



ALPHA

Multi-Function Rotating Digital AESA Radar

ELM-2258





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The ELM-2258 ALPHA is a digital AESA multi-function radar system designed for new generation of modern combat ships. The lightweight, rotating/scanning, two-dimensional active S-band array radar is suited for installation on-board a variety of ship classes such as Offshore Patrol Vessel (OPV), Corvettes and Frigates.

The ALPHA radar delivers a high quality maritime theater Situation Awareness Picture and supports the ship's weapon systems even under the toughest environmental conditions. Incorporating advanced technology and robust system architecture the ALPHA radar employs multi-beam and pulse Doppler techniques as well as cutting edge ECCM techniques to extract low RCS targets from complex clutter and jamming environment. ALPHA's basic Transmit/Receive (T/R) elements digital output enables the software advanced beam forming and beam mode variations operating practically as a resulting in software defined radar. The radar hardware architecture and incorporated technologies ensure high system availability and low life cycle cost.

FEATURES

- Active Electronic Scanning Array (AESA)
- Lightweight antenna
- Scalable, modular active solid-state phased array
- Very high tracking update rate and accuracy for high priority targets
- Instantaneous multi-beam
- Fast reliable threat alert response time within the same scan
- Advanced beam forming techniques for multipath suppression and ECCM
- Automatic splash detection and measurement for gunnery support
- High reliability and high availability
- Very low radar signature, noise signature & temp signature (due to liquid coolant)

PERFORMANCE AND PARAMETERS

Parameter	Basic Version	Extended Version
Instrumented range	250 Km	400 km
Azimuth Coverage	360°	360°
Elevation Coverage	-20 to +70°	-20 to +70°
Weight above deck	880 kg	1700 kg
Weight below deck	1400 kg	1500 kg

Operational Capabilities

- Blue water and littoral warfare support
- Target classification 3D medium range automatic threat alert
- 3D long-range air surveillance, tracking and mid-course guidance support
- High resolution maritime surface surveillance and tracking
- Gunnery control and splash spottin

10/22



IAI – ELTA GROUP
WWW.IAI.CO.IL
MARKET@ELTA.CO.IL