



RADAR SYSTEMS

aCHR®

Advanced Compact Hemispheric Radar

The aCHR is a cutting-edge, ground-based, multi-mission radar for Active Protection Systems (APS), Vehicle Protection Systems (VPS), Hostile Fire Detection (HFD), Counter-UAS, 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 aCHR 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.

aCHR MAIN ADVANTAGES

- Combat proven, TRL-9, at the heart of mobile APS/VPS/C-UAS systems
- Ballistic survivability by antenna & radome construction
- Complete Dynamic Air Situational Picture (ASP) while mounted on a tactical vehicle
- 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
- Advanced antenna topology (MIMO) provides extended accuracies, multipath and clutter handling
- Unique low-probability-of-detection features



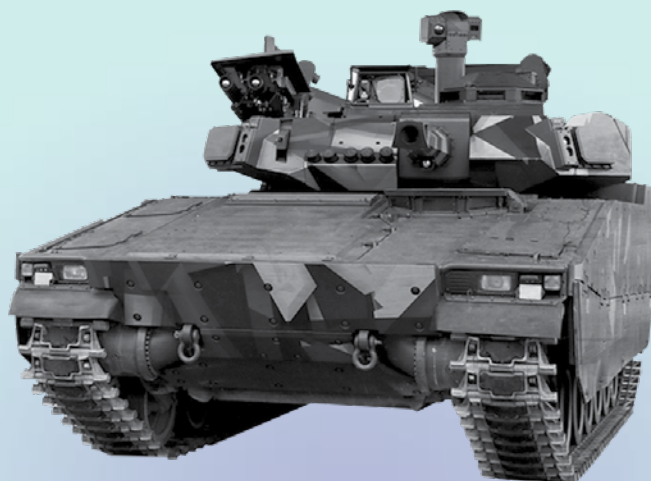
Front View



Rear View

RADA'S aCHR SUPPORTS A VARIETY OF ON-THE-MOVE AND STATIONARY OPERATIONAL MISSIONS:

- Active Protection (APS), Vehicle Protection (VPS) and Hostile Fire Detection (HFD) operational missions; handles all types of threats on combat vehicles: RPGs, ATGMs, tank rounds and small arms
- Counter-Unmanned Aircraft System (C-UAS) & Very-Short-Range Air Defense (VSHORAD); handles all types of aerial threats including class-1 micro-drones
- Hemispheric surveillance, simultaneous detection and tracking of aerial and ground threats



KEY FEATURES

- Active Electronically Scanned Array (AESA) antenna
- Extremely high doppler resolution that provides fast, accurate threat detection and classification
- 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



OPERATIONAL MISSIONS AND NOMENCLATURE

APS/VPS, HFD	RPS-600
C-UAS, VSHORAD	RPS-620 / RPS-62
Hemispheric Surveillance	RPS-640 / RPS-64



Typical Installation

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	200 W average
Dimensions	Width: 46.4 cm, Height: 29.5 cm, Depth: 18.9 cm
Weight	34 kg
Operating Temperatures	-40° C to +55° C
Cooling Method	Passive only



MAXIMUM DETECTION RANGES

Threat	Range
Direct-Attack Rocket / Missile	4 Km
Nano UAV	3 Km
Medium-Size UAV	15 Km
Fighter	22 Km
Utility Helicopter	15 Km
Pedestrians	7 Km
Vehicles	15 Km



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 **DRS RADA TECHNOLOGIES**