Aardvark Newsletter

July 2012

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LITTLE CROW CONFERENCES

We have 2 Little Crow Conferences coming up on:

- 5 September 2012 @ SAAB EDS, Centurion.
- 7 November 2012 @ the CSIR, Pretoria.

If you are interested in presenting a paper at any one of these conferences, please contact Christo Cloete

AARDVARK AWARDS

The AOC supports the development and acknowledgement of members in the Electronic Warfare community by recognising outstanding performance in the field of EW.

Top Achiever Award:

The first award that was activated was for academic achievement in EW related courses. The top academic achievers in the most senior DOD EW Courses within each Service in the DOD (SA Army, SA Air Force, SA Navy) would be acknowledged by AOC Aardvark floating trophies as well as small replicas that acknowledge top academic performers. The floating trophies are donated to the relevant training institutions that present the courses and will remain at the institution. The small trophy replicas however become the members' property. The recipient also receives complimentary one-year AOC membership. The first recipient of the AOC award was Maj Hugo Visser from 16 Squadron, who was the top performer on the SA Air Force (SAAF) EW System Course that was presented by SAAF EW Centre.

Individual Award:

The second award that the Aardvark Roost wants to activate is the Individual Award - recognising individuals (AOC members) who are still actively involved in EW and who have contributed significantly to EW and related efforts.

The nomination criteria can be found on the Aardvark Website (Awards), and the completed form can be sent to Christo before the end of July, if it is to be considered for 2012.

AOC LEGACY COFFEE TABLE BOOK

2014 is a monumental year for the Crows, as it marks the 50th Anniversary of the Association of Old Crows!

To commemorate this momentous occasion, the AOC is compiling an AOC Legacy Coffee Table Book which will include historical AOC events, photos, achievements and personal essays from the members. The AOC is engaging members through a "First Person Singular Essay Contest" of which the winning entries will be featured in this Legacy book. In addition, the AOC will produce a 2014 AOC Legacy Calendar highlighting significant dates marking the evolution of EW and the AOC.

If you are interested in contributing, you can send your contributions to Christo, for review by the Aardvark Board, after which it will be forwarded to AOC headquarters.

CONTRIBUTIONS

This newsletter will be sent out roughly on a monthly basis to the South African EW interest group (currently more than 260 people). If you want to contribute with any article/news, please feel free to send it to Christo for inclusion in the next newsletter. Also, if you know of people interested in EW that are currently not on the distribution list, please will you send Christo their contact details.

INDUSTRY NEWS

Saab launches the new airborne electronic counter measures dispensing system BOH

Defence and security company Saab, a leading supplier of electronic warfare self-protection systems, introduces BOH, a new highly effective countermeasures self protection pod for use on any fixed wing aircraft.

BOH is an implementation of the Saab BOL Countermeasures Dispenser System (CMDS) and Compact Integrated Defensive Aids Suite (CIDAS) into the shape of a missile. The BOH is modular and can be arranged in a multitude of configurations.

BOH provides covert sustainable pre-emptive dispensing, missile warning, forward firing of flares and cocktail dispensing. All these capabilities have been incorporated into the form-factor of a missile utilizing the well established AIM-9 Sidewinder and AIM-120 AMRAAM interfaces and characteristics for lean aircraft integration.

"By using the well established interfaces between missiles and launchers, the BOH can be installed in place of a missile on a mission-to-mission basis thus allowing the operator to choose if missiles or additional EW equipment in the BOH form-factor shall be carried. Also, a mix of missiles and BOH can be carried", says Christer Zätterqvist, product manager, Saab's business area Electronic Defence Systems.

"The simple integration allows a limited number of BOH to be rotated between aircrafts or aircraft types. The operational benefits by carrying BOH are the pre-emptive and advanced forward firing flare capabilities complemented by missile approach warning sensors mounted in the front end. The missile approach warning sensors can be used to automatically trigger dispensing action i.e. auto mode", Zätterqvist continues.

Long duration pre-emptive dispensing capability

The building blocks are Missile Approach Warning System (MAW), pyrotechnical dispenser, controller and electromechanical dispenser modules. The countermeasures dispensing is characterized by providing long duration pre-emptive dispensing capability with the BOL dispenser as well as forward firing flare capability with the Saab BOP dispenser and it is designed to defeat all modern IR-guided threats.

