BIRD Aerosystems Company Profile

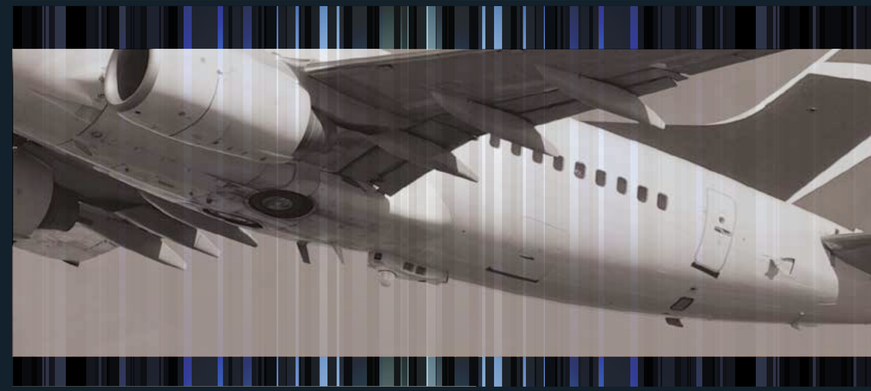
BIRD Aerosystems is a privately owned company established in 2001 and is based in Israel. BIRD specializes in the development and deployment of two main product lines: Airborne Missile Protection Systems (AMPS) and Airborne Surveillance, Information and Observation (ASIO) solutions.

The company combines in-depth knowledge of modern airborne operational requirements along with continued technological innovations to drive the development of new and advanced airborne products and solutions.

BIRD provides customers with turn-key programs that include operational analysis, system design, system integration and installation, project management, extended product support, and a broad range of system engineering activities including ground testing, flight testing and system certification.

BIRD enjoys extensive cooperation with several leading international companies for the worldwide development and marketing of the AMPS and ASIO solutions. These solutions are in operational use today by many countries and customers around the world including NATO forces, UN air operations, the US Government and many others.

BIRD has the necessary experience, scope, and breadth to contend with the most complex operational requirements and design challenges while being able to provide personalized attention to each of our customers' requirements.



AMPS-MV

Airborne Missile Protection and Verification System

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BIRD AEROSYSTEMS

MPS-MV

Where **Innovation** Meets **Performance**

The Threat

Military, VIP and Commercial aircrafts are all exposed to the growing threat of Surfaceto-Air Missile (SAM) attacks and specifically from MANPADS (Man Portable Air Defense Systems). Since the 1970's, more than 40 civilian aircraft have been hit by MANPADS causing over 28 fatal crashes and over 800 deaths worldwide. Additionally, during the 2011 conflict in Libya, over 20,000 of the most advanced MANPADS were stolen from Qaddafi's bunkers and presumably sold to Al-Qaeda terrorist groups.

As MANPADS missiles impose a deadly threat to global aviation, detecting and countering this threat is a top priority for decision makers worldwide.

AMPS-MV Overview

AMPS-MV (Missile Verification), the most advanced system of the Airborne Missile Protection System (AMPS) product family, is provided in cooperation between Airbus Defense & Space and BIRD Aerosystems. The system is designed to detect, verify, identify and foil MANPADS attacks.

The system provides all round coverage along with an unprecedented near zero False Alarm Rate (FAR) and maximum warning time, enabling optimal deployment of countermeasures and/or a DIRCM system for ensuring highest aircraft survivability.

By achieving a near zero False Alarm Rate, the AMPS-MV complies with EASA/FAA civil aviation regulation procedures and is uniquely capable of being installed on both civil and military aircrafts.

AMPS is certified by leading aircraft manufactures including EUROCOPTER, MIL Design Bureau and others. Significantly, it has evolved into a standard system with NATO and has been selected and installed on VIP and civil platforms used by the United Nations (UN) Air Operations, and the US and Canadian governments.

Concept of Operation

AMPS-MV operates in a fully autonomous mode and provides complete protection with minimal pilot intervention.

The typical engagement scenario, as described above, is initiated by the MILDS AN/AAR-60 (UV) sensors that automatically detect the missile launch and send the indication/alarm to the EW Suite Controller (MCDU). The MCDU activates the Missile Approach Confirmation Sensor (MACS) that pivots in the direction of the incoming threat and verifies the validity of the threat.

Only upon validation of the threat by both MILDS and MACS sensors, will the MCDU confirm the threat, initiate the optimized countermeasure dispensing program, and provide visual and audio alerts to the aircraft crew.

MACS Sensor - Eliminating False Alarms

The AMPS-MV is based on a patented concept implemented into the Missile Approach Confirmation Sensor (MACS). MACS performs confirmation of suspected incoming missile threats and reduces the system False Alarm Rate (FAR) to practically zero.

Upon receiving a pre-alarm warning from the primary AN/AAR-60 MILDS electro-optics sensors (UV), MACS pivots in the direction of the incoming threat and, using a HPRF Doppler radar, searches for the incoming missile and validates the UV detected threat.

The validation process between the MILDS sensors and the MACS provides the most effective filtering for all know nature and man made types of false alarms that are typically detected by electro-optical sensors and ensures that only real missiles will be declared by the system and reacted upon.

Concurrently, MACS collects relevant data on the target (velocity, distance) and calculates its time-to-impact, enabling the most effective countermeasure and DIRCM response to the incoming missile.

Advantages of the AMPS-MV

- Fully autonomous system from detection to protection
- Near zero false alarm rate (1 in every thousands of hours)
- Highest probability of detection
- Calculated Time-to-Impact to enhance countermeasure logic
- Multi threat handling – up to 8 simultaneous threats
- Standalone configuration – no interfaces required for mission or avionics systems
- Improves aircraft survivability (especially at night) by eliminating the need to fire any flares due to false alarms
- Drastically reduces overall system lifetime costs due to elimination of flares fired on false alarm detections
- Designed according to MIL and RTCA/DO environmental and EMI standards to meet both military and civilian aircraft requirements (both helicopters and fixed wing)
- Designed according to RTCA/DO-178 and RTCA-DO-254 civil aviation standards to ensure high level of sensor safety and reliability

These unique capabilities and the unprecedented near zero False Alarm Rate make the AMPS-MV the only system compatible with Civil Aviation regulations and eligible to be installed on both civil and VIP platforms.

Wide Deployment

BIRD provides its customers with a turn-key solution that includes the installation, integration and support for the AMPS system. AMPS is combat proven and has been operational in Afghanistan and Iraq with over 400 installations on platforms such as: EC135, EC635, EC145, BK117, EC155, Cougar, EC225, Mi8, Mi17, UH60, S-92, CH53, B407, B200, B350ER, P3C, C130 and more.