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FAST. FORWARD.

APY-11 ROTATING ELECTRONIC SCAN (ESR)

Surveillance rotating-panel GaN Active Electronically Scanned Array (AESA) radar

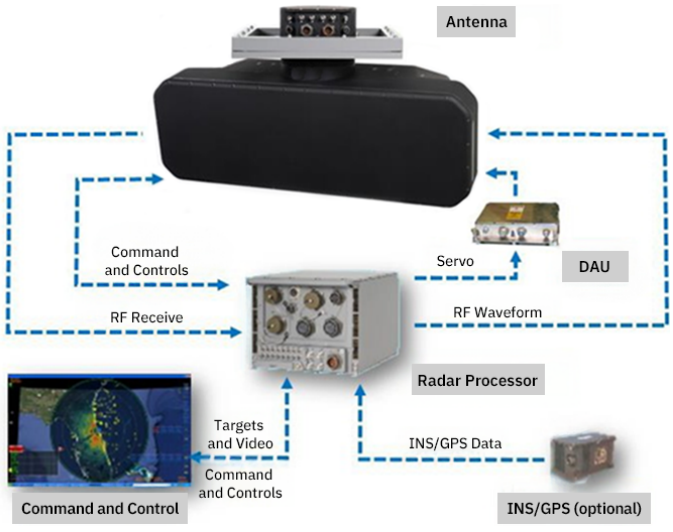
The APY-11 ESR is a cutting-edge radar system that utilizes software-defined technology and GaN AESA for 360° coverage. Suitable for various platforms, including UAVs and aircraft, it operates in the X-band with long-range performance of up to 200 nautical miles for surveillance. This all-weather sensor works day and night, penetrating clouds, rain and camouflage, making it ideal for upgrades or new designs.

AESA technology enhances small target detection range, high-altitude operation, classification, tracking, provides increased reliability, mission availability and reduced maintenance costs. The single rotating AESA panel provides an economical solution for up to 360° azimuth coverage. The AESA supports interleaved operation in detection modes and advanced automation for multi-mode and multi-role capabilities in all weather conditions. The APY-11 ESR Radar tools include Track While Scan (TWS) and Classification While Scan (CWS), helping to reduce operator fatigue, maintain low false-alarm rates and accommodate various target sizes and ranges.

APY-11 ESR can interface with and operate alongside other sensors, such as EO/IR, IFF, AIS and ADS-B and complements the maritime/land surveillance suite, with or without a mission system.

The APY-11 ESR features three Maritime Classification modes, three Air-to-Ground modes, a 3-D Pulse Doppler Air-to-Air mode and a Navigation and Weather mode. Its Air-to-Air mode can detect and track up to 512 small RCS targets, such as SUAS, at very low altitudes. The Surface Search modes include a Track While Scan function, allowing for the simultaneous extraction of over 5,000 contacts. TWS features automatic/manual track initiation, memory mode, lost track handling, track allocation, alerts and uncertainty circle displays. Modes can be interleaved or interlaced to improve mission integration and situational awareness.

The APY-11 ESR is an advanced land Border Security Radar featuring Boundary Alerts, UAS Detection and Ground Moving Target Indicator (GMTI). It also supports Maritime Surface Detection and Air-to-Air Modes for enhanced operational performance and flight safety.



A MULTI-MODE MULTI-ROLE SOLUTION FOR MAXIMUM MISSION FLEXIBILITY

KEY BENEFITS

- Uses advanced GaN and AESA technologies for high power density and enhanced detection
- Delivers excellent performance in cluttered environments
- Features an air-cooled design for reduced size, weight and power (SWaP)
- 360° azimuth coverage with a single cost-effective AESA panel that can be retrofitted to any legacy rotating planar array integration
- Boasts over 3,000 hours of System MTBF

FEATURES

- Enhanced detection for small targets and covert operations at higher altitudes and sea states
- Automatic detection and tracking of 5,000 targets with Strip and Spot SAR imaging and GMTI for ISR support
- Includes Navigation and Weather modes, integrated IFF/AIS/ADSB system and optional Advanced Ground Radar Operation Station (GROS) for standalone use
- True multi-mode and multi-mission radar suitable for any platform

