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ORCA Day/Night Optical Radar

World's first non-emitting day and night wide area optical search system

Finding small objects at sea remains a challenge for maritime search aircraft.

Radar is traditionally size, weight and power dependant. The smaller the object of interest, the larger the radar required to find it. The size and cost is often prohibitive.

Even in challenging sea states the search for small objects is still conducted visually. If you are lost at sea at night, your chance of being found drops significantly due to the reliance on narrow field of view (soda-straw) Infra-red sensors.

The airborne IAS ORCA Day/Night Optical Radar provides a transformative capability for small object search.

Easily installed, and a fraction of the size weight and power of a traditional radar, the IAS ORCA Optical Radar uses a specially configured array of day and night optical sensors that continuously observe the ocean in a 180-degree arc in front of the aircraft.

Everything on the ocean's surface is autonomously detected in under a second, presenting aircraft operators with a small image of each object found alongside its location coordinate on a map.

Detection to identification is completed in seconds.

- Airborne, autonomous, persistent, wide-area, maritime search capability
- Significantly increases the effective swath of any search pattern with a high probability of detection
- Finds people at sea over 30 times faster than current SAR equipment with a greater than 90% probability of detection

Core capabilities:

- Day/Night operations
- 30x faster search
- Low Size, Weight and Power
- Finds non-reflective, non-transmitting objects
- Designed for up to sea state 6 with heavy white caps
- Operates in harsh conditions such as: snow, hail, rain and clouds

Multi mission

- Illegal Immigration
- SAR
- Counter Piracy
- Counter Narcotics
- Fisheries monitoring
- Maritime Security
- Debris Detection

Cross platform

Can be integrated onto rotary and/or fixed-wing asset, and on both manned and unmanned aircraft.

Customizable

The covert IAS Optical Radar can be customized in a modular fashion for both day and/or night operation in a wide-area and/or SAR configuration. Modular customizations can be made for viariety of aircraft installations.

Modular

The pod is internally modular to allow configuration changes, along with processing expandability to meet all SWaP constraints.

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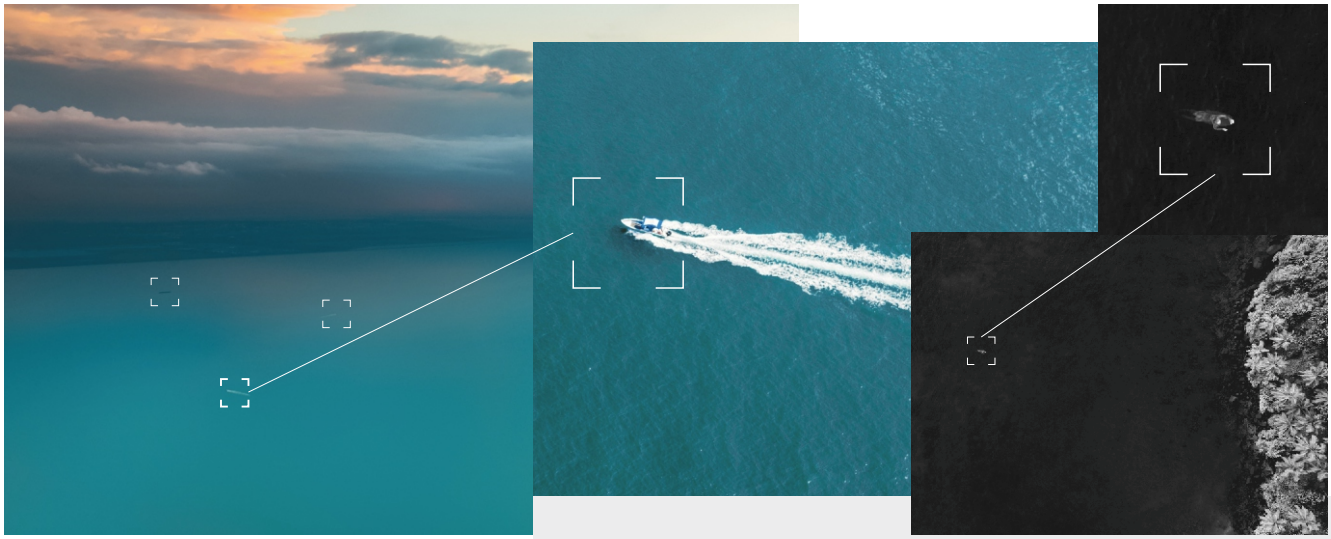

IAS OPTICAL POD

Components

- Day Cameras
- Night Cameras
- Aerodynamic shell encasing precision components
- Forced air smart environmental control

Power

- 18-36 VDC
- 90W base load, up to 480 W (environmental control)

Dimensions

Width: 14.1 inches

Length: 26 inches

Depth: 5.9 inches

Weight

19.5 kg (incl. environmental controls)

IAS PROCESSOR

Components

- Modular processor arrangement
- Comprehensive component protections

Power

- 18-36 VDC
- < 150 W

Format

ARINC 6000 format LRU

Weight

13 kg

QUALIFICATIONS

- Designed and built to DO-160 standards.
- Operational for both fixed and rotary wing aircraft.
- Operable up to 350kts (GS).
- Designed to an extended temperature range of -40°C to +60°C.

SEARCH MODES OF OPERATION

- Wide Area Maritime Search (WAMS)
- Search and Rescue (SAR)
- Both WAMS and SAR are configured for search operations with a Field of View (FOV) of 180 degrees in a forward arc in front of the aircraft

Search and Rescue Field of View

WAMS Field of View

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