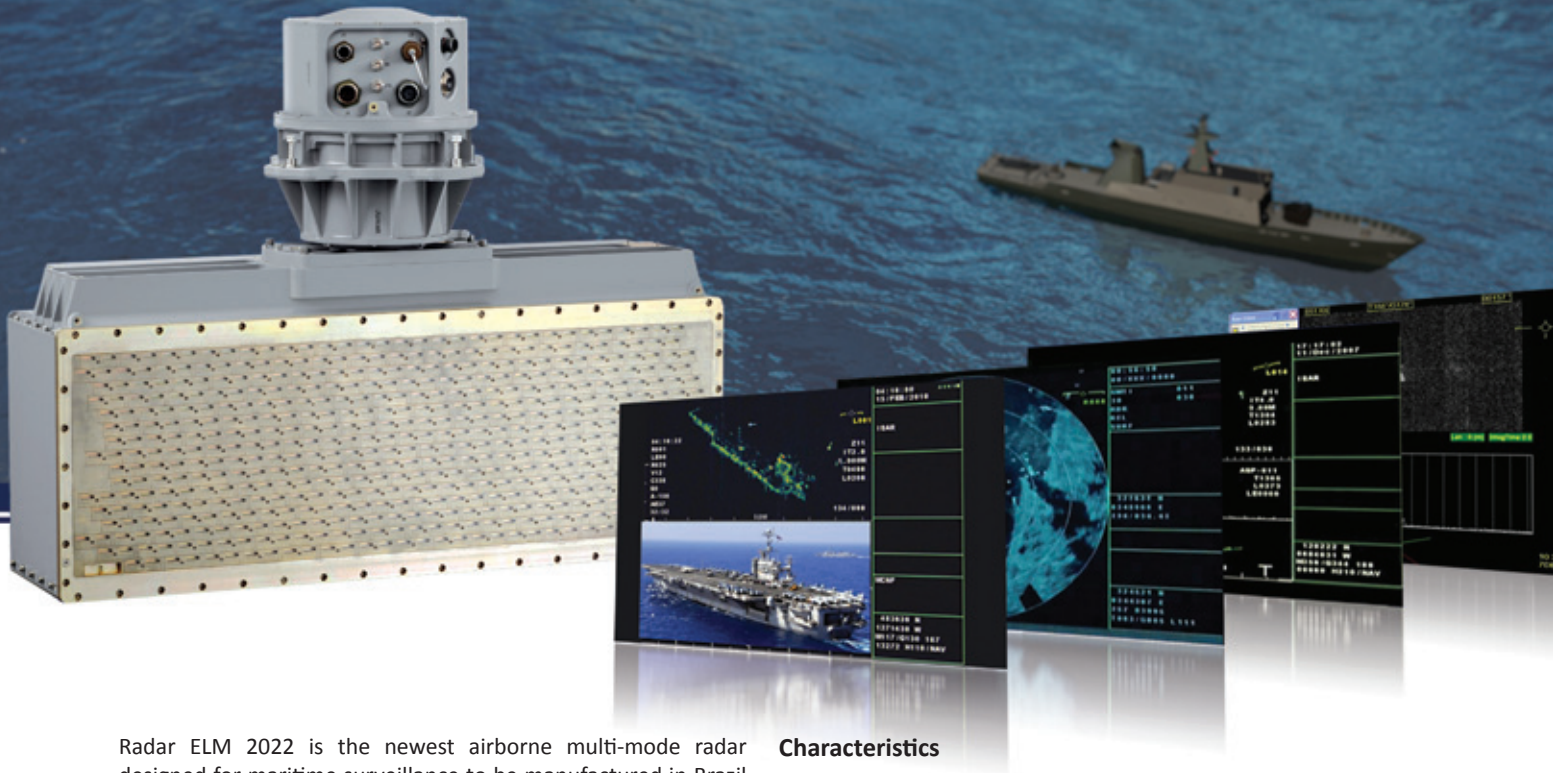


ELM 2022 RADAR

Airborne Maritime Surveillance Radar



Radar ELM 2022 is the newest airborne multi-mode radar designed for maritime surveillance to be manufactured in Brazil by IACIT.

The radar ELM 2022 provides the best and cost effective solution, multiplying the potential for operational missions, such as:

- ASuW/ASW/Littoral warfare operations
- Maritime surveillance and patrols in the exclusive economic zone (EEZ)
- Anti-drug enforcement operations
- Coast Guard and Fisheries Patrol
- Location and support search and rescue

Modular hardware design, flexible avionics interfaces and antenna own design, ensuring easy installation in a wide variety of fixed-wing and rotary wing aircraft, such as: VANTs, helicopters, transport aircraft and business jets.

The radar ELM 2022 shares a high degree of similarity with the ELM 2032 fire-control radar, enabling Air-Air modes operation.

Characteristics

- Detection of small targets in adverse sea conditions
- Maritime surveillance over long distances, up to 200 MN (large targets to the horizon)
- Extension Profile classification module, SAR, ISAR
- Imaging based on Synthetic Aperture (SAR) and Sharpening Beam Doppler (DBS) for enhanced coastal surveillance
- Moving Target Indication (MTI)
- Navigation and Weather Radar Mode
- Tracking capability of up to 256 targets during scanning, including tracking IFF
- High MTBF and extensive BIT
- Operating on board: P-3, C-130, C-295, B-200, B350, Dornier 228, Dash 8-0300, Challenger, VANT Heron.

Options

- Detect air targets in all aspects
- Integrated with IFF interrogator system
- Fully supported operators console
- Library Classification ISAR
- Range SAR
- Ground-MTI over SAR or MAP

Characteristics View

- Multiple/total sector scan control
- Expand and freeze
- Classification tools, including measurement of target characteristic (such as the total length of masts, superstructures)
- Video output of weather radar to cockpit
- Support for major video standards

Maintainability

- Continuous self-test and automatic failures alerts during flight
- Operational readiness test on power-up
- Embedded Test (BIT) with fast response time and reliable fault location
- Automatic test equipment available for improved maintenance

Physical Characteristics

Energy

- 115V, 400Hz, 3-phase, 2.3 kVA maximum MIL-STD-704
- Inverter 28 VDC optional

Weight

- About 90 - 100 kg depending on configuration (excluding the console operator)

Cooling

- Radar processor and Transmitter by forced air
- Antenna and Front-end for ambient air

Interfaces

- MIL-STD-1553B data
- ARINC 429 (NAV data option)
- Radar video RS-343A, CCIR or RS-170
- Video Weather Radar RS-170
- Multiple discrete signals the aircraft
- Slew command radar RD-422 optional for an external FLIR tower system
- Suppression output to ESM

Environmental

- Designed according to military standards
- Qualified for MIL-E-5400 and MIL-STD-461
- Temperature - Elevation: sea level to 30,000 feet in a temperature range of -20°C to + 55°C
- Vibration: qualified for the fighter jet, turbojet engine and helicopter
- Qualified from sand and dirt, salt spray and humidity

System Components

Antenna

- Planar array vertically polarized
- Lobe side very low
- 360 ° azimuth, tilting of + 10 ° to -30 °
- Azimuth and elevation stabilized
- Automatic/manual tilt control
- Size and adaptable format the volume available scanning

Processor, Receiver

- Exciter with high spectral purity, high coherence and stability
- Wide dynamic range
- Programmable digital signal processor

Transmitter

- TWT amplifier coherent
- Waveform optimized for each operating mode

Electronic antenna radome

- Low Noise Amplifier
- Antenna drive control

Image ISAR

Image SAR

Display PPI