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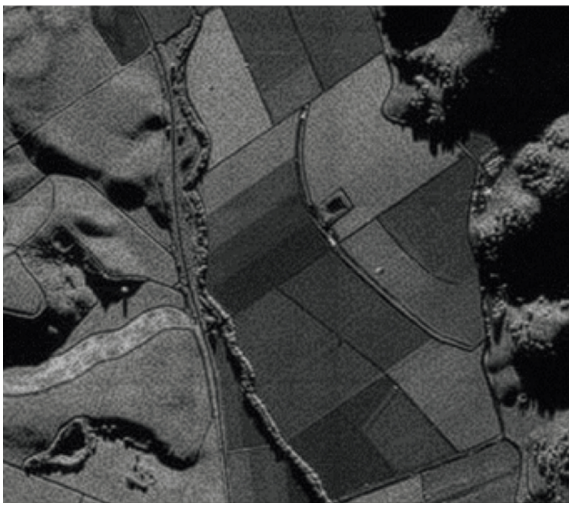
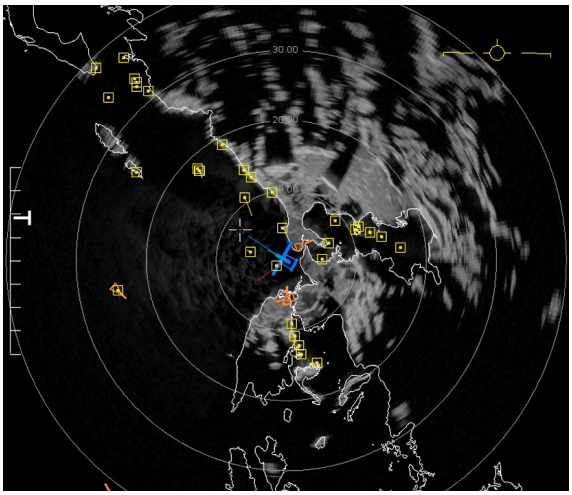
TECHNICAL ATTRIBUTES	PARAMETERS
Technology Readiness Level (TRL)	TRL-9
Radar	Airborne multi-mode, X-band, AESA
Total Power Consumption	3.2 kW
Weight	9193.6 lb (1.0 m config.), 120.8 lb (0.5 m config.)

OPERATIONAL CAPABILITY	PARAMETERS
Small Target Detection Range	Horizon limited to 80 nm
Medium-to-Large Detection Range	Up to 200 nm
Automatic Track Initiation, TWS and Class While Scan	5,000 simultaneous surface targets, 512 air targets
Mean Time Between Failure	Greater than 3,000 hours

APY-11 ESR MODES INCLUDE:

- **Long Range Surface Search (LSS)** – Scan rates and RF waveforms are tailored for detecting medium to large maritime targets, utilizing a selectable range scale up to 200 nm with automatic detection, TWS and plot extraction.
- **Anti-Submarine Warfare (ASW) /Small Targets Detection** – High scan rate and compressed pulse for detecting small targets down to 80 nm. Features automatic detection, TWS and plot extraction.
- **3-D Pulse Doppler Air-to-Air –** Full azimuth detection for medium to fast-moving airborne targets with sector tracking. Selectable range scale up to 80 nm and Pulse Doppler mode for detection and tracking.
- **Maritime & Land Surface Moving Target Indicator** – Selectable at up to 80 nm range, optimized for detecting high-speed moving surface targets with direction and velocity displayed.
- **Navigation and Weather (NAW)** – A 4-color ISO-contour weather radar mode compliant with RTCA/DO-173, offering up to 360° display sectors and a range of 200 nm. In NAW mode, it provides a "real beam" map showing sea, land and weather returns for enhanced flight safety situational awareness.
- **Classification Modes** – Range Signature (RS), ISAR and Class While Scan (CWS) enable efficient target classification in ASW/LSS operations. RS allows for quick target classification during normal scans. ISAR generates a detailed B-scope image for accurate measurement of target size and class. CWS reduces cognitive load by automatically classifying targets and displaying size-related symbols. The optional ISAR Classification Library facilitates quick semi-automatic classification of stored ISAR images.
- **Synthetic Aperture Radar (Spot-SAR)** – Provides four patch sizes for medium and high-resolution imaging of targets, water surface or terrain.
- **Strip-SAR** – Provides rolling SAR image in two available swath widths for high resolution imaging of piers, harbors, refinery and oil installations, oil spills, airfields, ice and areas of interest.
- **Ground-MTI** – Can be overlaid on Spot-SAR images or geographic maps, enabling vehicle auto tracking.
- **Search and Rescue Transponder (SART)/Beacon** – Enables the radar to interrogate an International Maritime Organization (IMO) standard SART.
- **Sensor Integration** – Integrates Radar data with AIS, ADS-B and IFF for improved target identification and filtering, with or without a mission system. The EO/IR Camera Slew enables other sensors to focus on a Radar target's location, including marine, ground and airborne targets.





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L3Harris is the Trusted Disruptor in defense tech. With customers' mission-critical needs always in mind, our employees deliver end-to-end technology solutions connecting the space, air, land, sea and cyber domains in the interest of national security. Visit L3Harris.com for more information.

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