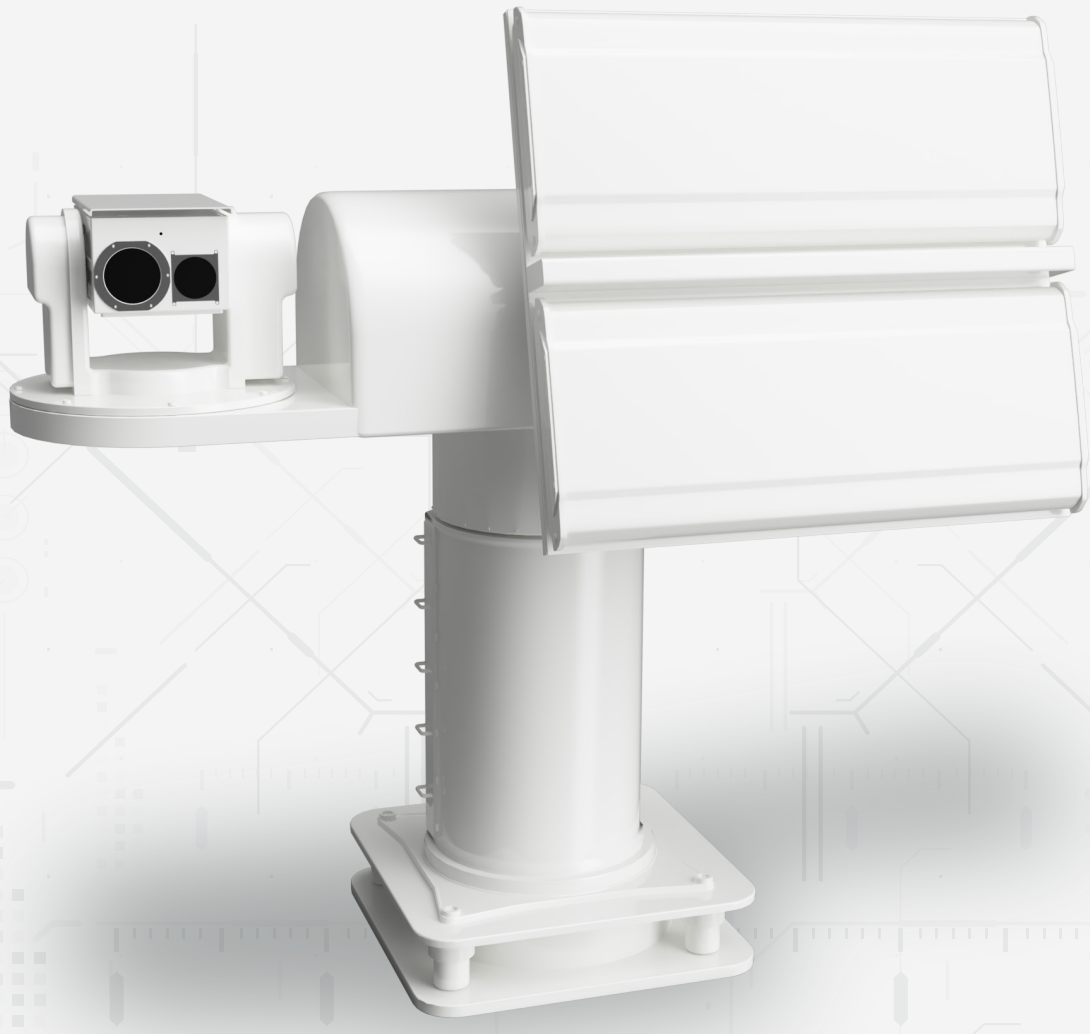
MINDMATICS

MANTA 3D

FIRE CONTROL RADAR OPTICAL

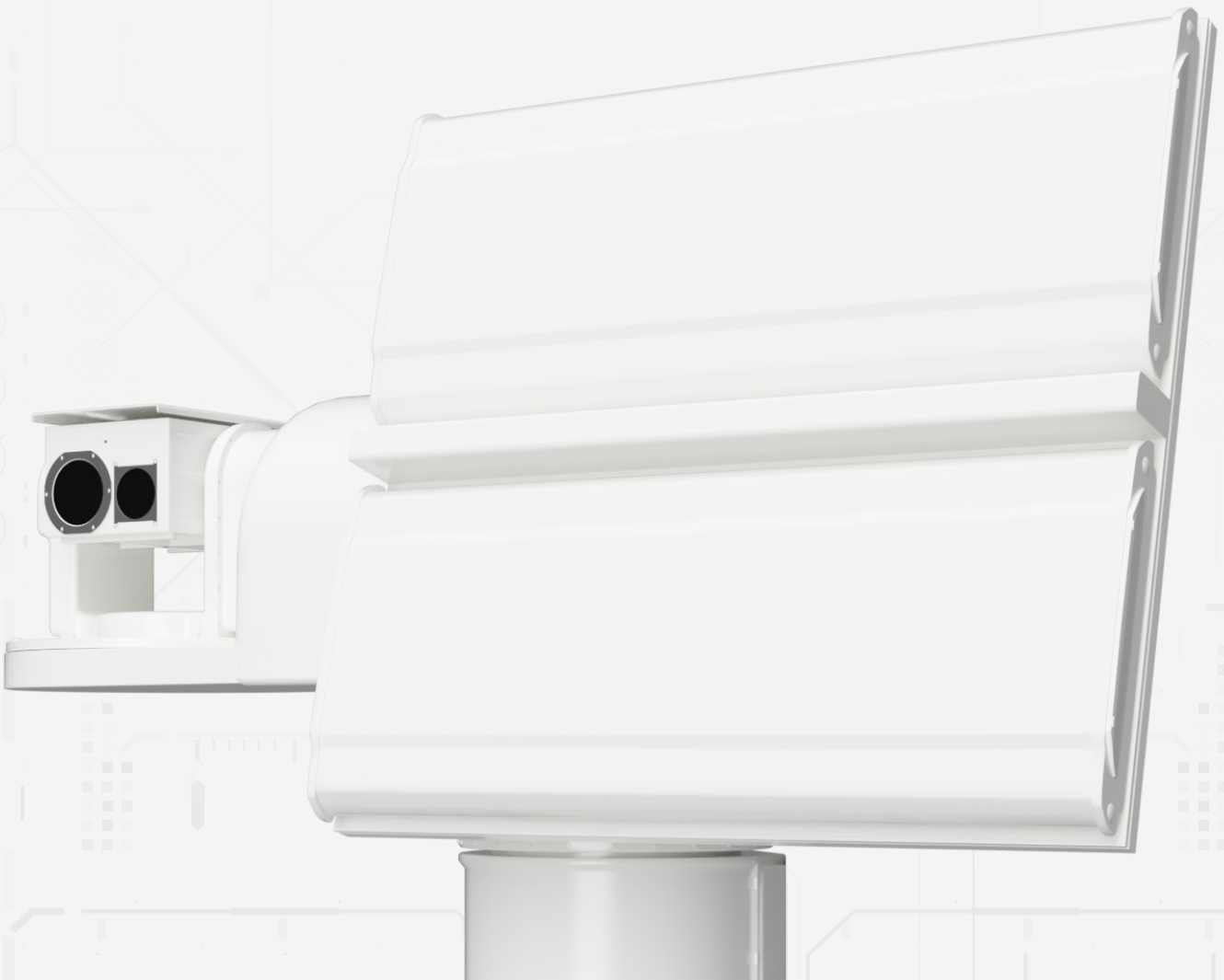
Precision Control for Naval Dominance

The MANTA 3D system represents a cutting-edge advancement in Fire Control Radar Optical technology, specifically engineered to ensure pinpoint accuracy in directing naval assets against a wide array of targets, including those in the air, on the surface, and along the shorelines. At its core, the system harnesses the power of an advanced 3D Antenna and FMCW Doppler radar, which enables unparalleled detection, tracking, and engagement capabilities. This radar functionality is further enhanced by the integration of thermal imaging and daylight TV Camera systems, which provide crucial target identification capabilities, ensuring that naval operators can effectively differentiate between potential threats and friendly entities with precision and confidence.



Key Features

- Target Tracking and acquisition in both radar and EO
- Multi-Sensor Integration for a comprehensive and multi-sensor approach to target tracking and identification
- Day and Night Target Identification by high performance Day and TV Camera
- Range and Altitude Measurement for effective fire control
- Stabilization System for platform motion and ensure steady tracking
