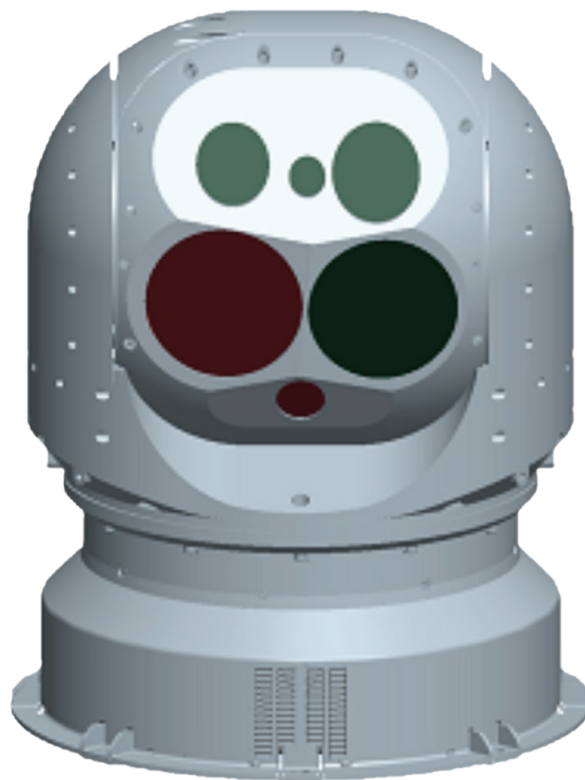


# RATS

## Electro-Optical Surveillance & Reconnaissance System

RATS is a gyro stabilized multi-sensor compact electro-optical surveillance and reconnaissance system designed for Tactical UAV's, Helicopters, Maritime Patrol Boats and similar naval platforms. RATS is a single LRU system which has all the processing capabilities and interfaces inside the turret.





# RATS

## Electro-Optical Surveillance & Reconnaissance System

### Technical Specifications

<b>IR Camera</b>	
Field of Views	<ul style="list-style-type: none"> <li>• Medium : 6.3° x 4.7° (±10)</li> <li>• Narrow : 1° x 0.8° (±10)</li> </ul>
<b>Navigation IR Camera (Optional)</b>	
Field of View	23.9° x 17.9° (±10) (fixed)
<b>Daylight Color Camera</b>	
Resolution	1920 x 1080
Field of Views	<ul style="list-style-type: none"> <li>• Wide : 23.9° x 13.4° (±10)</li> <li>• Medium : 6.3° x 3.5° (±10)</li> <li>• Narrow : 1° x 0.6° (±10)</li> </ul>
<b>Spotter Camera</b>	
Resolution	1024 x 768
Field of View	0.5° x 0.4° (±10) (fixed)
<b>Laser Range Finder</b>	
Wavelength	1540 nm Class I, Eye Safe
Divergence	< 1 mrad
Pulse Repetition Rate	Single and Continuous (20 ppm)
<b>Laser Pointer</b>	
Wavelength	808 nm, Class IV (compatible with NVG)
<b>Embedded Navigation Devices</b>	
Embedded GPS	Optional
<b>Electrical Interface</b>	
Power Interface	28 VDC, MIL-STD-704D
Platform Interface	MIL-STD-1533, Ethernet (10/100/1000Mbit), RS-422/RS-485/ARINC-429
Video Interface	Analog (PAL/NTSC), Digital (SMPTE-292M)
<b>Mechanical Interface</b>	
Gimbal Field of Regard	EL: +120°/-20° - AZ: 360° continuous
Weight	35 ± 2kg
Dimension	Diameter: 305 mm / Width: 372 mm / Height: 495 mm

### General Features

#### IR Imaging

The system incorporates a 3rd Gen 3-5µm IR sensor. It provides exceptionally high image quality further enhanced by real time image processing algorithms which ensures RATS ideal for Day/Night surveillance and reconnaissance applications. An optional uncooled Navigation IR Camera can be provided for applications requiring wide field-of-view.

#### Day Imaging

The system has two different TV cameras. High Resolution Color Day Camera has the resolution of 1920x1080. Its field-of-views are compatible with IR cameras. Spotter Camera provides very narrow field-of-view with the 1024x768 resolution.

#### Multi-Target Tracking

The system provides both video and inertial tracking. Automatic Video Tracker (AVT) can keep the line of sight continuously on target by using Point or Area video tracking in both IR and Day Video.

The inertial tracker can be used in the presence of scene obscurations or for accurate line-of-sight pointing on the ground.

#### Stabilization

The system utilizes a gyro stabilized gimballed structure which provides line of sight to be directed and stabilized in any orientation within the entire field of regard and independent of platform maneuvers.

#### Target Coordinates

Special estimation algorithms utilizing platform navigation data in conjunction with internal IMU data provide accurate location, bearing, course and speed for a tracked target.

#### Laser Range Finder

The system has a high efficiency diode-pumped laser. Laser Range Finder operates at 1540nm, eye-safe wavelength and supplies accurate range information.

#### Laser Pointer

The system incorporates a night vision goggles compatible Laser Pointer for pointing the targets. Laser Pointer can operate at different selectable repetition rates.

### RATS consists of the following state of the art units and capabilities:

- High Resolution 3rd Gen IR Camera (Cooled, Mid Wave)
- Navigation IR Camera (Uncooled, Long Wave)
- High Resolution Color Day Camera
- Spotter Camera
- Laser Range Finder
- Laser Pointer
- Multi-Target Tracker
- Advanced Image Processing Algorithms
- Highly Accurate Geo-Location Coordinates
- Digital / Analog / Compressed Video Output
- GPS Receiver

