

## On-Board Video Processing Software for UAVs/UGVs

### Video Stabilization, Tracking, Enhancement, Fusion & More

The **SLA-LIB** from SightLine Applications is a software library product that performs embedded video stabilization, single or multiple object tracking, and image enhancement for TI DSP platforms in airborne and ground ISR applications. Additional features can be added to the base product to include: Image Fusion, Moving Target Detection, Panoramic Stitching, and HD. All these features integrate seamlessly. This makes it a flexible and effective product for a wide variety of unmanned platforms. SLA-LIB libraries are developed and tuned for TI DSP processors, with custom implementations available.

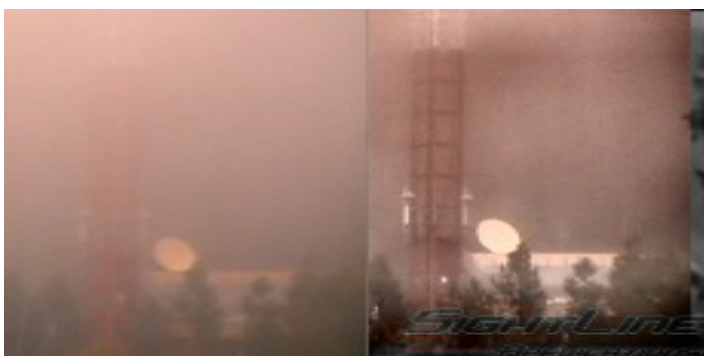


#### VIDEO STABILIZATION

- Measures frame-to-frame shift in video
- Identifies and removes high frequency "jitter"
- Passes through true camera pan and tilt motion
- Produces smooth, high-quality output from a vibrating video source with optional de-interlacing

#### OBJECT TRACKING

- Hands-off tracking of designated targets
- Image understanding and motion estimation isolate target from background
- Persistent tracking when view of target is temporarily blocked
- Continuous tracking solution outputs provide low-latency turret control



#### IMAGE ENHANCEMENT

- Stabilized De-Noising of image
- Contrast Limited Adaptive Histogram Equalization to bring out low-contrast regions
- Local Area Processing to highlight local differences to background
- Sharpened edge features

## Applications:

- Vehicle and Object Tracking
- Roadside Inspection
- Perimeter Security
- Tactical Surveillance
- Battle Damage Assessment
- Convoy Following
- Other ISR Applications



## Platforms:

Hardware Platform Compatibility					
	SLA-2000	TI DM648 Platform	SLA-1000 & dPict NVS Platform	TI DM642 Platform	TI OMAP3530 Platform
Stabilization, Tracking, and Image Enhancement	√	√	√	√	√ Supports 2 of 3 functions
Moving Target Detection	√	√			
Panoramic Stitching	√	√			
Image Fusion	√	√			
HD	√	√			

Building an SLA-2000 System					
Software	SLA-LIB	SLA-LIB-PANO (Panoramic Stitching)	SLA-LIB-FUSE (Image Fusion)	SLA-LIB-HD (HD)	SLA-LIB-MOVDET (Moving Target Detection)
+ OEM Board Option	SLA-2000-OEM				
+ Carrier Board Option	SLA-2000-AB (Analog Carrier)		SLA-2000-CL (Camera Link I/F Carrier)		
+ System Option	SLA-2000-ENC				

Building an SLA-1000 System					
Software	SLA-LIB				
+ OEM Board Option	SLA-1000-OEM				
+ Carrier Board Option	SLA-1000-AB (Analog Carrier)		SLA-1000-CC (Compact Carrier)		
+ System Option	SLA-1000-ENC				



Email: [sales@SightlineApplications](mailto:sales@SightlineApplications)  
 Phone: 503-616-3063  
 Web: [www.SightlineApplications.com](http://www.SightlineApplications.com)  
 Hood River, OR 97031 USA

DS-SLA-LIB-001