Versatility is Reality

The laser imaging system (LIS) is an Passive surveillance / laser imaging system. It detects any optical system that is in the field of view/ scanning area and give the target Co-ordinates. It is a laser based active imaging system with additional feature of coordinate estimation of the target. The retro-reflected laser illuminated beam from the target optics will be acquired by the front end optics of the receiver and will be read by the image sensor. The Laser retro-reflected spot is detected and the exact location of the reflected spot is estimated through LRF, DMC and GPS readings.

SERVICES

- Engineering Design & Development
- Electronic Testing & Assembly
- CNC Machining and Manufacturing
- System Integration

PRODUCTS

- Electro-Optic Stabilized Platforms
- Radar Sub Systems
- Laser Applications
- Gimbals
- Pedestals
- Motion Control Systems
- Test Benches

Application Areas

- Sniper Detection
- VIP Security
- Border Protection
- Works in extreme weather conditions
- Tripod / vehicle mountable

VERSATILITY IS REALITY

TECHNOLOGY SOLUTIONS PRIVATE LIMITED
Technical Specifications

System Specification:

- **Range of operation**: 1800 m
- **Source Wavelength**: 1550 nm
- **Source Power**: 10 W (approx.)
- **Divergence**: Variable, 1 to 4 deg; slaved with real time FOV of the Imaging Camera through motorized zoom
- **Sensor**: InGaAs FPA (pixels: 640 x 512)
- **Laser Receiver FOV**: Min; not more than 1 deg, Max; not less than 4 deg (in steps of 0.5 deg)
- **Viewing**: Monocular + SVGA micro display plus an external 5 to 6 inch high contrast display with flap as cover
- **Receiver zoom**: Optical 4X typical, motorized, plus digital 4X
- **Interference Filters**: Narrow band (~40 nm) with peak Tx at 1550 nm and a broad band (will be optimized for day/night viewing)
- **Operation**: Bright Daylight & Moonless / highly overcast: \(10^{-3} - 10^{-4}\) lux
- **Target Range**: 50 m - 1800 m, with an accuracy of ±5 m
- **Target coordinate computation**: With an angular coordinate accuracy of better than ±8 mrad, GPS accuracy ±10 m
- **Bore sight accuracy**: Not worse than 0.1 m rad in the entire range of zoom
- **Size/ weight (approx)**: 550 X 300 X 200 mm / 12 Kg

System Features:

- **System Configuration**: Tripod Mounted
- **Field of regard**: 360 deg in azimuth, ±10 deg in elevation
- **Battery Type**: Li –Ion Rechargeable
- **Duty Cycle**: Minimum ‘On time in active surveillance will be 1 hr, with a duty cycle of 10 min ‘ON’ and 5 min ‘OFF’, in one time full battery charge condition
- **Operation**: Bright Daylight as well as Moonless night / highly overcast sky: \(10^{-3} - 10^{-4}\) lux
- **Video Overlay for**: Day/ Night Mode, Zoom value, Video recording, Target detected, range/coordinates of target
- **Inbuilt flash memory**: 4 GB min
- **External Interfaces**: Interface for USB & external monitor, socket for battery charging, and battery connection
- **Soft buttons/ switches for**: System ON/OFF, Transmitter ON/OFF, TLM, Day/Night mode, Optical/ digital zoom, Video recording
- **Charging/ Low battery Indicator**: One LED will be provided for charging showing green color and low battery showing blinking red color
- **Zoom in/ Zoom out Confirmation of target detection**: In video recording mode also

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