

PGSR-3i 'Beagle' Mk. II.

PORTABLE GROUND SURVEILLANCE RADAR



PGSR-3i 'Beagle' Mk. II. is a unique lightweight man-portable radar, which is capable of intercepting, detecting and tracking targets moving on or close to the ground. It can also classify and differentiate targets based on their size and movement characteristics.

BENEFITS

- ✔ 5 minutes to set up and ready for operation
- ✔ standalone or network usage
- ✔ easy integration into systems
- ✔ low weight, small dimensions
- ✔ mountable on vehicles
- ✔ covers areas hardly approachable by vehicles

WIDE RANGE OF USAGE

The radar is a versatile, cost-effective solution offering a multitude of advantages making it an ideal choice for border guard, battlefield surveillance, civilian and military installation security and combat operations duties.

PGSR-3i 'Beagle' Mk. II. can be carried in backpacks by two-man teams to cover areas hardly approachable by vehicles. It is also mountable on vehicles and on field posts as needed. It can be used as a standalone unit or in a network of radars as required by the specifics of the surveillance scenario.

The radar is very durable, capable of withstanding a wide range of environmental factors and is also very reliable, with only a minimal chance of malfunctioning. Due to its operating principles PGSR-3i 'Beagle' Mk. II. has minimal possibility of being jammed or intercepted (LPI - Low Probability of Intercept).

OVERVIEW

The highly advanced DSP technologies integrated in PGSR-3i 'Beagle' Mk. II. differentiate between moving and stationary targets; determine the exact parameters of the detections and control the adaptive surveillance parameters during changing environmental conditions.

The radar is controlled from the operator unit or command center. The radar's control software is capable of utilizing various map formats and displaying the detected targets over the map. The software is designed in a user friendly way, it is easy to use even for untrained operators. The software supports the integration of this single radar into complex multisensor systems. Every surveillance data and user interaction is recorded and can be replayed for further analysis.



TECHNICAL PARAMETERS

SURVEILLANCE AND DATA PROCESSING			
Detection Ranges*	Soldier	(RCS 1 m ²)	10 km
	Road vehicle	(RCS 5 m ²)	15 km
	Helicopter	(RCS 10 m ²)	18 km
	Large vehicle	(RCS 50 m ²)	24 km
	(e.g.: tank)		
Scanning Modes	Sector Scan (6° – 345°) Continuous Rotation (n x 360°)		
Scan Rate	7°/sec or 14°/sec		
False Alarm Rate	$P_{fa} = 10^{-6}$ at $P_D = 90\%$		
Accuracy	Range: +/- 4 m at 5 km range Azimuth: $\leq 0.3^\circ$		
Detectable Radial Velocity	from 1.0 km/h at 7°/sec scan rate from 1.7 km/h at 14°/sec scan rate		
Target Capacity	600 plots can be displayed		
Other Features	Track While Scan, Single Target Tracking, Clutter map, Spot Window, Doppler Audio (Single Target Tracking), Automatic Classification, LPI, STC, CFAR		

TECHNICAL PARAMETERS	
Operation Principle	FMCW
Frequency Band	X Band (NATO I/J Band)
Transmitted Power	3.5 W
Power Requirements	28 VDC (22 – 33 VDC)
Power Consumption	65 W (the complete radar system excluding Laptop)
Continuous Operation on One Set of Batteries	Up to 12 hours**
Temperature Ranges	Operation: -32°C to +55°C Storage: -40°C to +65°C
Environmental Specifications	Tested according to MIL-STD-810G
Mobility	Can be carried by 2 operators in backpacks
Radar Unit Size	69 x 49 x 17 cm
MTBF	> 15 000 hrs
Data/Control Interface	Serial and Ethernet (with other options available)

FURTHER FEATURES
Integrated GPS and compass
Low Radiated Power for Human Safety
Comprehensive BIT
20 Fixed channel and automatic hopping
Easy integration into C2 and C4I

ACCESSORIES
Tripod
Power Adapter
Network Connection Adapter (optional)
Rechargeable Batteries and Battery Charger
Operator unit with 230 VAC and Vehicle Chargers
Transportation Cases and Backpack System

*Radar version with 40 km max. detection range (NATO directive) capability in case of convoy (RCS 300 m²) is optional.

** Depending on the configuration and setup.

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