Technical Data Sheet

HARRIER Visual Warning System for Windfarm Automatic Obstruction Lighting Activation

HARRIER™
VISUAL WARNING SYSTEM

Model number: VWS 200d

Application: High resolution, airspace surveillance with automatic activation of windfarm obstruction lighting when aircraft are detected approaching to within defined perimeters

Configuration: Fully self-contained fixed or mobile system designs for terrestrial & offshore wind farms

Sensors: 200 watt solid state S- or X-band radar sensors with Frequency Diversity & Doppler processing; secondary TCAS (Traffic Collision Avoidance System) receiver for cooperative aircraft

Operation: Extended range detection of cooperative (transponder equipped) & non-cooperative aircraft & ultralights with automatic activation of obstruction warning lights at user-defined perimeters (10 mile minimum recommended)

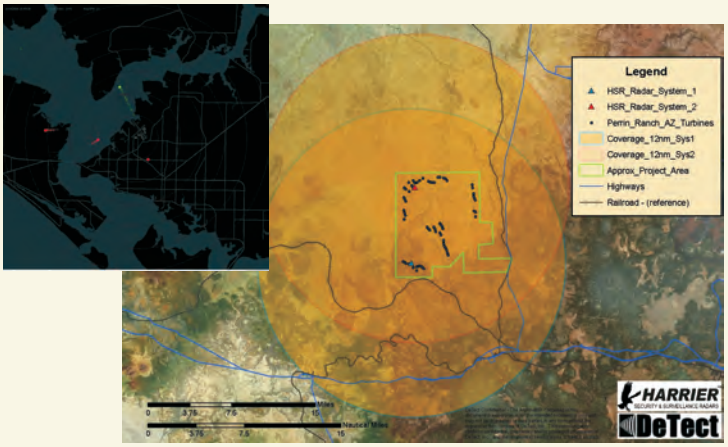
Range: Full 360 degree 3D coverage with detection to 28 miles

Power: 110/220 vAC, 60/30 amps service with UPS back-up & power conditioning (30 minutes) & optional auto-start single or dual 6 kW diesel generator & fuel tank to support 10-20 days 24-7 operation

Network: TCPIP supports multi-user web remote real-time system display, control & data access via fiber optic, wireless or cellular

TOP: The HARRIER VWS is typically supplied as a fixed, self-contained skid mounted system for ground or tower-based installation.

BOTTOM: For windfarm airspace monitoring & obstruction lighting activation, 1-3 HARRIER unit sensors are typically installed around the perimeter of the windfarm to ensure full 360 degree detection of approaching aircraft.



Advantages of the HARRIER VWS for windfarms:

- Longer range detection provides greater safety margin
- Secondary TCAS for detection backup
- Fewer sensors required for complete coverage
- Ground-based sensors with lower installation & O&M costs
- Based on FAA tested, military-grade technology
- Advanced solid-state Doppler technology
- Meets or exceeds all FAA requirements
- Multi-functional capable for VWS, site security & bird detection fully compatible with existing SCADA systems

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HARRIER™
SECURITY & SURVEILLANCE RADARS

Technical Data Sheet

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

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