

Over-The-Horizon (OTH)

HF Coastal Surveillance Radar

ELM-2270

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The ELM-2270 OTH is a High Frequency (HF) long range coastal surveillance radar designed to detect sea surface targets and low flying aircraft far beyond the horizon. The radar employs HF surface wave propagation to monitor activity up to 200Nm from the sea shore, thereby providing effective Exclusive Economic Zone (EEZ) coverage.

The OTH radar utilizes a 2D Uniform Circular Array (UCA) receiving antenna and a co-located transmit antenna. The system continuously transmits a wide angle beam that covers 120° in azimuth while the receiver performs full Digital Beam Forming (DBF), thereby providing instantaneous coverage of the entire sector. Employing phased array technology and unique interference cancellation algorithms, the radar effectively rejects ionosphere clutter and provides reliable persistent coverage of the broad maritime area at all times regardless of atmospheric conditions and sea state.

The radar provides Exclusive Economic Zone surveillance, coastal Over-The-Horizon Situation Awareness Picture (ASP) generation, as well as low altitude aircraft detection.

FEATURES

- Continuous large area situation awareness picture
- High resolution digital array
- Flexible receiving antenna array size
- Advanced noise cancellation (ionosphere clutter, artificial, communication)
- Pulse Doppler large integration time

SPECIFICATIONS

Description	Parameters
Frequency band	HF
Azimuth coverage	120°
Detection range (target size dependent)	up to 200 Nm
Range accuracy	2 km
Range resolution	3 km
Detection Range Capabilities (Day/Night):	
1500 tons ship	370/280 km
Fishing Boat	342/225 km
Low flying aircraft	130/65 km



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