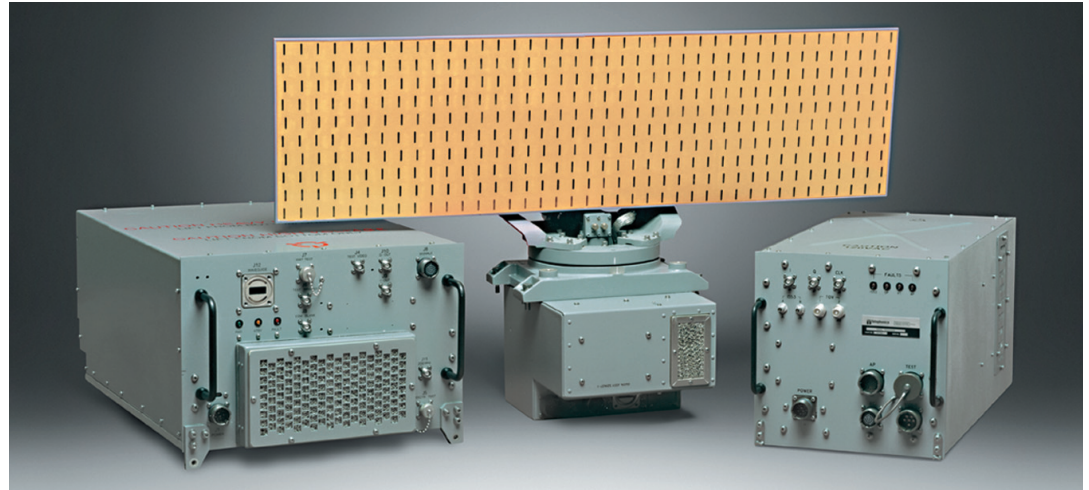


APS-143C(V)3/OceanEye™

Maritime Surveillance Imaging and Tracking Radar System



The APS-143C(V)3/OceanEye™ system is Telephonics' high performance maritime surveillance radar. OceanEye is a durable, lightweight, highly reliable, multi-mode maritime surveillance radar incorporating successful mission critical features of earlier APS-143 versions with technology developed for the AN/APS-147 multi-mode radar flying on the MH-60R, the U.S. Navy's premier Multi-Mission Helicopter. With exceptional capability and pre-planned growth modes, the APS-143C(V)3 is the best choice for maritime tactical missions now and well into the future.

OceanEye features a three-box system comprised of a Receiver/Transmitter (R/T), Signal Processor (SP) and Antenna/Pedestal (A/P). A number of A/P options are

available for nose, belly and flush mounting.



Mission Diversity

OceanEye's diverse mission areas make it a cost-effective sensor on any platform.

- Anti-Surface Warfare (ASuW)
- Anti-Submarine Warfare (ASW)
- Proven Small Target Detection
- Anti-Mine Warfare
- Combat Search and Rescue (CSAR)
- Long-Range Maritime Surveillance and Identification
- Fisheries Protection
- Coastal Surveillance
- Contraband Control including counter drug and WMD interdiction
- Border Surveillance

Advanced Radar Techniques Implemented

- Automatic Detection and tracking with built-in

Global Land Mass Rejection capability greatly reduces operator workload in both blue water and in the littoral region with low false alarm rates.

- Frequency Agile Waveforms covering 460 MHz bandwidth enhances detection, ECCM and eliminates 2nd time around returns
- High-range resolution with high duty cycle pulse-compression waveforms
- SAR and ISAR Imaging Modes
- Independent Display Channel with scan-to-scan integration
- Internally integrated IFF Interrogation available

The OceanEye radar's open architecture design facilitates the incorporation of current or future options through software or firmware updates.

Modes of Operation

The APS-143C(V)3 maritime search capability has four standard modes of operation: Small Target, search, weather, and SART Beacon.

Telephonics is the leading innovator of equipment for detecting, tracking, and identifying small targets in severe maritime environments.



System Specifications

- System weight: 180 lbs/82 kg (with ISAR/SAR imaging)
- Box size: R/T - 1.5 long ATR; S/P 1.0 long ATR; various antenna-radome options
- Power required: 115V, 400 Hz, 3-phase AC power, 1.8 kva typical, and 28V 12A
- Operating modes:
 - Standard: Search, Weather, Beacon, Small Target Detect
 - Optional: ISAR, Range Profiling, Stripmap SAR, IFF Interrogator
 - Planned: GMTI, AIS
- Control configurations: 1553B data bus standalone (TDMS)
- Low Probability of Intercept features: sector blanking, PRF jitter, frequency agility, low sidelobe antenna

Performance

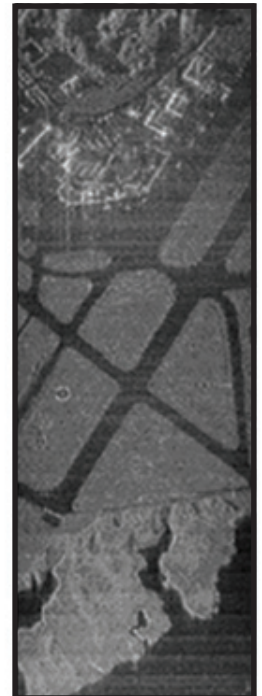
- Maximum range: over 200 nmi
- Display range resolution: 0.01 nmi (1 meter for imaging option)
- Azimuth accuracy: 0.5° or better
- MTBF: 800 hours for helicopters; 1400 hours for fixed-wing

Antenna/Pedestal

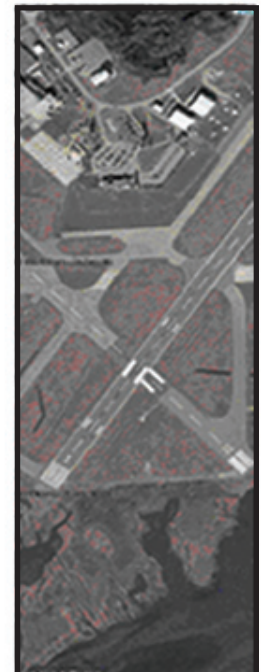
- Bandwidth: 460 MHz
- Gain: 31 to 35 dB (antenna/platform dependent)
- Integrated IFF dipoles available
- 360° Scan
- Sector scan: operator selectable 45° to 350°
- Stabilization: Standard +10°/-25° pitch-and-roll (using antenna tilt)

Display & Processing

- Display scales: 2, 4, 8, 16, 32, 64, 128, 256 nmi
- Clutter Processing: sweep and scan-to-scan integration
- Radar monitor: Wide variety of options available to meet platform requirements
- Standard interfaces available to allow integration/operation with onboard display and control systems
 - MIL-STD-1553, ARINC 429/571/575, IEEE-802 Ethernet, RS-232/422 Serial I/O
- Standalone consoles available using Telephonics Tactical Data Management System (TDMS)



OceanEye Stripmap SAR Image
(Generated Real Time)



Reference Photo

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