COUNTER-UAS CAMERA SYSTEMS

SRC's camera systems are built to optimize performance for counter-UAS missions, **providing best-in-class detection, tracking and positive ID of small UAS**

SRC's integrated camera systems are specifically designed to meet the needs of the counter-UAS mission. The systems are comprised of high definition electro-optic (EO) and infrared (IR) cameras, providing plug-and-play functionality as an integrated sensor in SRC's *Silent Archer*® counter-UAS technology. The systems provide superior small UAS detection, identification and tracking capabilities and include all components required to operate either interdependently or as part of a counter-UAS system of systems.

EASE OF USE

SRC has removed usability barriers common to many EO/IR camera systems. Operation is streamlined and simple, reducing the operator's mental load and requiring minimal training.

Automated Target Acquisition
Performs search, acquisition and target tracking automatically with technology specially optimized for low-contrast targets in high clutter environments, like small UAS flying against clouds and mountains.

Precise Camera Control
Careful design of the positioner motion response gives the operator precise control to manually track slow- and fast-moving targets at all ranges.

Full Life Cycle Support
SRC camera systems provide built-in-test capabilities to detect and isolate failures at the line replaceable unit level, as well as predictive schedules for preventative maintenance. Field service representatives have direct contact with SRC engineers to troubleshoot, diagnose and solve any problem a user might encounter.

DECISION CONFIDENCE

SRC's camera technology reduces the time to decision by getting actionable information in front of the user as quickly as possible.

Machine Intelligence (MI)
Automated UAS detection and acquisition are enhanced by SRC's advancements in machine learning (ML) and artificial intelligence (AI) techniques. This embedded processing power helps to reduce the operator's mental load by automatically identifying, classifying and tracking targets of interest, without altering the system's hardware footprint.

Automated Target Classification
Aided by machine intelligence, the camera quickly filters out clutter and targets of non-interest; and distinguishes manned from unmanned aircraft.

Automated Rotor Detection
Near-instantaneous classification of rotary-based targets is achieved through spinning rotor detection. Novel frequency-based processing separates high-frequency rotor flash from low-frequency clutter to automatically provide high-confidence classification. Rotor signatures are also captured for next-generation target identification capability.

SRC'S CAMERA SYSTEM IS DESIGNED AND OPTIMIZED TO DETECT, TRACK AND IDENTIFY SMALL UAS
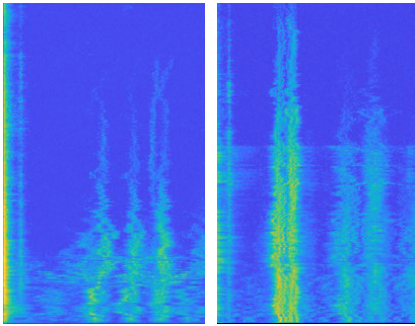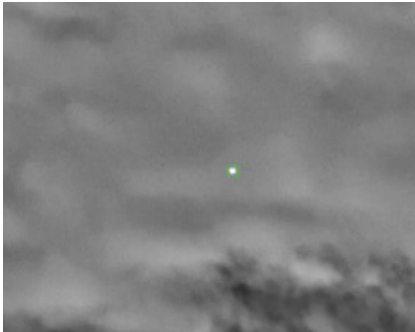
COUNTER-UAS CAMERA SYSTEMS

APPLICATIONS

- Counter-UAS
- Fire control
- Force protection

BELOW: Camera detecting rotor signature of two targets. Each vertical signature represents a different rotor while the yellow on the y-axis represents clutter

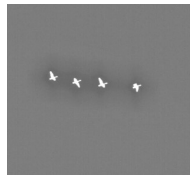BELOW: Camera using machine intelligence to detect and classify small UAS

BENEFITS

- Quick and accurate focus shortens the time needed for target identification
- Automated target tracking minimizes the operational burden on personnel
- Ease of use reduces training needs

SPECIFICATIONS

- Daylight camera (high definition):
  - Narrow FOV: 0.2° x 0.1°
  - Wide FOV: 22.5° x 13.1°
- Thermal camera (high definition):
  - Narrow FOV: 0.9° x 0.7°
  - Wide FOV: 5.5° x 4.4°
- Positioner:
  - Azimuth: 360°
  - Azimuth Velocity: 0.05°/sec to 100°/sec
  - Elevation: -90° to +90°
  - Elevation Velocity: 0.05°/sec to 60°/sec
- Designed to MIL-STD-810G qualifications

OTHER OPTIONS

- On-the-move options and capabilities
- Laser range finder, illuminators, designators
- Stabilization

FEATURES

- Best-in-class motion control and optical tracking
- Automated detection, acquisition and tracking of targets
- Embedded machine intelligence capabilities for automated target identification
- Fault detection and isolation
- Zoom-coupled focus provides an easy lens calibration process for instant focusing
- Error correction techniques ensure high-level accuracy to support fire control and targeting applications

BELOW: Various targets tracked using the IR camera

Fixed wing *Cessna* *Birds* *UAS (long range)*

800-724-0451 • inquiries@srcinc.com • www.srcinc.com

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