MODEL 980 ACTIVE LOW-FREQUENCY TOWED SONAR (ALOFTS)

Maximum Anti-Submarine Warfare (ASW) Performance for Ships as Small as Offshore Patrol Vessels

The L3Harris Model 980 ALOFTS counters the submarine threat, including quiet diesel boats in the deep ocean and littoral water environments.

The ALOFTS system is a robust, proven system with extensive at-sea operating time. A modular system tailored to meet customer requirements, ALOFTS is fielded on fast-attack craft, catamarans, and frigates.

ALOFTS combines a high-powered, active source in a variable-depth towing body. A directional towed array receives active and passive signals. This combination allows high levels of acoustic energy to be transmitted by the active source in broad transmit beams. These beams are received by the narrow, highly-directional, noise-rejecting receive beams of the towed array.

The towing and handling system combines the active source and passive towed array to achieve a single “short scope” tow. This provides rapid response to ship maneuvers and is effective in the littoral, shallow water environment where other towed arrays are ineffective. System features include automatic depth keeping, automatic bottom avoidance and depth control from the sonar operator’s console.

BENEFITS

> Single-tow, active and passive sonar quickly localizes below layer threats to control the undersea battlespace
> Active sonar operates in three frequency bands permitting multiple systems to operate in close proximity
> Long-range detection maximizes flexibility for ASW planners
> Identifies quiet threats in deep and littoral waters and creates an accurate underwater tactical picture (UTP)
> Torpedo defense capability increases platform survivability
> Commercial off-the-shelf (COTS) components and open system architecture (OSA) minimizes costs

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ALOFTS is a complete ASW combat management system with scalable interfaces to a state-of-the-art torpedo fire control system, an advanced torpedo countermeasures capability and the ship’s combat management system.

The ALOFTS user interface was developed in conjunction with naval operators to produce a user-friendly set of displays that maximizes operator efficiency while minimizing workload.

### FEATURES

- Operationally proven on platforms under 500 tons and water-jet propelled craft
- Operational tow speed of 22 knots
- Survivable to 30 knots, sustained
- Configurable for all ship sizes
- Port/starboard ambiguity resolution
- Full azimuth coverage in broadband and narrowband
- Logistics support available ranging from indigenously managed to full supported

### SYSTEM FEATURES

- Reverberation reduction
- Simultaneous continuous wave (CW) and frequency modulation (FM)
- Directional transmission
- Proven tow body
- Embedded high-fidelity trainer
- High-capacity recording system
- Automatic depth keeping
- Flow noise minimization at high speed
- Automatic bottom avoidance
- Multi-target tracking
- Short scope tow
- Target motion analysis
- 3-D active classification
- Embedded trainer
- Embedded expendable bathythermograph (XBT) / performance prediction system

### DISPLAY FEATURES

- Active 360° search
- Built-in test (BIT) reporting
- Active sector search
- Performance prediction
- Active classification (3-D display)
- Underwater tactical picture
- Tactical geographic display
- Passive broadband search and track
- Passive classification: broad band, narrow band and demodulated noise (DEMON)

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