

Retinar FAR-AD Drone Detection Radar

Next Generation Solution in Drone Detection

Retinar FAR-AD is 3D drone detection radar, developed against Mini/Micro UAV threats. Retinar FAR-AD has genuine detection tracking and classification algorithms. High elevation antenna beam width provides coverage against low and high altitude targets simultaneously. With its innovative algorithm, Retinar FAR-AD automatically classifies threats with high accuracy in track during 360° scanning. Scanning speed adjustment enables detection of the fast manoeuvring targets with high speed scanning mode and detecting of the low speed targets (humans) from longer ranges with low scanning speed mode. Retinar FAR-AD acts as the primary sensor of perimeter security systems by automatically scanning large areas.

Advanced Technology Digital Radar Architecture

Retinar FAR-AD properties are;

- 3-Dimensional
- Automatic threat classification
- Monopulse system architecture
- High elevation coverage (40 degrees)
- Frequency hopping, pulse compression and doppler processing
- Military operating frequency band
- Low Probability of Intercept (LPI)
- Selectable scan speed (4, 8, 16, 30 rpm)
- 360° azimuth coverage

Application Areas

Critical Infrastructure Protection

• Airports • Power Plants • Refineries • Harbors

Border Surveillance and Border Security

Force and Base Protection



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FAR-AD



Precise Drone Detection with User Friendly Interface

Retinar FAR-AD user interface software provides the destination, distance, speed, direction, 3D position and past track information of threats to the operator.

In track while scan mode, threats are automatically classified with high accuracy with its innovative algorithm. Also the performance of classification is increased through high resolution Micro-Doppler analysis algorithm in Target Analysis Mode. Retinar FAR-AD's working status can be monitored via advanced Build In Test (BIT) and system is always under control of user via user interface.

Key Features



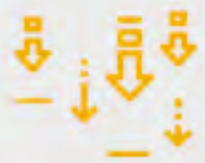
Human, Vehicle and
Mini/Micro UAV Classification



Wide-angle Coverage
(360° azimuth coverage
& 40° elevation coverage)



Built-in GPS and Compass
with Map Support



Low Probability of Intercept (LPI)



User Friendly GUI



3D position measurement,
Micro-Doppler Analysis and
Automatic Target Classification
with High Accuracy

Feature	Rate
• Operation Frequency	Ku Band
• System Architecture	3D, Pulsed Doppler with Pulse Compression
• Scan Speed	4, 8, 16, 30 rpm (selectable)
• Detection Range (km)	
Drone (DJI Phantom-4)	Up to 4.4 km
Drone (Talon)	Up to 5.2 km
Paramotor	Up to 9.3 km
Human	Up to 9.3 km
Instrumental range	9.3 km
• Highest Tracking Target Speed	240 km/hour
• Azimuth Coverage	360° continuous, 0-360° adjustable sectors
• Minimum Range	< 100m
• Built In Test	Temperature, Voltage, Current, Communication
• Single Target Tracking	Target Analysis Mode (High Accuracy Micro-Doppler Analysis)
• Beam Width	Azimuth: 2°, Elevation: 40°

• Range Resolution	3m
• Range Accuracy	< 0,5 m (rms)
• Elevation Positioning Range	± 25°
• Operating Temperature	-32°C / +60°C
• Storage Temperature	-40°C / +60°C
• Environmental Conditions Compatibility	MIL-STD-810G
• Electromagnetic Compatibility	MIL-STD-461
• Interface	10/100 Ethernet
• Weight (Radar and Pan/Tilt)	< 40 Kg
• Power Consumption Radar and Pan/Tilt)	< 400 Watt
• Instrumental Range	9.3 km
• Antenna Type	Elevation Mono-Pulse Antenna