RADAR SYSTEMS

MHR® Multi-Mission Hemispheric Radar

A cutting-edge, ground-based, multi-mission radar.

The MHR is a cutting-edge, ground-based, multi-mission radar for Counter-UAS, Very Short-Range Air Defense (VSHORAD) 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.

- 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 (RCS, Velocity, Altitude)
- Multi-Mission, 'one radar does it all'
- MOSA – Modular Open System Architecture, easily integrated with various 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.

LEONARDO DRS

SUPPORTING A VARIETY OF ON-THE-MOVE AND STATIONARY OPERATIONAL MISSIONS

- 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

KEY FEATURES

- Active Electronically Scanned Array (AESA) antenna
- Innovative GaN switching technology
- Extremely high doppler resolution that provides fast, accurate threat detection and classification
- Wide range of threat velocities
- Coexistence capability

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	40 Km

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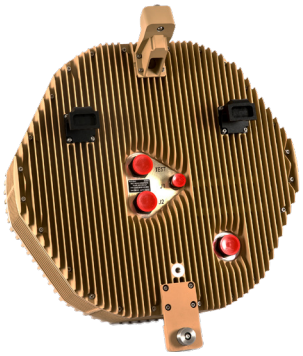
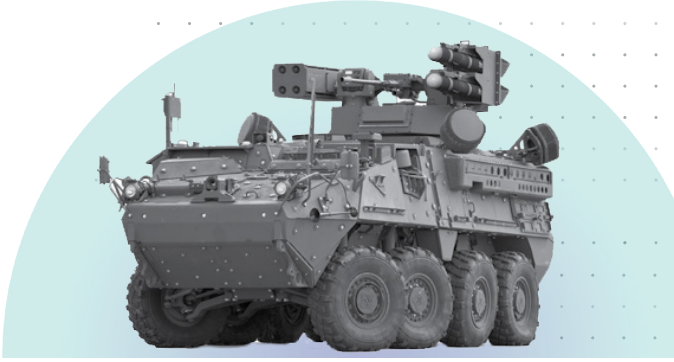
OPERATIONAL MISSIONS AND NOMENCLATURE

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

Front View



Rear View



Typical Installations

Other installations

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