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Corner Reflectors in today's Electronic Warfare Scenario

The aggressor wants to provide the ultimate weapon, the defender wants the best defence. The desire to have the best ensures weapons and defence systems continually leap frog each other. Today's battlefield has seen the effectiveness of traditional RF decoy systems becoming eroded. Most of the new technology decoys are expensive in terms of development time and money, to keep up with the emerging threats.

Decoys using corner reflectors are becoming the system of choice against RF seeking missile systems. They are simple in their operation, the user requires minimal threat data, and there is almost no interference with other ships operations. As threats emerge the time to develop the decoy is measured in two to three years from idea to ship fit. Corner Reflectors are a young technology and have a large growth potential to combat threats well into the future.

A Simple and Effective to Defeat RF Seeking Missile

The technology to produce effective decoys using corner reflectors has been developed over the last twenty years by Airborne Systems working in close collaboration with UK MOD. The key to success has been the ability to produce corner reflectors with near theoretical RF performance with the ability to fold them down into small packages and deploy them rapidly on command. Airborne Systems have a unique knowledge of flexible material construction, fabrication and system integration. A unique blend of multi skilled engineers and an in house manufacturing and refurbishment facility allows for concurrent engineering. The result is a technology that has evolved particularly rapidly over the last few years bringing exciting new possibilities.

Products using corner reflector technology have been used by the US, UK and other NATO navies. These naval decoy systems are stored on the upper decks of the ships and deployed over the ships side when required. They inflate to form a large radar reflective array consisting of a number of corner reflectors that float on the sea surface. The decoys can be used in confusion and distraction modes. Due to their ability to produce very large radar cross sections concentrated in a small area

they also form extremely effective decoys in the seduction mode. Products currently supplied come with an integral reusable pneumatic launcher. The launcher bolts to the ship's deck and is connected electrically via one 14 core cable. Alternative launcher configurations can also be supplied to reduce deck space requirements or locate the decoy on decks 'inside' the ships structure. Deployment of the decoy can be triggered electrically via a remote panel situated in the combat control centre or manually at the launcher.

Deployment of the decoy can be conducted regardless of wind direction and ships speed. This means launch is simply a case of pressing a button. Maintenance and training requirements for the systems are minimal, keeping through life costs to a minimum. The products can be classified in the 'fit and forget' category, similar to a liferaft. When required, however, it is there and available exactly when and where needed.

Current advances in the technology and the emergence of new threats have seen the requirement to provide an airborne decoy utilising corner reflector technology. This device could be used independently or with the floating decoy dependent upon tactics and other equipment available. Utilising the advances in corner reflector technology allied with materials and experience gained on a number of space programmes provides Airborne Systems the opportunity of creating a small package with a large RF performance. This device can then be launched from a tube launcher on board ship similar to current Chaff and IR rounds. This is an exciting area of development and will almost certainly see the next generation of RF decoys emerge.

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About Airborne Systems

Airborne Systems, recently acquired by HDT International Holdings in February 2010, Inc. is a world leader in the design, development and manufacture of parachutes for military, personnel and cargo systems, space and air vehicle recovery systems, and deceleration systems for high performance aircraft. The company which incorporates the well-known brands GQ Parachutes, Irvin Aerospace and Para-Flite also provides airbags, naval decoys and weapons delivery systems. The Group is headquartered in Pennsauken, NJ, with facilities in Santa Ana, CA, Belleville, Ontario, Canada, and Llangeinor, Bridgend, UK. It has a global workforce of nearly 800 people.

For more information, please visit www.airborne-sys.com