



Multi-role **3D radar** for the detection
and tracking of ground
and low-flying targets

ReGUARD

ReGUARD radar is a multi-role 3D radar for the detection and tracking of ground targets and slow low-flying targets with a small radar cross section (LSS) simultaneously. Radar ReGUARD searches space by utilizing electronic beam steering and mechanical rotation of the radar head.

- Instrumental range 18 km, altitude coverage 3 km for LSS targets
- Instrumental range 18 km for ground targets
- Deployment time under 10 min.

Technology

- 3D AESA with steering in both elevation and azimuth
- Rapid space searching using multiple received beams
- Full solid-state technology
- Monopulse processing in both azimuth and elevation for accurate evaluation of coordinates

- Advanced signal and data processing for clutter suppression (including birds and cars)
- Networking capability (ASTERIX output, remote control, etc.)
- Built-in test equipment for automatic system diagnostics
- 24/7 Operation capability

Operational modes

ReGUARD operates in sector or rotational mode. Each mode utilizes different method of scanning the space in azimuth. When the radar scans in sector mode, its beam is steered only electronically both in azimuth and elevation. While scanning rotationally the radar sensor head revolves on a turntable and the electronic steering of the beam is primarily used in elevation. Steering in azimuth provides rapid confirmation of detection when initiating track and enhances the quality of tracking while scanning (TWS). The ReGUARD is configurable in each operational mode according to individual deployment requirements.

Key features

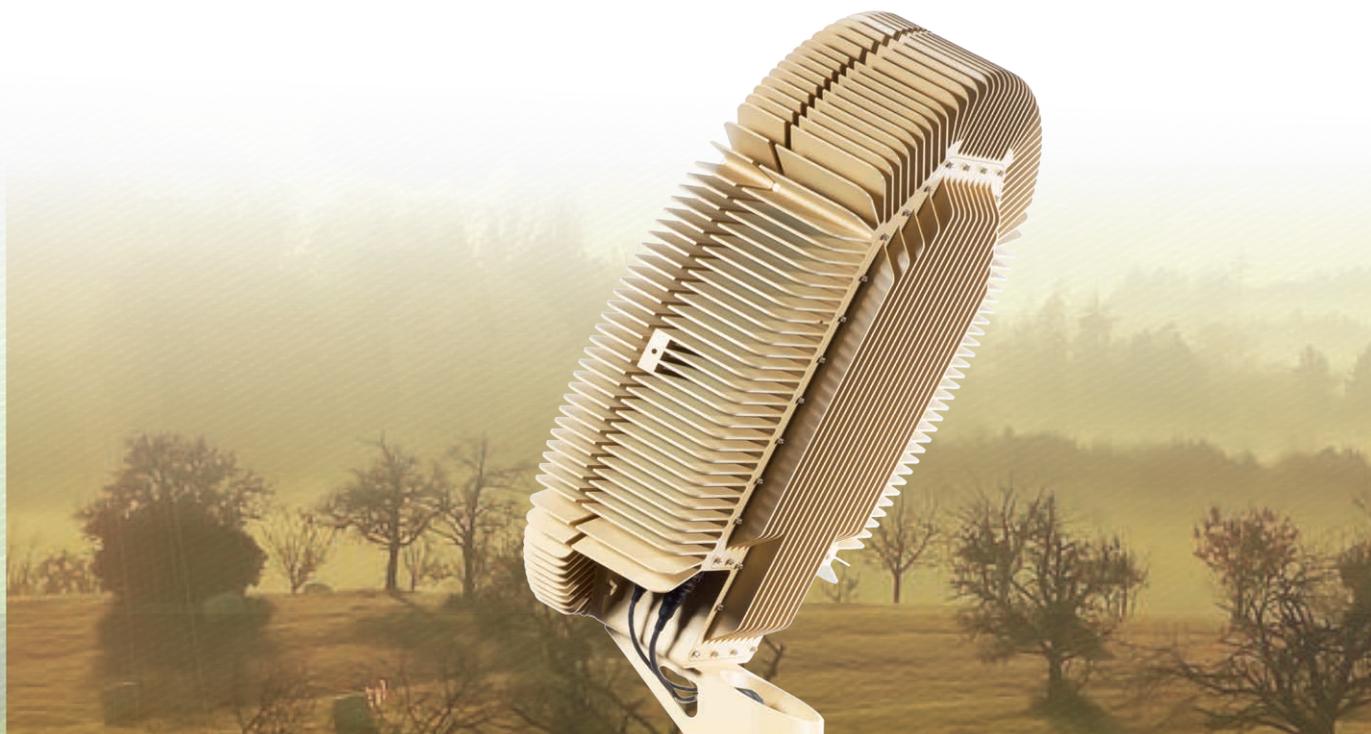
- Easy integration on masts, rooftops, poles, stands, vehicles
- Multi - role utilization - broad variety of detectable objects, simultaneous tracking of ground and air targets
- Compact size and low weight
- Passive cooling without fans
- Simple maintenance
- Long term support as part of the product life cycle



Technical specification

Parameter	Parameter, Feature		Note
	Rotational mode	Sector mode	
Make and Type	3D phased array mobile radar		Fully coherent digital radar
Operating Frequency	X Band		All solid state technology
Instrumental Range	0,25 ÷ 18 km		
Elevation Coverage	up to 56°		
Altitude Coverage	3 km	3 km	RCS = 0,1 sqm
Detection Range	10,5 km	11,5 km	RCS = 0,1 sqm
Detection Range	6 km	6,5 km	RCS = 0,01 sqm
Rotation Speed	15 rpm	fixed	
Antenna Type	Active phased array		Pencil beams
Antenna Feed	TR module front-end on each antenna element		
Antenna Dimensions	w = 0,65 m; h = 0,75 m; t = 0,235 m		
Radar head weight	65 kg		
Cooling	Passive (conduction)		
Total Power Consumption	up to 1 kW		
Temperature Range	-32°C ÷ +49 C *		
Humidity	95 %		at 35 °C

*adjustable according to customer's specifications



ReGUARD®

Product by RETIA



PORTABLE CONFIGURATION

The radar head is mounted on a tripod making it convenient for temporary deployment. This configuration, which allows for an easy location change, is appropriate for the temporary securing of important geographical points or border control.



STATIONARY CONFIGURATION

Being fixed at a stationary location like a building or on a pole makes this configuration suitable for sustaining long term security of valuable assets such as power plants, airports, chemical factories, industrial facilities etc.



MOBILE CONFIGURATION

A highly mobile configuration since the radar head can be fitted on a vehicle or any other customer-designed platform. Facilitates the rapid patrolling of designated areas like large gatherings, concerts, VIP zones.

RETIA

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