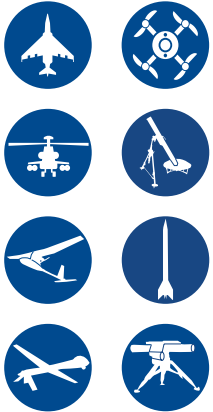




In the Heart of Tactical Integrated Air & Missile Defense Systems



All-Threat Air Surveillance Radars

RADA's All-Threat Tactical Air Surveillance radar systems detect all types of aerial vehicles (including UAVs of all groups) and missiles, rockets and mortars. They classify the threats, provide and display tracking and warning/alert, and provide data to external C⁴I and air defense weapon systems over Ethernet, making them the ideal sensors for MANPAD, VSHORAD, SHORAD and tactical IAMD systems.

The radar systems can be based on any member of RADA's Multi-Mission Hemispheric Radar (MHR) family of tactical radar platforms - pMHR, eMHR, ieMHR - which differ primarily in antenna sizes, resulting in maximal detection ranges.

The MHR-based air surveillance radars are the system of choice for current and emerging tactical Integrated Air & Missile Defense weapon systems, whether based on guns, missiles, directed energy, or other threat defeat technologies. These tactical radar systems are also ideal gap-fillers, complementing medium and long-range air surveillance systems. The radars can work at any installation method: fixed, deployable/maneuverable, operate OTM onboard tactical land vehicles, or shipborne onboard littoral combat and patrol ships.

When radars are integrated with EO/IR sensors and RF jammers, this counter-UAV (C-UAV) system provides a complete "soft-kill" solution against nano, micro and mini-size drones.

A single radar platform provides 90° azimuth coverage. Hemispheric coverage is achieved when four radars are employed as a system.

In addition to Air Surveillance, these programmable, software-defined platforms can host a variety of operational missions such as Hostile Fire Location, Ground/Surface Surveillance, and combinations of such operational missions.

Nomenclature of the radar systems (per platform):

Mission	CHR	pMHR	eMHR	ieMHR
All-Threat Air Surveillance	RPS-12	RPS-42	RPS-72	RPS-82
Hostile Fire Location	RPS-15	RPS-40 / RPS-41	RPS-70 / RPS-71	RPS-80 / RPS-81
3D Perimeter Surveillance	RHS-14	RHS-44	RHS-74	RHS-84

Full Range of Tactical Radar Platforms for the Maneuver Force



- Pulse Doppler, Software-Defined, Multi-Mission Radar Platforms
- AESA (Active Electronically Scanned Array) Antenna based on GaN Amplifiers
- Extremely High Elevation Angles, up to Hemispheric Coverage
- On-the-Move (OTM) Operation
- Non-Rotating, Solid State, Digital Radars
- Compact and Mobile, for Tactical Applications
- High Reliability
- Superior Performance-to-Price Ratio

Radar Platforms Specifications:

PARAMETER	pMHR	eMHR	ieMHR
Spatial Coverage (Single Radar)	90° Cone from Antenna Axis (90° Az, 90° EI)		
Frequency Band	S Band		
Antenna Type	GaN-Based AESA		
Interfaces	Ethernet, I/O Discrettes, RS-422, RS-232		
Input Power	28 V (per MIL-STD-1275B)		
Power Consumption (Single Radar)	350 W average	590 W average	760 W average
Dimensions	50.4 cm diameter, 16.5 cm max width	67 cm diameter, 16.5 cm max width	79 cm diameter, 17 cm max width
Weight	20 kg	40 kg	58 kg
Cooling Method	Passive Only		
Mean Time Between Failures (GF Environment, Calc.)	Over 15,500 Hours	Over 11,500 hours	Over 8,500 Hours
Operating Temperature	-40° to +55° C		

Radar Operating Modes:

- **Track While Search:**

The radar search volume is set to meet the desired continuous coverage. Elevation coverage is mission-dependent, can reach up to 90°. Search beams are overlapped to avoid losses. The designed cycle time enables stable tracking of practically unlimited number of targets within the search volume coverage.

- **Target Revisit:**

When a tracked target exits the search volume, the Revisit mode is automatically activated and additional dwells are scheduled among the Track While Search dwells. Targets can be tracked up to the radar spatial coverage limits. Revisit rate is mission dependent, and can be ceased based on target parameters (speed, direction, classification, ...). Each radar can typically handle up to 10 revisited targets.

- **Single Target Tracking**

This mode is employed when the most accurate and frequent information on a certain target is desired, typically by an external weapon system who also commands the radar to this mode. Specifically, angular accuracies of a tracked target are more than doubled and can reach fire control accuracies.

Maximal Detection Ranges per Radar Systems:

Type of Threat	RPS-42 (Hosted on pMHR)	RPS-72 (Hosted on eMHR)	RPS-82 (Hosted on ieMHR)
Nano UAV	3.5 Km	6 Km	7 Km
Micro UAV	5 Km	8 Km	10 Km
Mini UAV	10 Km	17 Km	20 Km
Medium-Size UAV	15 Km	25 Km	30 Km
Light Transport Aircraft	30 Km	50 Km	60 Km
Heavy Transport Aircraft	50 Km	85 Km	100 Km
Fighter – Regular	25 Km	38 Km	50 Km
Fighter – Low RCS	18 Km	30 Km	36 Km
Utility Helicopter	30 Km	50 Km	60 Km
Direct-Attack Rocket/Missile	6.5 Km	11 Km	13 Km
Light/Medium Mortar	5 Km	8.5 Km	10 Km
Heavy Mortar	6 Km	10 Km	12 Km
Short-Range Rocket	5 Km	8.5 Km	10 Km



Radar System Installations:



Static - Deployable, Fixed



Land Vehicles – Maneuverable/On-the-Move



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