The dispensers cater for highly effective flare cocktail capability. The dispensing system also caters for highly effective chaff dispensing. BOH is designed to interface with any missile launcher. The mass and centre of gravity properties are similar to those of an AIM-9 Sidewinder missile and aerodynamic properties are similar to those of an AIM-120 AMRAAM missile. The BOH can be integrated with MIL-STD-1553 or RS-485 data links to adapt to other displays and control means. To further simplify integration, wireless technology can be used.

This week a prototype of BOH is on display in Saab's stand at LIMA 2011, the Langkawi International Maritime and Aerospace Exhibition in Malaysia.

Successful first flight for BOL countermeasures dispensing system on F-18 in Finland

The Finnish Air Force has made a successful first flight of the BOL countermeasures dispensing system from defence- and security company Saab on the F-18 Hornet fighter.

The integration of the BOL countermeasures dispenser is part of Finnish Air Force Hornet Mid Life Upgrade 2 (MLU2) Program and Saab was awarded the contract for production and integration of the BOL countermeasures dispenser system in September 2009.

Proven performance

The BOL Countermeasures Dispensing System from Saab protects the Aircraft against both heat-seeking and radar guided missiles and has proven superior performance. The BOL integration on the F-18s dramatically increases the amount of countermeasure payload carried by each aircraft, significantly improving combat survivability.

The BOL system uses wingtip vortices to distribute the chaff- and IR payload, which greatly improves dispersion and the rapid formation of a protective cloud, while avoiding the need for pyrotechnics and making it quicker, easier and safer to load the system. Each BOL holds 160 chaff/IR packages, five times more than conventional pyrotechnical dispensers.

The BOL countermeasures dispenser system is in operational service on the Royal Australian Air Force's F/A-18 Hornet, the UK Tornado, US Air Force/Air National Guard's F-15 Eagle, EF-2000 Typhoon and the Gripen fighter.

Major Improvement Milestone on LEDS Active Protection System

As part of its continuing quest to provide customers with cutting-edge solutions Saab has successfully tested a 3rd generation High Speed Directed Launcher (HSDL-306). The directed launcher is an important sub-system of the Land Electronic Defence System (LEDS) that enables the system to guarantee hemispherical coverage and multiple shot capabilities to the installed platform.

The tests were carried out mid March in Centurion, South Africa, and mark an important milestone in enhancement of Saab's active protection offer for ground vehicles.

"The tests went very well and the evaluation showed good results. All our test objectives were met which verifies we are on the right track and that our efforts to remain the international benchmark active protection concept have been successful", says Cobus van der Merwe, Executive Manager Business Development for LEDS at Saab.

The tests included deployment of GALIX 13 multispectral smoke from Etienne Lacroix, France. The tests also included a combination of coverage angles and different dispensing sequences.

The HSDL was mounted on a Piranha protected vehicle variant to test integration design and to monitor aspects like recoil and power consumption reduction. The primary benefits offered by this next-generation launcher are the reduction in power consumption, size and weight. It also offers future design flexibility in terms of different payload options and operational mission applications.

The HSDL-306 is a joint effort by Curtiss-Wright Antriebstechnik GrnbH of Switzerland and the Saab business area Electronic Defence Systems.

LAND VEHICLE SURVIVABILITY ENHANCEMENT

LEDS (Land Electronic Defence Systems) is Saab's active protection system for ground vehicles. When installed in full-configuration, the LEDS system will neutralise all threats on the battlefield by means of combined active signature management, soft- and hard-kill capability. Full hemispherical coverage is provided to detect incoming threats and alert the crew. The flexibility of design makes it possible to protect vehicles across the entire scope of operations including Military Operation in Urban Terrain (MOUT) and high-intensity conventional warfare.

Sensor options include laser warning and/or radar warning. The sensors are integrated to the system to allow timely defeat of threats by the application of layered counter munitions. Counter munitions include an advanced active signature management material that reduces the probability of detection or lock-on by an attacking system. This same material is also extremely effective in external fire suppression on the vehicle and can be deployed pre-emptively to reduce vehicle contamination in the case of Biological, Chemical and Radiation attack. The system has the ability to detect laser beam rider missile attack at a range in excess of 5 km and combines this with multispectral screening smoke to interfere with effective guidance of the missile. The hard-kill capability is a stand-off solution that destroys the attacking warheads by using controlled demolition principles, thereby resulting in minimal collateral damage and virtually no residual penetration.

One of the major benefits offered by the LEDS system is the significant contribution to through-life-cycle cost saving to the customer. This is achieved by logistic standardisation due to the large commonality between the different LEDS baselines when used across the entire vehicle fleet, as well as the fact that Saab has achieved a remarkable amount of commonality between airborne land and naval self protection solutions.