AN/PRS-9A Battlefield Anti-Intrusion System (BAIS)

PRODUCT DESCRIPTION

The new Battlefield Anti-Intrusion System (BAIS) AN/PRS-9A, is an upgrade to the U.S. Army's AN/PRS-9 BAIS type standard Unattended Ground Sensor (UGS) System. The new AN/PRS-9A provides improved early warning intrusion detection and threat classification of vehicles and personnel. The system supports small Tactical Units up to company level forward operating base security by Mounted and Dismounted Units to establish defensive positions and by Military Police Units for security of personnel and assets.

The AN/PRS-9A comprises one Hand Held Monitor/Transmitter (HHM/T) and a set of three Seismic/Acoustic Sensors, known as Sensor/Transceivers (S/T). The upgraded system provides two-way RF communication to allow local and remote wireless programming. Remote programming can be performed while the sensors are deployed. Each S/T can be configured as a standalone sensor, a radio repeater or a combined sensor/repeater. The radio repeater capability eliminates the need for a separate, standalone repeater unit, and allows users to overcome radio line-of-sight obstacles, extending the RF range for longer-range communications and remote programming capability.

The basic set of three Seismic/Acoustic S/Ts retain the ability to accept Infrared or Magnetic Detection sensors to provide additional information such as target count and direction of travel.

The system is small, weighs less than 10 lbs. and is easily transported by a single warfighter in ALICE or MOLLE mission equipment packs.

This Program of Record (PoR) is sponsored by the U.S. Army Product Manager-Force Protection Systems (PM-FPS), Ft. Belvoir, VA.

FEATURES

- A compact, lightweight UGS System, consisting of:
  (3) Seismic/Acoustic Sensor/Transceiver (S/T)
  (1) Hand Held Monitor/Transmitter (HHM/T)
- MIL-Qualified
- Small & Lightweight
- Long Mission Life
  - 130 Days @ 1000 Alarms/Day (S/T)
  - 19 Days (HHM/T)
- Flexible Configuration
  - 599 RF Channels
  - 255 Sensor IDs
  - Target Masking
- Two Way RF Communications
  - SEIWG-005C Compliant
  - 138 MHz to 153 MHz Band
  - Wireless Local and Remote Programming
  - S/T Configurable as Radio Repeater
- Built-in Tests and Alarms
- Anti-Tamper
- Low False Alarm Rate
- Software Upgradable
- Simple Operation & Integration into Higher Echelon Situational Awareness Platforms
- Internal Battery Power
  - Commercial 9V
- S/T can be powered from an external source for long duration missions

APPLICATIONS

- ISR Operations
- Special Operation Missions
- Intrusion Detection
- UAV, UGV & Imager Cueing
- Force Protection
- Border Surveillance
- Counter Drug Missions
- Homeland Security

AN/PRS-9A Battlefield Anti-Intrusion System (BAIS)

PERFORMANCE

Sensor	Description	Detection Range*
Seismic/Acoustic Sensor/Transceiver (S/T)	Basic Seismic and Acoustic sensor that also 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. Configurable as a Radio Repeater	Target Class / Range Tracked 0-450 m Wheeled 0-350 m Personnel 0-75 m

**Detection ranges dependent on soil type and conditions*

Monitor	Description	Message Type
Receiving Set, Radio (HHM/T)	Provides the capability to monitor sensor transmissions with a LCD display or output messages via RS-232 to an optional laptop. Provides the capability to program the required performance variables into the sensor wirelessly both locally and remotely.	BAIS (SAS & S/T) (29-bit) BAIS (S/T) (101-bit) TRSS (29-bit, 285-bit) REM/IREM/REM-II (29-bit, 101-bit) EMIDS & MIDS LKMD Alarms

PHYSICAL CHARACTERISTICS

Equipment	Length	Width	Depth	Weight	Batteries
S/T	7.6 in	4.2 in	2.1 in	1.5 lbs	(4) 9V Lithium Batteries
HHM/T	6.5 in	4.2 in	2.2 in	1.5 ibs	(4) 9V Lithium Batteries

ENVIRONMENTAL

High Temp Operating +71°C
Non-Operating +71°C

Low Temp: Operating -40°C (-20°C for HHM/T)
Non-Operating -46°C

Altitude: Operating 15,000 ft
Non-Operating 35,000 ft

Humidity: Operates in 95% relative humidity

Immersion: Survives 1 hour in 1meter of H_2O with 27°C differential

Sand/Dust: Resistant to 20 mph winds (Dust)
40 mph winds (Sand)

Salt Fog: Resistant per MIL-STD-810F, Method 509.4

Shock: Resistant to 1 meter drop

Vibration: Loose Cargo per MIL-STD-810F, Method 514.5 Procedure II, Category 5
Minimum Integrity per MIL-STD-810F, Method 514.5 Procedure I, Category 5

EMI/EMC: Tested to MIL-STD-461E, Level RE102, RS103, CS114, CS115 and CS116

L-3 Communication Systems-East
1 Federal Street
Camden, NJ 08103 USA
Charlene Caputo
Tel: 856-338-2200
Email: charlene.caputo@L-3Com.com
www.L-3com.com/cs-east

Cleared for Public Release by U.S. Army ACC-APG dated 21 August 2013, by email from the cognizant Contracting Officer

Aug 2013