



# LOCKHEED MARTIN PERISCOPE-INTEGRATED ESM ANTENNA & ELECTRONICS SOLUTIONS

Advanced Omni Acquisition, RADAR, and Direction Finding  
Modules Empowering Next-Generation Submarine Awareness

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## Overview

Lockheed Martin's next-generation Electronic Support Measures (ESM) antennas and electronics are engineered to operate within the tight confines of a submarine periscope mast while meeting the demanding performance, reliability, and environmental requirements of today's undersea platforms. Our solutions integrate enhanced omni acquisition, RADAR, and Direction Finding capabilities into a compact package for use in low-observable submarine masts.

The ESM antennas provide a ruggedized RF enclosure to protect internal components that deliver advanced RADAR and DF capabilities. In addition to antenna enclosures, Lockheed Martin also offers ESM electronics modules that house key EW components, such as power and RF over Fiber, in a compact package.

**Supported platforms:** The ESM antennas and electronics are compatible with various periscope mast types, such as the Mast Technical Insertion (MTI) Mast TI-16, the Integrated Submarine Imaging System (ISIS) Augmented System Low Profile Mast (IAS), the Low Profile Photonics Mast (LPPM), and Type 20/24 Masts. These modules are currently contracted to go on Virginia- and Columbia-class submarines.



## Tactical Enhancements

- **Direction Finding (DF):** Faster, more accurate bearing determination for superior target tracking and threat awareness.
- **RADAR/Range Finding:** Integrated obstacle avoidance RADAR and automatic ranging improve navigation safety in confined waters.
- **Compact Form Factor:** Engineered to fit within the limited space of a periscope mast while delivering critical RADAR and DF performance.

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