



RADAR SYSTEMS

MHR® Multi-Mission Hemispheric Radar

The MHR is a cutting-edge, ground-based, multi-mission radar for Counter-UAS, Very Short-Range Air Defense (VSHORAD), Counter Rocket, Artillery and Mortar (C-RAM), and Hemispheric Surveillance operational missions.

This pulse-Doppler, software-defined, S-band radar platform incorporates an AESA antenna and GaN amplifiers with advanced 4D processing capabilities, providing unprecedented clutter handling and multipath mitigation.

The MHR is a best-of-breed radar with exceptional situational awareness and survivability during combat that offers superior SWaP-C and On-The-Move operation capabilities.

MHR MAIN ADVANTAGES

- Combat proven, TRL-9, at the heart of mobile SHORAD/C-UAS systems
- Complete Dynamic Air Situational Picture (ASP) while mounted on a tactical vehicle or vessel
- Superior performance against low signature targets
- Multi-Mission – “one radar does it all”
- MOSA – Modular Open System Architecture, easily integrated with all kinds of Hard and Soft kill systems
- Software-defined, automated operation through advanced signal processing and algorithms
- Handles hundreds of targets through Track While Search (TWS) and Revisit modes
- Enhanced fast volume scan coverage, full Hemispheric (360°) search & track with four radars
- In-depth 4D analysis of Doppler and other target features
- SWaP-C superiority, unprecedented affordability



Front View



Rear View

RADA'S MHR SUPPORTS A VARIETY OF ON-THE-MOVE AND STATIONARY OPERATIONAL MISSIONS FOR LAND AND MARITIME APPLICATIONS

- Counter-Unmanned Aircraft System (C-UAS) & Short-Range Air Defense (SHORAD), handles all types of aerial threats including class-1 micro-drones
- Counter Rocket, Artillery, Mortar (C-RAM) and Sense & Warn, both indirect and low-QE fire; Point-of-Origin (POO) and Point-of-Impact (POI) determination
- Hemispheric surveillance, simultaneous detection and tracking of aerial and ground threats



KEY FEATURES

- Active Electronically Scanned Array (AESA) antenna
- Wide range of threat velocities
- Coexistence capability
- Multipath reduction and clutter handling through advanced antenna topology
- Electronic Counter Countermeasures (ECCM) capabilities
- Cyber Certification (Risk Management Framework) Ready
- Integrated with IFF



Typical Installation

OPERATIONAL MISSIONS AND NOMENCLATURE

C-UAS, SHORAD	RPS-42
C-RAM, Sense & Warn	RPS-40 / RPS-41
Hemispheric Surveillance	RPS-44



PARAMETERS

Spatial coverage	Single radar: 90° Az, 90° El Four radars installation: Full hemisphere
Interfaces	Ethernet, I/O Discrete
Interface Protocols	ASTERIX, Customer-tailored
Input Power	28 VDC (per MIL-STD-1275E)
Power Consumption	320 W average
Dimensions	Diameter: 50 cm, Depth: 20 cm
Weight	<30 kg
Operating Temperatures	-40° C to +55° C
Cooling Method	Passive only



MAXIMUM DETECTION RANGES

Threat	Range
Nano UAV	5 Km
Medium size UAV	25 Km
Heavy Transport Aircraft	50 Km
Fighter	35 Km
Fighter- Low RCS	20 Km
Utility Helicopter	23 Km
Light/Medium Mortar / Short Range Rocket	5 Km
Heavy Mortar	6 Km
Pedestrians	10 Km
Vehicles & Medium Size Vessel	25 Km
Large Vessel 4	40 Km



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