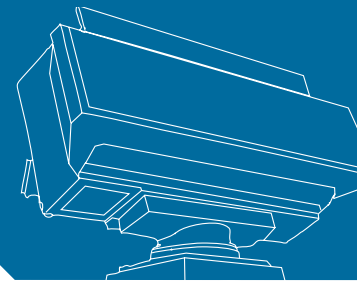




MRR-3D NG



General

MRR-3D NG is the latest Thales 3D multirole radar. The radar provides long-range 3D air and surface surveillance, tracking and self-defence, target evaluation and weapon allocation, target classification support, weapon control, and offers advanced ECCM features.

MRR-3D NG is in-service and operational in several Navies and has been used to perform successfully surface to air missile firings as well as gun firings.

MRR-3D NG is especially designed to detect and track sea-skimming or diving missiles. 3D air surveillance extends to 180 km, and surface surveillance to the radar horizon. In case of duct effect, special waveforms are used to benefit from this effect in detecting surface targets beyond the radar horizon. MRR-3D NG also detects, tracks and classifies helicopters over sea or land, including pop-ups and hovering or slow moving targets.

The antenna is electronically scanned in elevation and performs 3D accurate tracking to provide accurate target designation (bearing, elevation, range, speed) up to 70°.

For rapid deployment of self-defence weapons, the radar delivers tracks with a short reaction time. Then, a dedicated multi-beam pattern is used to provide accurate target designation to the ship or to an active missile system, minimizing target acquisition time for anti-air weapon systems.

For anti-surface warfare, the MRR-3D NG performs splash spotting measurement to support gun firing control.

Main assets

- **Lightweight antenna** system for mast-top deployment, ensuring earliest possible detection of sea-skimmers.
- **Compact** transmitter/receiver/signal processing and interface cabinet for easy installation.
- **Integrated IFF** with Mode S and Mode 5 (for NATO countries) or other National Secure Mode (NSM for non NATO countries).
- **Easy radar operation.**
MRR performs automatic clutter and jamming measurement for automatic waveform and signal processing adaptation. