



Innovative Approach for Acoustic Intercept and Ranging Establishes a Common Baseline for All Submarines

The Active Intercept and Ranging (AI&R) system, manufactured by Progeny Systems, is a fully integrated acoustic intercept processor for use within the Acoustic-Rapid COTS insertion (A-RCI) SONAR system. Developed as an off-shoot of the VIRGINIA Class submarine AN/WLY-1() subsystem technology insertion effort, AI&R provides a technology insertion path for future acoustic intercept signal processing and sensors enhancements that replaces the current AN/WLR-9 capabilities on all Fast Attack Submarines. Exploiting all existing SONAR sensors, the common multi-sensor processing architecture provides acoustic intercept and ranging processing for use on the VIRGINIA Class submarine while the AI&R processor is a fully integrated processor for the A-RCI SONAR suite. Included with the AI&R processor are two fully integrated flat-panels that use finger-on-glass touch technology to provide significant tactical operability advancement over the current legacy systems. Providing continuous monitoring for incoming acoustic transmissions, both the AN/WLY-1() and AI&R systems present the sailor with audio and visual alerts of any acoustic emission and **for the first time** the capacity to re-process and correlate detections from multiple sensors simultaneously. Constructed entirely of commercial-off-the-shelf (COTS) components, the AI&R system is able to support any Grade-A military shipboard application. Developed with total ownership cost reductions in mind, the AN/WLY-1() and AI&R system provide a significant reduction in life-cycle cost, greater system performance, increased reliability and future technology insertion opportunities.

Benefits and Application

- Establishes common acoustic intercept capability for all US Navy submarines classes. Exploits all existing and new SONAR sensors developments.
- Common Multi-Sensor processing architecture exploits all submarine SONAR sensors through simultaneous detection and intercept processing.
- Applicable to acoustic intercept requirements throughout the world, AI&R system provides a common ship self defense system able to support any surface ship application. AI&R is adaptable for Foreign Military Sales (FMS).
- Achieves Significant Total Ownership Costs reduction through increased reliability, reduced maintenance and operator training requirements, and Commercial-Off-The-Shelf hardware components.
- Provides detailed signal spectrum analysis covering a broad frequency spectrum from any SONAR sensor.
- Operationally intuitive finger-on-glass displays enables easy operator control for reduced operator training. Provides significant operational performance improvements over legacy system performance.

For more information about Progeny Systems or the Acoustic Intercept and Ranging:

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Common Multi-Sensor Processing Architecture Exploits All SONAR Sensors

