



Video Processing Software

SightLine provides a powerful suite of software functions that are key in a wide variety of real-time applications. By providing both software and hardware option flexibility, SightLine offers tailorable, powerful solutions. [Contact SightLine](#) to discuss configurations to meet your system's unique requirements.

Analyze Functions	Telemetry Data Scene, tracker, and detection functions provide low-latency pixel position telemetry data needed for gimbal pointing. To 60 Hz.	Custom Classifier (1750/4100-OEM/Library) Customer-defined classifier runs in real-time to assess any detection or track against training classes. Customer maintains proprietary training sets. SightLine provides training tools and support.
	Object Tracking Low-latency telemetry essential for agile gimbal-pointing. Advanced image analysis isolates tracked objects from background for robust tracks. Track multiple objects or the scene (visual geo-pointing).	Lens Control and Autofocus Example code support for zoom and autofocus algorithms for zoom optics. Focus metric telemetry provided at frame rate for implementation of autofocus.
	Dual Processing (1750/4100-OEM) Simultaneous multi-channel processing provides powerful options for EO/IR systems by running both analyze (detection, etc.) and render (PiP displays, blending, recording) functions. Some limitations on the 1750-OEM.	Precision Landing Video-based precision landing enables accurate landing in GPS-denied environments. Low latency telemetry to the flight controller. Successful integration requires control system/autopilot expertise.
	Detect and Recognize Detection algorithms provide important situational awareness and aid in tracker initialization. Modes: MTI - vehicle, drone, person, staring, aerial; Static - color anomaly, blob radiometric, and maritime.	HD Video Meets demand for HD video capabilities. Up to 4K video on 4100-OEM; 1080P/30 on 1750-OEM. OEM camera interface adaptors enable use of a wide range of HD cameras.
	Video Display Options A range of multi-channel display options for situational awareness: Picture in Picture (PiP), two-up, Detect and Track to multi-PiP, and multi-spectral blending. OSD options allow text, metadata, watermarks, and symbology additions to video.	IP Encoding (H.264 and H.265) Ethernet video encoding and streaming to H.264 and H.265. MPEG2 TS/RTP. MPEG2 TS/RTP encapsulation. Connectivity via UDP, TCP, and RTSP, unicast, multicast, broadcast.
Render Functions	KLV / Metadata System metadata (system position/pointing angles, NMEA, time, etc.) can be inserted into KLV video stream, used in OSD, with JPEG EXIF headers, full pixel snapshots, and KML or NITF files. KLV metadata is generated in accordance with MISB standards.	Blending Merges EO and IR images.
	DPR and NUC (BPR and FFC) Dead Pixel Removal and Non-Uniformity Correction add the ability to calibrate IR cameras/lenses, removing the need for a separate dedicated DPR/NUC board.	Recording / Snapshot H.264/H.265 video recorded to local SD card or remote FTP. Snapshots with metadata and full pixel depth.
	Enhancement A range of functions are provided to optimize video presentation. Modes: CLAHE, LAP, false color, AGC, histogram equalization, scintillation mitigation, denoise, sharpen, blur, fog removal.	Stabilization and Roll Correction SightLine's frame-to-frame registration enables electronic stabilization of video that improves the user experience. Corrects both frame-to-frame jitter and roll/nod movement.
		High Bit Depth Processing Enables full pixel depth functionality (beyond 8 bit), which is critical for functions such as DPR/NUC and improves performance of detection and most enhancement functions. Enables recording of absolute amplitude snapshots.