



TECHNICAL DATA SHEET

HARRIER Security Radars

Perimeter Security GSR-1500 Ground Surveillance Radar Systems

Model: GSR-1500 (Ground Surveillance Radar)

Functionality: Supports single or multi-function real-time marine or ground surveillance with user-definable perimeter intrusion alerting

Configuration: Available in fixed or fully self-contained mobile (trailer, truck or towered) configurations

Radar Sensor: 165 mw solid-state X-band; 12 or 24 vDC, low power consumption (18 watts)

Features: Utilizes DeTect's field proven, military grade clutter suppression and target detection and tracking algorithms for low radar cross section (RCS) targets in complex environments

Deployable as single stand-alone sensor or in linear sensor networks

Supports integration with C2/C4I using DeTect SDK or standard output protocols (ICD-0100 or ASTERIX)

5.2 degree Horizontal Beam Width; 25 degree Vertical Beam Width; 24 or 36 RPM scan rates

Target-of-interest options include size class, speed, heading & target trails

Ancillary equipment integration includes automatic slew-to-cue & slew-to-track using CCTV video, thermal & acoustic sensors & hailing/deterrent devices (Long Range Acoustic devices - LRADs)

Integrates with AIS receivers & GPS tracking systems

Ranges: Detection of ground & marine intruders*:

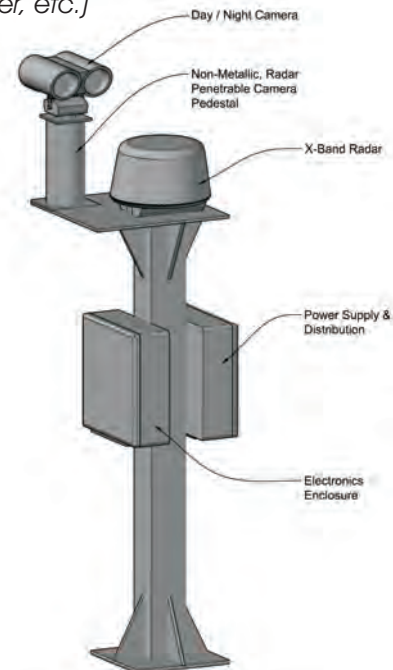
- Sailboat/small powerboat; 2 nm (3.7 km)
- Medium sized boat; 2.6 nm (4.8 km)
- Pedestrians; 0.8nm (1500 m)
- Vehicles; 3nm (5.5 km)

Network: TCP/IP supports multi-user remote system display, control & HSM via fiber optic, LOS wireless, SATCOM or cellular data networks



Above photo: HARRIER GSR-1500 installation for airport shoreline protection with radar-controlled DualSec, continuous zoom thermal & day channel camera.

Below figure: Illustration of stand-alone configuration with dual enclosures for UPS back-up power and local data processing (IP encoder, transceiver, etc.)



* Detection range performance subject to site conditions.

DeTect's radar processing technology developed specifically for detection and tracking of small, low radar-cross section, non-linearly moving targets make it one of the most sensitive, affordable security radar technologies on the market today for locating and monitoring a wide range of targets including aircraft, UAVs, ultralights, ships, boats, vehicles and pedestrians. The HARRIER security and surveillance radar provides full surveillance coverage ground level to altitudes up to 20,000 feet with ranges out to 30+ miles and allows the system to function as a multi-purpose sensor for simultaneous detection, alerting and tracking of aircraft, vessels and ground targets. HARRIER is an ideal, cost-effective solution for many force protection and homeland security applications. HARRIER functions include:

- 3D Airspace monitoring & surveillance
- Aircraft detection & tracking
- Marine and coastal surveillance
- Airspace see-and-avoid
- Intrusion detection
- Collision & obstruction avoidance
- Perimeter & shoreline security

Applications:

HARRIER applications include a wide range of sites, types, sizes and configurations from single facilities to large-area or linear radar networks for force protection and facility security, including:

- Commercial airports, civil aviation airports & military airfields & ranges
- Unmanned aerial vehicle (UAV) operations support
- Government installations
- Industrial plants, refineries & power plants
- Ports, waterways & coastlines
- Border control areas
- High security facilities
- Gap filler radars

Interoperability:

HARRIER systems can operate as a standalone security/force protection radar system detecting and alerting perimeter intrusions on land, by air and on water. The system can be programmed to detect intruders crossing a user-defined site perimeter, providing automated notifications to security forces. Alarm functionality can provide notification of security events via pager or cellular

phone or direct to remote monitoring stations. HARRIER ASR systems can also be used as coverage gap filler radars to provide data for large-scale navigation and military surveillance radars in areas blocked by terrain or structures including wind turbine farms.



Integrated Technology:

HARRIER systems use electronically variable high speed scanning (up to 48 rpm) for enhanced small target detection in high clutter environments such as developed areas, terrain and high sea states. Systems are optimized for detection of small targets that includes low-profile manually propelled watercraft, small motorized high-speed watercraft, low flying aircraft and ultralights. Automatic detection and tracking includes user-defined monitoring and alarm zones. Systems are offered in fixed and mobile configurations and can be linearly networked to cover large areas such as border crossings, coastlines and large facilities. DeTect's HARRIER technology is highly customizable providing radar, video, and thermal detection and acoustic deterrent through a single user interface display with advanced alerting and response features all controllable remotely.

Features include:

- Microsoft Windows-based operating software
- Integrated radar, thermal, video, acoustic, sonar & deterrents
- Display activated "point-and-click" video zoom & deterrent activation
- Compatible with other security & display systems
- Site-specific underlay maps includes mobile mapping technology
- Identifies & tracks each target by size, position, speed & heading
- Audible & visual intrusion alarms with optional notification by email & radio pager