

# TECHNICAL DATA SHEET

## MERLIN

### Aircraft Birdstrike Avoidance Radars



#### SUMMARY SPECIFICATIONS

*subject to change without notice*

<b>Model:</b>	Industrial series for commercial airports and military airfields
<b>Application:</b>	Real-time aircraft-bird strike avoidance
<b>Configuration:</b>	Mobile and fixed designs, fully self-contained with all system hardware, software and integration included
<b>Sensors:</b>	200w Horizontal Surveillance Radar (HSR, simultaneous dual range); 200w Vertical Scanning Radar (VSR); Synchronized all solid-state sensors with 50,000 hour MTBF; All weather bird detection (HSR & VSR S-band frequency); Dopplerized HSR for superior detection in high clutter environments
<b>Operation:</b>	3D coverage with dedicated coverage of runway flight corridors and secondary 360 degree surveillance around airport
<b>Operating Range:</b>	<b>HSR:</b> 2-8 miles, 360 degrees 3D airspace surveillance around the airport with 24 degree detection from surface to above 15,000 ft <b>VSR:</b> 1-3 miles into runway corridors with 24 degree beam width and detection from surface to 15,000 ft
<b>Power:</b>	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
<b>Network:</b>	TCPIP supports multi-user web remote real-time system display, control & data access via fiber optic, wireless or cellular



**ABOVE:** MERLIN Aircraft Birdstrike Avoidance Radar system installation at the Warsaw, Poland airport.

**BELOW:** MERLIN systems are also available in fixed, fully self-contained skid package units (MERLIN SS200d HSR sensor installation at US Air Force Whiteman AFB, Missouri USA.)



- The most widely used & tested bird radar system with over 140 units operating worldwide in aviation safety & bird control.
- The only system in use for real time, tactical operational birdstrike avoidance by air traffic controllers.
- Engineered & manufactured for dependable 24-7 operation with high reliability & low maintenance.

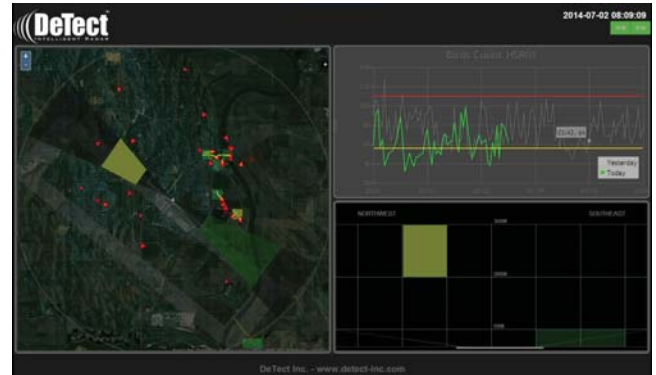


DeTect's MERLIN Aircraft Birdstrike Avoidance Radar system is the most advanced, proven and widely used bird radar technology available for real-time detection, tracking and warning of hazardous bird activity at commercial airports, military airfields, military training and bombing ranges. The MERLIN bird radar is proven, production model technology with over 140 systems currently operating at sites worldwide in aviation safety and bird control applications with documented results in reducing birdstrikes and aircraft damage and delay costs. MERLIN is the only production model bird radar used operationally at both commercial airports and military airfields for real-time, tactical bird-aircraft strike avoidance.

The MERLIN technology includes a wide range of unique features and benefits not available with any other bird radar system:

- Operational, production-model technology
- Real-time, web based display of high risk bird activity with high update rates with accurate target position & altitude data
- Automatic, continuous risk assessment & warnings for tactical bird-aircraft strike risk alerts to controllers & pilots
- Mobile display capabilities to support bird control units
- Advanced clutter suppression & Doppler processing detects birds from near ground level to above aircraft operational altitudes
- Real-time bird mass & size filtering eliminates false positive alerts
- State-of-the-art solid state, S-band radar technology with antenna synchronization
- Proven military-grade bird detection tracking algorithms, clutter suppression & insect filtering
- Bird radar software developed specifically for detection & tracking of bird targets
- Simultaneous multi-range operation to support both bird control & aircraft surveillance
- Automatic SQL datasystem with daily BASH report generation engine
- Complete design, installation, commissioning & long-term support
- Full parts & labor warranty & performance guarantee
- Proven technology tested, validated & operationally used by commercial airports, the US Air Force, Navy & NASA

With MERLIN, users get more than just a radar - each MERLIN system is supported by DeTect's experts in military and commercial aviation safety, air traffic control, airfield management, airfield bird control and radar remote sensing to provide a cost-effective system that integrates seamlessly and effectively into airfield or airport operations.

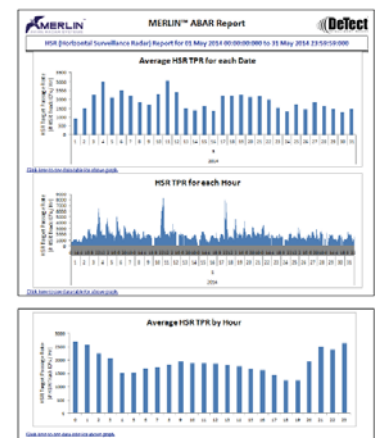


**MERLIN** supports highly customizable displays with varying levels of real-time information for users including air traffic control, airfield operations and bird control units with color-coded risk zones, automatic strike risk alerts and trend graphics.

The MERLIN bird radar operating software was specifically developed to detect and track bird targets: other bird radars use modified ship or aircraft tracking software which are not designed to identify and track the unique flight signature and variable characteristics of birds in flight. The MERLIN system also processes and displays the bird targets and tracks and current strike risk in real-time with the fastest scan update rate available on the market.

The MERLIN system uses the industry standard dual vertical and horizontal scanning radar configuration to provide simultaneous 3D coverage of critical airspace with dedicated scanning of runways and approach and departure corridors from the ground level up to 15,000 ft AGL and around the airfield out to 8 miles. A key feature of MERLIN is its wide-beam coverage that detects and provides real-time alerts of hazardous bird activity from aircraft flight operational altitudes to the ground level for real-time tactical bird-aircraft strike risk avoidance with precise positional and altitude data for significant risk targets. With MERLIN's military grade clutter suppression and Doppler processing, the system also provides continuous bird detection near the ground level where 85% of damaging and hazardous birdstrikes occur at commercial airports.

MERLIN systems are available in mobile and fixed installation configurations. For large, multi-runway airports and airfields, multiple fixed-mount sensor packages are installed around the airfield and networked to provide optimal coverage of the airfield and the area around the airport (out to 8 miles).



**MERLIN's** powerful SQL datasystem automatically records all target and track data generating a wide range of user reports