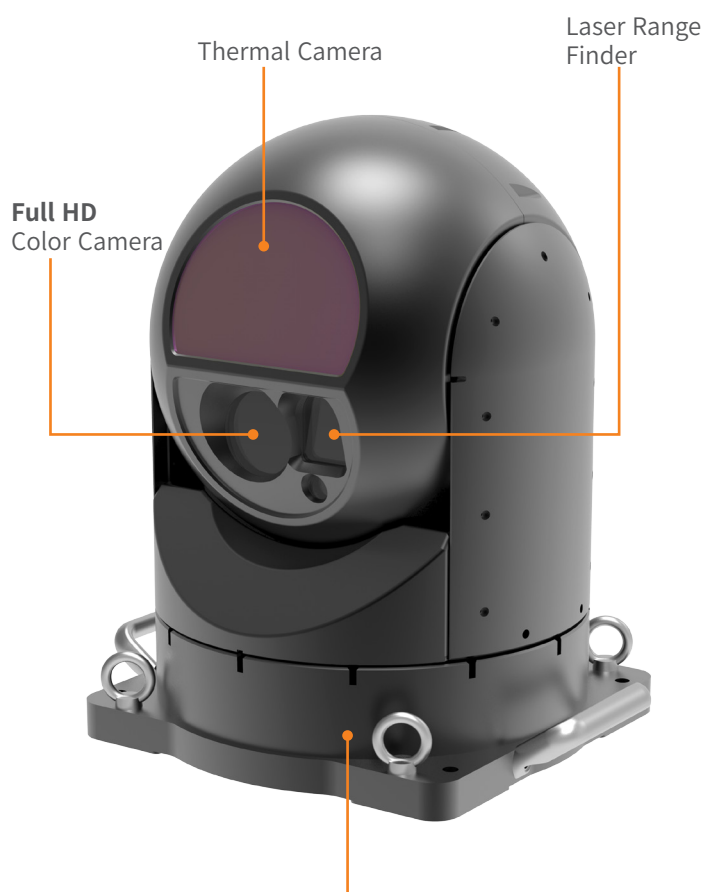


Marinized Electro-Optic Tracking System

TBX-20 *EO/IR Gyro Stabilized Gimbal Camera*



- Gyro Motion Stabilization
- BIT (Built In Test)
- Embedded Processor
- GPS & Digital Compass(Optional)
- Radar Interlocking(option)
- Auto Tracking(option)

MAIN FEATURE

Thermal Camera

- MWIR / LWIR Thermal Camera
- Continuous FOV/Auto Focus
- High Resolution : 640 x 512

Full HD Color Camera

- 30x Optical Zoom, 12x Digital Zoom

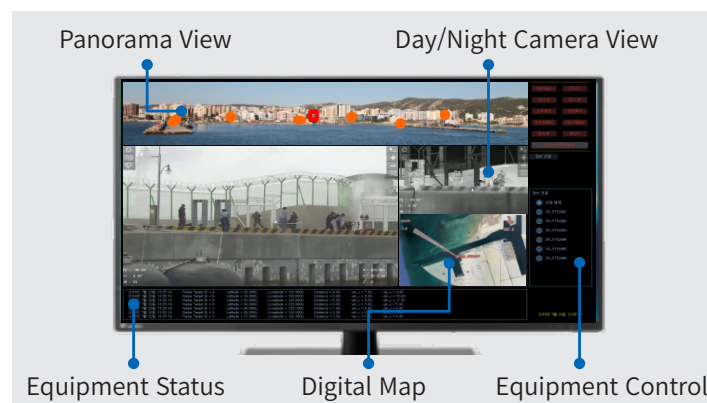
Laser Range Finder

- Detection 20 km / 1,570nm, Eye Safe(Class-1)
- Accuracy : $\pm 5m$

Operation

- Azimuth : 360° Endless, 90°/sec
- Elevation : -60° /+90°, 60°/sec
- Accuracy : 0.01°

Operation Software



Auto Tracking/Radar Interlocking



[Auto Tracking Feature for UAV and Boat]



[Mounted on USV]

SPECIFICATION

Cooled Thermal Camera

Sensor Type	Cooled, 640x512
Pixel Pitch	15μm
Wave Length	3μm ~ 5μm
Lens Focal Length (HFOV)	19 to 275mm (28.3°~ 2.0°)
F Number	f/5.5
Zoom	Optical Zoom 15x, Digital Zoom Continuous 5.5x
NETD	≤ 20 mK
Video Format	NTSC/PAL
Frame Rate	60 Hz (30 fps)
Focus System	One-Shot Auto / Motorized Manual
Image Processing	Noise Reduction, Edge Enhancement, Sharpness, AGOC, AGC, AOC, AGC ROI
Detection Range Human Target* NATO Target**	9.2 km 15.5 km
Recognition Range Human Target* NATO Target**	2.9 km 6 km

Day/Night Color Camera

Sensor Type	1/2.8 inch CMOS
Image Resolution	1920(H) x 1080P(V), 1280 X 1024, 1280 X 960, 1280 X 720P
Focal length	4.3 ~ 129mm 30x Optical Zoom, 12x Digital Zoom
FOV	H 61.5°(Wide) ~ 2.3°(Tele)

* Zoom Lens for EO and IR can be replaced by customer's requirement

** Range depends on whether condition 50% probability

Gimbal

Dimensions	Ø322mm x 449mm
Weight	≤28 kg (4 axis)
Pan/Tilt Range	Pan : 360° continuous, Tilt : -60° ~ +90°
Max Speed	Pan : 60°/s, Tilt : 60°/s
Stabilization	4 Axis Gyro Stabilization System (2 or 3 Axis Gyro Stabilization Available)
Power Requirement	22-34 VDC, 500 W(max.)
Environmental Rating	MIL-STD-810G
Tracking	Auto Video Tracking (Option)

LRF

Laser wavelength	1.5 um, eyesafe
Detection Range	10km for 2.3x2.3mNatoTarget
Measurement Rate	0.2, 1, 4, 10 Selectable
Accuracy	0.5 ~ 1.5m

Laser Pointer

Laser Type	Green Laser for Designation
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Controller

Controller Type	Panel Mount Controller
Display	10.2" Touch LED
Interface	RADAR, GPS, Ethernet, RS232/RS422
Features	Built-In-Test, Stabilization SelectReal-Time Monitoring, Network Control

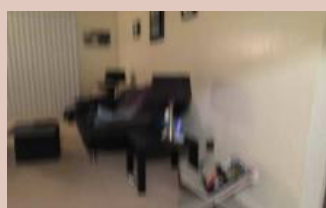
Full Motion Stabilization



Applied on Korean Unmanned Surface Vehicle



Onboard Video Processor



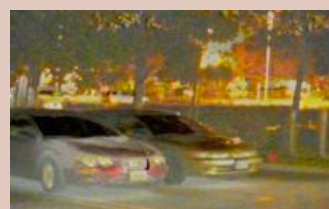
[Digital Image Stabilizer]



[Anti Fog]



[On Screen Display]



[Video Fusion]