

RAT 31DL/M

3D DEPLOYABLE LONG-RANGE RADAR

ELECTRONICS DIVISION



The RAT 31DL/M is a tactical deployable Air Defence long-range radar operating in L-Band. Designed from advanced Air Surveillance requirements against ABT and TBM threats, it has been delivered to many countries around the world, including a number of NATO members.

The RAT 31DL/M belongs to the RAT 31 radar family which also includes the very successful RAT 31 DL fixed radar.

It is a solid-state radar which uses a rotating Active Electronically Scanning Array (AESA) antenna.

The AESA architecture allows the use of Multiple Simultaneous Pencil Beams (MSPB) which can be electronically and independently steered in elevation. The MSPB architecture allows to transmit a large number of pulses in different pointing directions, guaranteeing high clutter suppression in adverse weather conditions and optimizing performances against a wide range of threats, including TBM, EW platforms and mass-raid.

Mono-pulse technique in the elevation angle measurements ensures high-quality 3D target data.

These features, combined with the ultra-low antenna side-lobes and advanced ECCM techniques, guarantee an outstanding ECM and Anti Radiation Missile (ARM) resistance.

The RAT 31DL/M is integrated with a secondary radar antenna and supports all the latest IFF civilian and military secure modes.

While its worldwide employment record guarantees for reliable use and long life support, the RAT 31DL/M is continuously updated with state-of-the-art technological solutions to meet even more demanding operational needs.

The RAT 31DL/M is highly reliable due to its total solid state technology and its graceful degradation characteristics.

The RAT 31 DL/M is housed in two 20ft ISO containers, which can be loaded on two commercial cross-country trucks, and one auxiliary power generator allowing at least 24 hours autonomy, which can be mounted on a trailer.

The RAT 31DL/M can be airlifted and deployed in remote areas without requiring any special loading/unloading equipment.



TECHNICAL DESCRIPTION

RAT 31 ARCHITECTURE FEATURES

- > Multiple Simultaneous Independent Pencil Beams
- > Reconfigurability of The Elevation Scan Profile
- > Independent and Identical Receiver Channels
- > Multi-waveform Coded Transmitted Signals
- > Graceful Degradation
- > Ultra Low Antenna Sidelobes
- > Independent SLB Antenna
- > Extended ECCM Capability
- > Modular Construction

SYSTEM MAIN PERFORMANCES

- | | |
|---------------------------|---|
| > Frequency Band | L-Band |
| > Instrumental range | 400Km |
| > Elevation coverage | -2° to 20° for ABT (up to 60° for ATBM) |
| > Air Target Ceiling | 30.5 Km |
| > Size | 2 load 20' ISO std |
| > Weight | 30.000Kg (each single package < 8,000Kg) |
| > Transportability | Aircraft (C-130) Helicopter (CH-47) Road (10 tons std) |
| > Operational Temperature | -40°C to +50°C |
| > Set up time | 120 min. by 5 persons |
| > SSR/IFF | Mode 1, 2, 3, 4, C, 5, ADS-B, Lev. 1 and 2 |
| > Power generator | 24 hour without refuelling with system completely operating |
| > Output data protocols | ASTERIX, AWCIES and proprietary |

For more information:
infomarketing@leonardocompany.com



Electronics Division
 Via Tiburtina
 Km 12,400
 00131 Rome - Italy
 T +39 06 41501
 F +39 06 4131133

This publication is issued to provide outline information only and is supplied without liability for errors or omissions. No part of it may be reproduced or used unless authorised in writing. We reserve the right to modify or revise all or part of this document without notice.

2020 © Leonardo Sp.A.

MM07950-04-21