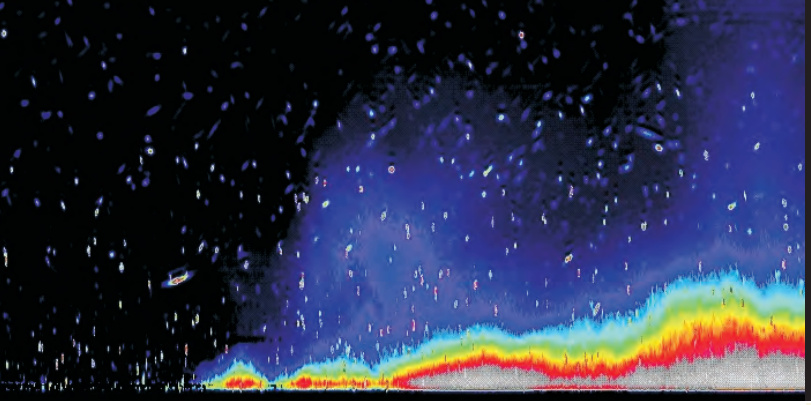


Technical Data Sheet

VESPER Vertical Profile Radar for Bird & Bat Survey & Risk Mitigation

VESPER™
Vertical Profile Radar

Model number: X25 VPR

Application: High resolution, real-time bird & bat detection & discrimination for quantitative wind farm preconstruction survey, mortality risk assessment & monitoring of terrestrial & offshore sites

Configuration: Mobile, trailered, fully self-contained or fixed system designs for terrestrial & offshore wind farms

Radar sensors: 25 kW fixed beam Vertical Profile Radar (VPR);high resolution with Frequency Diversity & Doppler processing

Operation: Narrow beam detection & tracking with discrimination of bird & bat targets & species level identification (function requires area calibration) with full data recording to SQL dataserver system

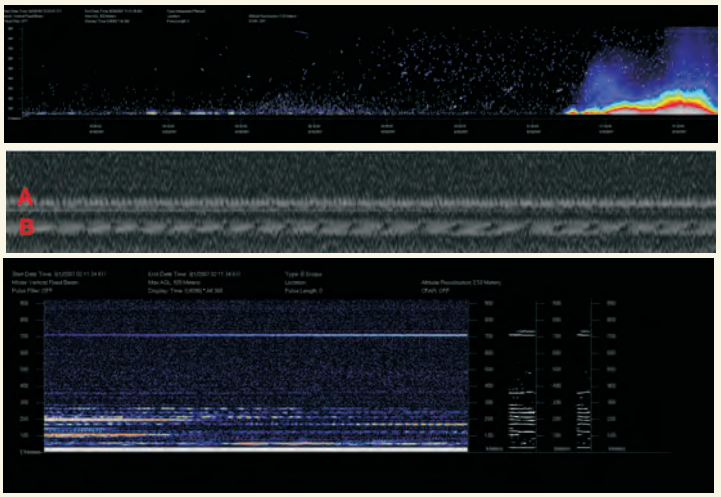
Range: Vertical 0.75-2 miles with 3 degree beam width & detection from near ground level to 15,000 ft AGL

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: VESPER is the first production model radar for real-time differentiation of bird & bat targets; systems are available in a standard trailered model & custom, fixed installation configurations for installation both on- & off-shore.

BOTTOM: The VESPER produces ultra-high resolution target size, direction & wingbeat frequency data on insects, birds & bats that are processed in real-time by the system for species level identification to support survey & risk mitigation.



DeTect 1902 Wilson Avenue Panama City, Florida USA Tel. 850-763-7200 Web www.detect-inc.com

Merlin™
AVIAN RADAR SYSTEM

Technical Data Sheet

DeTect provides advanced radar technologies and expert support to wind energy developers, owners and consultants for bird and bat survey, mortality risk assessment, monitoring and risk mitigation for projects worldwide that includes:

- NEXRAD pre-screening site assessment
- Bird & bat radar systems – terrestrial and offshore
- Data processing, analysis & reporting
- Bird & bat mortality risk analysis
- Risk mitigation radar systems
- Public meeting support & technology consulting

Bird & Bat Radar Technologies from DeTect:

DeTect is the developer and manufacturer of the most advanced and proven radar systems available for wind energy project bird and bat survey, risk assessment, monitoring and real-time risk mitigation with over 90 systems operating worldwide. The technology was originally developed for the US Air Force and NASA and is highly automated providing unattended 24-7 collection of high quality data on bird and bat activity at proposed windfarm sites that can be used to develop detailed pre-construction risk projections and mitigate risk at operating wind farms.

DeTect provides full operational and technical support to wind farm owners and consultants that includes system deployment, operation, user training, and data processing, analysis, reporting and QA/QC. Staff specialists include highly experienced radar ornithologists, avian biologists and statisticians that comprises the most experienced team of experts in remote sensing of birds and bats in the world - with specific expertise in design, construction and operation of bird/wildlife detection systems for real-time risk management.

BirdMap™ NEXRAD Pre-screening Risk Assessment:

BirdMap™ is a GIS-based system that uses processed radar data from the US NEXRAD weather radar network to provide current and historical avian population density and seasonality data for the continental US, Alaska and Hawaii, including most coastal and offshore resource areas. BirdMap incorporates public and proprietary databases on habitat, threatened and endangered species, roost sites, hibernacula, bird and bat distribution, and refuges along with relevant correlation issues such as wetlands, weather and visibility to provide preliminary evaluation of a proposed windfarm site. DeTect maintains the largest database in the world on bird and bat activity that includes over five years of bird density and migratory data for the US. BirdMap provides a unique resource for conducting a low cost “screening” assessment of proposed wind energy development sites to assist in site selection prior to investment in long term planning studies, radar and field studies and design.

MERLIN Avian Radar System:

MERLIN surveys provide the most cost-effective, scientifically sound, and conclusive method for collection of high-quality, statistically superior data on bird and bat movements at proposed wind turbine project locations - for both on-shore and off-shore wind turbine installations. DeTect has extensive expertise and experience that includes the only staff with experience in conducting major multi-year, continuous avian radar studies for land-based and offshore windfarms. MERLIN uses state-of-the-art radar and computer techniques developed specifically for detecting and tracking the unique behavioral characteristics of birds and bats to collect data continuously and automatically generating highly accurate, detailed datasets for quantitative analysis. MERLIN is fully remotely viewable and controllable and operates 24-7 unattended. Data is also archived providing a permanent record for each project. MERLIN’s Analyzer program generates detailed data in both tabular and graphical formats quantifying the numbers of birds passing through the rotor swept area allowing precise calculation and determination of bird and bat mortality risk.

MERLIN *SCADA* Mortality Risk Mitigation System:

For operating windfarms, the MERLIN *SCADA* functionality allows the MERLIN system to operate as a monitoring and risk mitigation system providing advance "early" warning to windfarm operators of approaching migratory or resident birds and bats under mortality risk conditions. MERLIN *SCADA* can operate autonomously, automatically idling turbines when risk conditions are detected by the system, restarting the turbines when the risk has abated. The MERLIN SCADA operating software is fully compatible with most wind farm SCADA (Supervisory Control and Data Acquisition) systems and can be configured to mitigate raptor mortality risk providing continuous monitoring of the airspace above turbines, automatically stopping the rotors when raptor activity consistent with mortality risk is detected.

For detailed information on the systems, email DeTect at info@detect-inc.com

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