

# VerifIR™

## Standoff Threat Detection System

The ability to detect concealed threats at a distance could mean the difference between avoiding and experiencing a catastrophe. SRI Sarnoff's non-invasive standoff detection system enables users to identify person-borne improvised explosives (PBIED) and concealed weapons in crowded areas.

Using a parallax-free, optically fused design, SRI Sarnoff's camera displays real-time electrooptical/infrared (EO/IR) fused footage from a moving, panning, or stationary camera. With the ability to detect cell phones, wires, triggers, weapons and explosive devices with and without shrapnel, this compact threat detection system is ideal for any situation where crowd safety is a priority.

### Capabilities

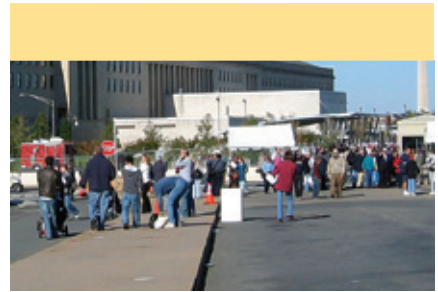
- 41° field of view
- Effective threat range of 40 m
- Parallax-free fusion
  - Visible sensor (0.4 - 0.98  $\mu\text{m}$ ) standard full color and chromatic characterization of objects
  - LWIR sensor (8 - 12  $\mu\text{m}$ ) standard through smoke, and textile thermal imaging
- Enables camera or vehicle platform to be in motion
- Indoor/outdoor use

### Optional Capabilities

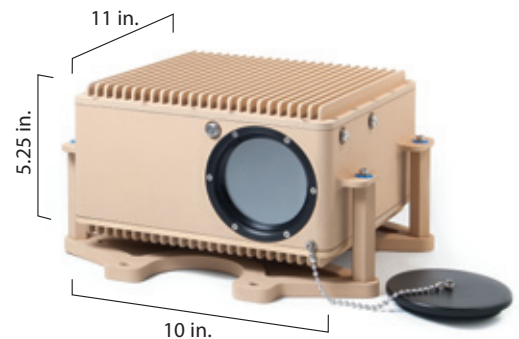
- Image stabilization
- Moving target indication (MTI) object tracking

### Applications

- Checkpoint surveillance
- Crowd monitoring
  - Stadium patrol
  - Civic events
- Security and defense
- Maritime applications
- Emergency first responders
- Public safety
  - Law enforcement
  - Covert operations



## Effectively Detect and Minimize Concealed Threats at a Distance



VerifIR detection system



PBIED detected via VerifIR fusion



Visible light image



Buried IED detected via VerifIR fusion

## Standard Features

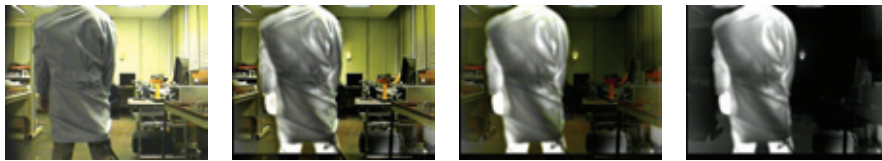
- Attaches to all standard tripods
  - 1/4" - 20 mount
- Single channel data output
  - RS170 (NTSC or PAL)
  - Video over Ethernet UDP-IP
- Fusion control through ethernet connection
- 110 VAC powered
- System weight: 25 lb
- Threaded BNC connector
- MILSTD 810 thermal
- IP67 Water resistance
- IR video and control via RS232 serial port
- On-camera fusion control

## Available Accessories

- Tripod
- Ruggedized display
- Ruggedized laptop
- 50 m cables
- DVR
- Printer

## Parallax-Free Design

Parallax errors occur when two cameras in two different locations view the same object. Sarnoff's patented parallax-free camera can seamlessly fuse visible and LWIR inputs into a single image, free of parallax distortion from a distance of 10 cm - 100 m, anywhere in the cameras' fields of view.



100% Visible

75% Visible / 25% LWIR

25% Visible / 75% LWIR

100% LWIR

| Visible Camera   |                                       |
|------------------|---------------------------------------|
| Frame Rate       | 30 frames/sec                         |
| Frame Resolution | 768 x 494 pixels                      |
| Pixel Format     | 8.4 $\mu\text{m}$ x 9.8 $\mu\text{m}$ |

| LWIR Camera      |                             |
|------------------|-----------------------------|
| Frame Rate       | 30 Hz                       |
| Frame Resolution | 640 x 480 pixels            |
| Detector Pitch   | 25.4 $\mu\text{m}$          |
| Detector Type    | Uncooled VOx Microbolometer |

### Adjustable Levels of Fusion



Visible light provides detailed information regarding subject appearance, but no indication of concealed objects.



Adjustable levels of fusion enable descriptions of tracked suspects including facial recognition, clothing color and other details not apparent in LWIR-only.



LWIR reveals concealed objects, but provides little information regarding subject appearance.



### SRI International

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