PRODUCT DESCRIPTION

The REM-Sense® ISR Unattended Ground Sensor (UGS) System is an upgrade to the US Army’s AN/GSR-8(V) REMBASS-II type standard UGS system that passively detects, classifies and determines the direction of travel of intruding personnel and vehicles. The REM-Sense ISR sensors offer exceptionally reliable performance in all environments, day and night.

The ISR UGS system 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 estimate the count, direction of travel, target location and speed.

The sensors communicate target data messages up to 6 KM using burst transmissions in the VHF band. The REM-Sense seismic/acoustic sensor can also operate as a communications relay device to extend this range an additional 6 KM for each relay, or worldwide via an optional REM-Sense SATCOM or cellular relay.

Target detections are received and displayed on the small Hand Held Monitor/Transmitter (HHM/T) that is easily connected to a laptop computer, to provide a graphical depiction of target activity using industry standard digital maps. The system is small, lightweight and is easily transported by a single warfighter in ALICE or MOLLE mission equipment packs.

FEATURES

- A compact, lightweight ISR UGS System, consisting of:
  - (1) Seismic/Acoustic Sensor/Transceiver (S/T)
  - (1) Infrared Intrusion Detector II (IRID-II)
  - (1) Magnetic Intrusion Detector II (MAGID-II)
  - (1) Hand Held Monitor/Transmitter (HHM/T)
- MIL-Qualified
- Small & Lightweight
- Long Mission Life
  - 130 Days @ 1000 Alarms/Day (Sensor)
  - 19 Days (HHM/T)
- Flexible Configuration
  - 599 RF Channels
  - 255 Sensor IDs
  - Target Masking
- Two-Way RF Communications
  - SEIWG-005C Compliant
  - 138MHz to 153MHz Band
  - Wireless Local and Remote Programming
- Built-in Tests and Alarms
- Anti-Tamper
- Lowest False Alarm Rate
- Software Upgradable
- Simple Operation & Integration into Higher Echelon Platforms
- Internal Battery Power
  - Commercial 9V
- Extended Battery Pack Compatible (S/T)
  - 1000 Days on single BA-5390/5590 Battery
  - 850 Days on two Lantern Batteries

APPLICATIONS

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

**Seismic/Acoustic Sensor (S/T)**

- **Description**: Basic sensor that provides target class information. Employs a Sophisticated Algorithm to classify targets as personnel, wheeled or tracked vehicles based on combined seismic and acoustic signatures. Sensor also configurable as a radio repeater. Supplies power to the Infrared or Magnetic Sensors.

- **Equipment**:
  - **Length**: 7.6 in
  - **Width**: 4.2 in
  - **Depth**: 2.1 in
  - **Weight**: 1.5 lbs (4) 9V Lithium Batteries

### Infrared Intrusion Detector II (IRID-II)

- **Description**: Provides direction and target count. Passively detects a temperature differential between the target and background. Plugs into the S/T.

- **Target Class**
  - **Tracked**: 3-50 m @ 16 to 96 KPH
  - **Wheeled**: 3-50 m @ 16 to 96 KPH
  - **Personnel**: 3-20 m @ 5 to 8 KPH

### Magnetic Intrusion Detector II (MAGID-II)

- **Description**: Provides direction and target count. Passively detects changes in the magnetic field caused by movement of ferrous material. Plugs into the S/T.

- **Target Class**
  - **Tracked**: 3-50 m @ 5 to 100 KPH
  - **Wheeled**: 3-30 m @ 5 to 100 KPH
  - **Armed Personnel***: 1-5 m @ 2 to 12 KPH

*Carrying AK47

### Monitor

**Receiving Set, Radio (HHM/T)**

- **Description**: 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.

### Performance

- **Detection Range**
  - **Target Class**
    - **Tracked**: 0-450 m
    - **Wheeled**: 0-350 m
    - **Personnel**: 0-75 m

### Physical Characteristics

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Length</th>
<th>Width</th>
<th>Depth</th>
<th>Weight</th>
<th>Batteries</th>
</tr>
</thead>
<tbody>
<tr>
<td>S/T</td>
<td>7.6 in</td>
<td>4.2 in</td>
<td>2.1 in</td>
<td>1.5 lbs</td>
<td>(4) 9V Lithium Batteries</td>
</tr>
<tr>
<td>IRID-II</td>
<td>96.4 in</td>
<td>1.1 in</td>
<td>1.1 in</td>
<td>1.4 lbs</td>
<td>None, power from S/T</td>
</tr>
<tr>
<td>MAGID-II</td>
<td>4.2 in</td>
<td>2.7 in</td>
<td>1.0 in</td>
<td>0.96 lbs</td>
<td>None, power from S/T</td>
</tr>
<tr>
<td>HHM/T</td>
<td>6.5 in</td>
<td>4.2 in</td>
<td>2.2 in</td>
<td>1.5 lbs</td>
<td>(4) 9V Lithium Batteries</td>
</tr>
</tbody>
</table>

### 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 1m of H2O 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

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