

Mission-Ready Dual Sensor System to Detect and Locate Enemy Fire

Serenity provides reliable, actionable knowledge to ground troops under fire. Dual sensors, visual and acoustic, capture the signature of hostile fire and deliver precise source coordinates. This data enables a response force to rapidly identify, react, and potentially deter further attack.



Detecting and Locating Enemy Fire is Mission Critical

Threats to our forces include ruthless attack from enemy fighters, who use rockets and other explosives from hidden locations in war torn areas throughout the world. In order to avoid further assault or minimize damage, soldiers need to accurately detect and localize hostile fire. The ability to pinpoint the exact coordinates of the launch and detonation of munitions is mission critical in combat theaters where enemies rely on surprise tactics and every moment counts.

Serenity Offers a Dual Sensor Solution

Serenity combines two complimentary sensors, an electro-optical (EO) flash detection sensor and an on-board acoustic sensor. These sensors precisely locate and identify the geolocations of the launch and detonation of a variety of explosive and incendiary devices. Serenity's dual sensors offer an advanced validation protocol that significantly reduces the number of false positive reports and dramatically refines the location of long-range hostile fire. Unlike other detection systems, Serenity is lightweight and can be affixed to unmanned and fixed-wing platforms, which allows support of land forces even in the face of heavy enemy fire. Serenity is an affordable fire detection system adaptable to a variety of uses and ready for deployment to prevent attacks from becoming full-scale assaults.

Capabilities

- Detects long-range munitions launch and detonation up to 10 km
- Provides 360 degree area of coverage and monitors over 200 km sq
- Geolocation calculated from fused EO/acoustic information offers high accuracy and extremely low rate of false alarms
- Integration with the Kestrel aerostat-based wide-area persistent surveillance (WAPS) system provides near real-time operational intelligence and forensic image analysis
- Integrates on PSS-T aerostats and can be potentially mounted to unmanned and fixed-winged platforms to provide wide aerial view
- Cues to existing video surveillance systems and displays an icon to a situation map (other notification options are available)





Sensor

- **Payload description:** Two optical pods for 360 degree coverage: each 20.1” (51cm) L x 6.2” (16 cm) H x 11.5” (29 cm) D
Acoustic subsystem: 34” (86.3 cm) L x 26.8” (68 cm) D
- **Cameras:** Designed for propellant and warhead flash chemistry detection
- **Required power:** < 300 W
- **Weight:** 75 pounds (23 kg) when mounted with Kestrel system
- **Performance specifications:** Detections up to 10km with geolocation accuracy and very low false alarm rates

Data Processing System

- **Size:** 2u
- **Weight:** 5 lbs (2.25 kg)
- **Power:** 50 W
- **Capabilities:** Provides accurate location cues (not just azimuths) to a Kestrel screen (current implementation) or other map layer or required screen display
Supports multiple users
- **DIACAP:** IATO

Application

- **Garrison force protection:** In combination with Kestrel or MX systems, provides force protection by accurately detecting and locating hostile fire threats

Serenity

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About Logos Technologies

Founded in 1996, Logos Technologies LLC is a diversified science, engineering and technology company specializing in the fields of advanced sensors, wide-area motion imagery, advanced analytics and processing of large, multisource datasets. Logos serves government customers, including the Department of Defense, Intelligence Community and Department of Homeland Security, as well as a range of customers in commercial and international markets.

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