- Automated adjustment to scan radar contact signals
- Low Probability of Intercept (LPI) through low transmitter power



Technical Specifications

Radar	
Radar Type	Frequency Modulation Continuous Wave (FMCW) Low Probability of Intercept (LPI) Radar
Frequency Band	X-Band (9400 MHz +- 40 MHz)
Detection work sector	360° in azimuth -10° to +45° in elevation
Detection Distance (max)	30 km (16 NM)
Resolution	6 m - in range 1°- in azimuth 3°- in elevation
Peak Power Transmit	10 Watts

Rotator Platform	
Angle	360° Azimuth
Speed	0.01°- 72°/s Azimuth
Period Rotation	5 Sec per rotation

Electro Optics			
Day-Light Camera			
Sensor Type	1/2.8"Progressive Scan CMOS		
Field of View (FOV)	1.2°~ 42°		
Fog penetrating	Open /Close is optional		
Video resolution	1080p		
Monitoring distance	Object	Human (1.8m×0.5m)	Vehicle (2.3m×2.3m)
	Detection	4000m	6000m
	Recognition	2000m	4000m
Thermal Imaging Camera			
Detector	Cooled		
FOV	1.8°×1.5°~20.6°×15.5°		
Pixel	640×512		
Spectrum Range	3.7~4.8μm		
Monitoring distance	Object	Human (1.8m×0.5m)	Vehicle (2.3m×2.3m)
	Detection	11000m	18000m
	Recognition	3400m	7670m
	Identification	1650m	4100m
Pan and Tilt Motor			
Angle	Pan motor: +1° to +360° Tilt Motor: -45° to +45°		
Speed	0.01°- 60°/s Tilt		
Stabilization	2 - axis		

C9-C11,
Jalan TKS 2, Taman Kajang Sentral
43000 Kajang, Selangor

+603-8741 2707
www.mindmatics.com.my