As a benchmark innovator of Identification Friend or Foe (IFF) interrogators, Telephonics is now offering a Passive Detection and Reporting System (PDRS). Designed in a small, yet rugged package, the PDRS meets the military’s situational awareness requirements for ground, shipboard and airborne applications.

The PDRS Difference
Telephonics’ PDRS was designed to meet DoD, FAA and Eurocontrol regulations to reduce 1030 MHz/1090 MHz radio frequency transmissions and interrogation rates in air traffic and military domains. PDRS is a receive-only system that does not interfere with currently installed military IFF systems or civil secondary surveillance. The solution can be used as a passive cueing system, providing situational awareness to air defense and air traffic controllers with reports fed directly to mission systems and other active interrogator systems. As a queuing system, the target reports are sent to active interrogators so that they can reduce their active interrogations.

The system’s receiver, processor and tracker are based on Telephonics’ DoD AIMS certified AN/UPX-44A IFF interrogator and leverages Circuit Card Assemblies (CCA) and a Commercial-Off-the-Shelf (COTS) chassis for a low-cost approach to passive detection and reporting while also providing data logging and full maintenance support capability.

System Versatility
Offering a single channel variant for low- to medium-density target environments and a six-channel variant for high-density target environments, the PDRS offers a wide range of fixed-mount antenna configurations.

Passive reception of Mode S ADS-B, Mode 5 Level 2, Mode 5 Level 2B and Universal Access Transceiver.
Small Form Factor (SFF) PDRS

Technical Specifications

The PDRS interfaces to both KIV-77 and KIV-78 Crypto Appliqués. Target reports are output in Ethernet ASTERIX Cat 21, Cat 48 and Cat 33. The system is compliant to DoD AIMS 03-1000B, ICAO 9871 and RTCA/DO-260C.

<table>
<thead>
<tr>
<th></th>
<th>Rack Mount</th>
<th>SFF-PDRS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>32 lb.</td>
<td>30 lb.</td>
</tr>
<tr>
<td>Dimensions (in.)</td>
<td>19 W x 6.97 H x 19.7 D</td>
<td>7.2 W x 9.65 H x 8.65 D</td>
</tr>
<tr>
<td>Primary Power</td>
<td>100-240 VAC Single Phase 50-60 Hz</td>
<td>24-28 VDC</td>
</tr>
<tr>
<td>Receiver Sensitivity</td>
<td>To -94 dBm (adjustable)</td>
<td>To -94 dBm (adjustable)</td>
</tr>
<tr>
<td>Range</td>
<td>&gt;200 NM with 8 dBi Antenna and LNA</td>
<td>&gt;200 NM with 6-channel Antenna and LNA</td>
</tr>
</tbody>
</table>

6-Channel Antenna

- Frequency band: 978 MHz and 1,090 MHz
- RF sectors: 6 at 60° each, 360° total
- Polarization: Vertical
- Min. gain 978 MHz: 22 dBiL (with LNA)
- Min. gain 1090 MHz: 27.5 dBiL (with LNA)
- Mast mount (Dia.): 1.5 in. IPS
- Weight: 17 lb. max (7.71 kg)
- Diameter: 7.5 in. (19.05 cm)
- Height: 24.69 in. (62.71 cm)
- Temperature, low/high: -55 to +85°C

Single Channel Omni Antenna

- Frequency band: 960 MHz to 1,215 MHz
- RF sectors: 1 at 360°
- Polarization: Vertical
- Min. gain 978 MHz: 8 dBi
- Min. gain 1090 MHz: 8 dBi
- Weight: 8 lb.
- Diameter: 3.0 in.
- Temperature, low/high: -51 to +49°C

Note: Other antenna size options available

Designed for Varied Environments

Antenna selection is based on installation size limitations, overall surveillance coverage and target density performance requirements.

Understanding the critical importance of adaptable technology, Telephonics’ design engineers included additional capabilities such as the 978 MHz Universal Access Transceiver (UAT) and embedded GPS with an SAASM option, increasing situational awareness coverage for general aviation aircraft with embedded security for military applications.

For additional information, contact Telephonics at 631.755.7000 or visit www.telephonics.com.