Technical Data

Turret Dimensions		
Turret size	(H × Dia.) 662 mm (594 mm from mounting surface) × 406 mm,	
Turret weight	60/65 kg with laser designator, sealed and single LRU	
Gimbals		
Fields of regard	4-axis gimbals	
	Azimuth: 360° continuous or ±165°	
	Elevation: -40° to +85° relative to turret base	
Slew rate	Up to 90°/sec	
LOS acceleration	Up to 100°/sec	
LOS stabilization	Better (less) than 25 µrad on a maneuvering helicopter in flight	
Air Speed	340 knots	
Sensors		
Thermal Imager (Fully Digital)		
3rd generation 3-5 µ FPA	640 x 512 pixels or	1280 x 1024
FOV (all auto focus) NFOV	1° x 0.77°	1.5° x 1.2°
MFOV	4.4° x 3.3°	4.5° x 3.6°
WFOV	24° x 18°	38° x 28.5°
Day camera	Various day color cameras with different telescopes and continuous optical zoom up to ×27	
High definition	Color CCD full HD Day Camera 1920 X 1080 pixels and continuous optical zoom up to ×25	
	Digital zoom x4	
Multi-Spectral Sensor	Capablity to operate under poor visibility conditions, such as fog, rain, haze, smoke, dust	
Laser range finder (LRF)	1.54 µm, 1 or 10 continuous PPS, Eye-Safe Class 1	
Laser marker	0.808 µm NVG compatible	
Laser spot detector/tracker	1.06 µm	
Laser designator	Dual band designator: 1.06 µm, LRF: 1.57 µm (Eye-Safe 1m)	
Advanced auto-tracker	Multi-Target Tracker (MTT), Memory Tracker, Naval Tracker	
Power consumption	Average 300 W (350 Wmax, 550 Wmax with designator), 28 VDC	
Interfaces		
Communication standards	1553 Mux-bus, RS 422, RS 232, Ethernet, 1394	
Video standard	RS 170 & NTSC, CCIR & PAL, digital, Ethernet	
Single connector	128 pins	
Controller	Toplite Controller & Display, MCB (optional)	

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RAFAEL
SMART AND TO THE POINT

Toplite EOS™

Electro-Optical ISR & Targeting System

Enhance your vision... Improve your awareness... Complete your mission!

In the Air

At Sea

On Land

Toplite EOS Family

The Toplite family of electro-optic systems (EOS) is an advanced multi-sensor, multi-purpose, highly stabilized EO/ISR solution for homeland security and defense applications. It is used for a variety of applications on different platforms for intelligence/ data collection, surveillance, reconnaissance and weapon direction.

Mature, proven and fielded in more than 20 countries in all branches of the armed forces, the Toplite EOS incorporates up to six sensors for detection, identification, and targeting in a single and sealed LRU, which contains the sensors, the electronic section, the advanced tracker and the stabilization subsystem.

Toplite EOS enables automatic or manual monitoring and investigation using its advanced control unit, Situational Awareness (SAW) and Image processing package.

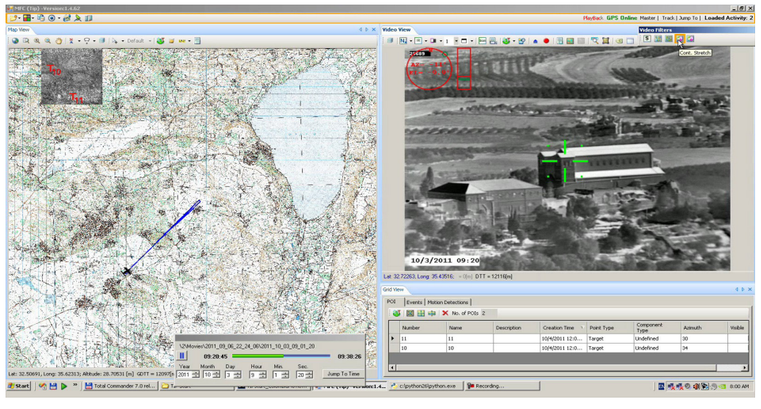
Toplite EOS is derived from the Litening targeting and navigation pod, and therefore, enjoys all the latest developments made for the world's leading targeting system.

Toplite EOS features an extensive growth potential, enabling its utilization for many years in a changing operational environment. This growth potential will be realized in advanced sensor integration and unique image enhancement techniques.

Benefits

- ISR, Search & Rescue (S&R) and Targeting operational
- O-level maintenance-free concept
- Very high MTBF and overall low life cycle cost
- Simple installation onto a variety of platforms

Toplite EOS and Image Processing Capabilities



Rafael is a world leader in the field of Real Time (RT) image processing algorithms and applications. These extensive capabilities provide added value to the Toplite EO system allowing RT applications such as: integration to any digital map, live video mosaic (airborne), panoramic view construction with Toplite's video footprint and LOS overlaid on the panoramic view, automatic moving-target detection, super-resolution and other Image improvement algorithms, digital image stabilization, turbulence compensation, simultaneous VIS & IR representation, single-camera stereoscopic video display, passive/ active coordinate extraction from any window of operation and more.

Benefits

- Dramatically improves decision making and reaction time
- Enables Situational Awareness (SAW)
- Extends sensors performance beyond their physical limitations
- Advanced mission recording
- Improves mission planning, training, and debriefing

Toplite EOS for Airborne Applications

The highly stabilized Toplite EOS uses a wide array of sensors, including laser designator and laser spot detector & tracker, enabling advanced ISR and targeting when combined with precision weapon systems.

The system can be provided in a standalone mode or fully integrated into the aircraft avionics. For higher level of operation and command & control, a moving map and data link are provided as options.

Typical Platforms

- Helicopters: S&R, attack, utility
- Surveillance and reconnaissance aircraft
- Transport and utility aircraft
- UAVs
- Aerostats

Toplite EOS for Ground Applications

On the ground, Toplite EOS is used for reconnaissance missions on manned and unmanned vehicles, border protection, strategic and high value facilities protection, and for identification/verification of potential targets or long distance threats.

After threat identification, Toplite EOS is capable of slaving and directing other systems (C2, Radar, EW, weapon stations) to target location for appropriate response. Toplite and the image processing package provide exceptional situational awareness for operational forces.

Typical Platforms

- Reconnaissance & surveillance vehicles
- Combat vehicles
- Air defense systems
- Stationary posts
- Unmanned Ground Vehicle (UGV)

Toplite EOS for Maritime Applications

Toplite EOS serves as a main electro-optical observation, surveillance, and identification system as well as an advanced targeting system for small attack boats through USVs and up to aircraft carriers in navies and maritime forces around the world.

Toplite's unique design, high performance, advanced tracker, specially designed for the naval environment and system robustness, provides excellent reliability, exceptional MTBF and a high performance EO system.

Typical Platforms

- Small attack craft
- Patrol boats
- Naval/coastal vessels of all kinds
- Harbor and maritime police
- USVs
- Oil & Gas Rigs