake, drift and change in perspective by using up to 51 frames of motion information to plot an optical-like stabilized camera path.	
	**AI/ML Orchestration** Jet orchestrates AI dectection and classification algorithms, and translates pixel data to accurate geolocations.