SightLine APPLICATIONS

Software

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 (OEMs and Library)	Render Functions (OEMs only)
Telemetry Data Scene, tracker, and detection functions provide low-latency pixel position telemetry data needed for gimbal pointing. To 60 Hz.	**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.
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).	**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.
Dual Processing (3000-OEM/4000-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	**DPR and NUC** Dead Pixel Removal and Non-Uniformity Correction add capability to calibrate IR cameras/lenses, removing the need for a separate dedicated DPR/NUC board.
Detection Algorithms Detection algorithms provide important situational awareness and aid in tracker initialization. Detection modes: vehicle, staring, radiometric, anomaly, blob, aerial, drone, and maritime.	**Enhancement** A range of functions are provided to optimize video presentation. Enhancement modes include CLAHE, LAP, false color, AGC, histogram equalization, scintillation mitigation, etc.
Custom Classifier (3000-OEM/4000-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.	**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.
Focus Telemetry Focus metric telemetry provided at frame rate for customer implementation of autofocus algorithms that enable zoom optics.	**Recording / Snapshot** H.264 video recorded to local SD card or remote FTP. H.265 recording available on 4000-OEM. Snapshots with metadata and full pixel depth.
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.	**IP Encoding (H.264 and H.265)** Ethernet video encoding and streaming to H.264 (all), H.265 (on 4000-OEM), and MPEG4 / MJPEG (on 1500-OEM). MPEG2 TS/RTP encapsulation. Connectivity via UDP, TCP, and RTSP, unicast, multicast, broadcast.
HD Video Meets demand for HD video capabilities. Up to 4K video on 4000-OEM; 1080P/59.94 on 3000-OEM; 720p with reduced rates or SD on 1500-OEM. OEM camera interface adaptors enable use of a wide range of HD cameras.	**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.