

REMBASS-II

AN/GSR-8(V)

Remotely Monitored Battlefield Sensor System-II

PRODUCT DESCRIPTION

REMBASS-II is the U.S. Army's type standard Unattended Ground Sensor (UGS) system that passively detects, classifies, and determines the direction of travel of intruding personnel and vehicles. REMBASS-II sensors offer exceptionally reliable performance in all environments, day and night.

REMBASS-II uses three basic sensor transducers and sophisticated signal processing to achieve a high probability of detection with a very low false alarm rate. When used in conjunction with operator display software, the sensors can be used to determine the type of target, the number and direction of targets, and estimate their location and speed.

The sensors communicate target data messages up to 15 km using Low Probability of Intercept/Low Probability of Detection (LPI/LPD) burst transmissions in the VHF band. Optional relay devices extend this range 15 km via a radio repeater, 150 km via an Unmanned Aerial Vehicle (UAV) relay, or worldwide via a REMBASS-II Field Processor Unit (FPU) SATCOM relay.

The REMBASS-II system can accommodate new sensor types (e.g., chemical/biological, RF, meteorological) with no hardware changes and downloadable software updates.

Target detections are received and displayed on a small hand held monitor that is easily connected to a laptop computer to provide a graphical depiction of target activity using National Imagery and Mapping Agency (NIMA) digital mapping products.

The program is sponsored by the U.S. Army Product Manager-Robotic & Unmanned Sensors (PM-RUS), Ft. Monmouth, NJ.



APPLICATIONS

- ISR Operations
- Special Operations Missions
- Intrusion Detection
- Force Protection
- Border Surveillance
- Counter Drug Missions
- Homeland Security

FEATURES

- MIL-Qualified
- Proven Target Recognition Performance
- Reduced Size/Weight
- Flexible Configuration
- COTS Batteries
- Built-in Test and Alarms
- Anti-Tamper
- Lowest False Alarm Rate
- Software Upgradable
- Simple Operation

SPECIFICATIONS

Remotely Monitored Battlefield Sensor System-II AN/GSR-8(V)

PERFORMANCE					
Sensors	Description	Detection Range		Target Speed	
Seismic/Acoustic Sensor (SAS) MK-2965/GSR	Basic sensor that supports operation of Infrared or Magnetic sensors. Provides target class information. Employs a sophisticated algorithm to classify targets as personnel, wheeled or tracked vehicles based on combined seismic and acoustic signatures.	<u>Target Class</u> Tracked Wheeled Personnel	<u>Range</u> 0-350 m 0-250 m 0-75 m	Speed independent	
Infrared Plug-In Module (IPM) MK-2967/GSR	Plugs into the SAS. Provides direction and target count. Passively detects a temperature differential between the target and background.	<u>Target Class</u> Tracked Wheeled Personnel	<u>Range</u> 3-50 m 3-50 m 3-20 m	@ 50 m, 1.7 - 40 m/sec @ 3 m, 0.1 - 2.4 m/sec	
Magnetic Plug-In Module (MPM) MK-2966/GSR	Plugs into the SAS. Provides direction and target count. Passively detects changes in the magnetic field caused by movement of ferrous material.	<u>Target Class</u> Tracked Wheeled Personnel	<u>Range</u> 25 m 15 m 3 m	1 - 24 km/h 4 - 108 km/h 7 km/h minimum	
Monitor & Relay	Description	Message Types		XMTR	RCVR
Receiving Set, Radio (Hand Held Monitor-HHM) AN/PSQ-16	Provides the capability to monitor sensor transmissions with a LCD display or output via RS232 to optional laptop. Provides the capability to program the required performance variables into the sensors and repeater.	29 bit REMBASS 20/29/285 bit TRSS 101 bit AN/TMQ-30 MIDS+EMIDS		Receive Only	-111 dbm sensitivity
Repeater, Radio (RPTR) RT-1175C/GSQ	Provides the ability to overcome line-of-sight (LOS) obstructions and extends the operating range of the REMBASS-II system.	29 bit REMBASS 20/29/285 bit TRSS 101 bit AN/TMQ-30 MIDS+EMIDS		138-153 MHz 2 watts 15 km (LOS)	-111 dbm sensitivity

PHYSICAL CHARACTERISTICS					
Equipment	Length	Width	Height	Weight**	Batteries
SAS	18.9 cm	10.4 cm	8.0 cm	1.20 kg	(1) to (4) 9 Vdc Lithium cells
IPM	11.6 cm	6.6 cm	5.3 cm	.66 kg	None, power from SAS
MPM	11.6 cm	6.6 cm	7.8 cm	.45 kg	None, power from SAS
HHM	7.9 cm	5.3 cm	16.2 cm	.73 kg	(1) to (4) 9 Vdc Lithium cells
RPTR	19.7 cm	14.6 cm	12.1 cm	3.75 kg	(1) BA-5590/U or BA-5390/U

** Weight of operational configuration with full battery complement

ENVIRONMENTAL					
High Temp:	Operating Non-Operating	+65°C +71°C	Sand/Dust:	Resistant to 35 knot winds	
Low Temp:	Operating Non-Operating	-40°C (-20°C for HHM) -55°C (-40°C for HHM, RPTR)	Salt:	Resistant per MIL-STD-810, 509.2	
Altitude:	Operating Non-Operating	4572 m 10668 m	Fungus:	Resistant to 28 day growth period	
Humidity:	Operates in 95% relative humidity		Shock/Vibe:	Withstands 1.5 g over 5-200 Hz for 1.5 hrs	
Immersion:	Survives 2 hrs in 1 m H ₂ O with 27°C differential		EMI/EMC:	Tested to MIL-STD-461 Level RE102, CE106 and RS103	



communications

Communication Systems-East

For Additional Information Contact
Skip Marsh
L-3 Communication Systems-East
One Federal Street, Camden, NJ 08103
Telephone: 719-339-4866 FAX: 856-338-2741
E-mail: henry.marsh@L-3Com.com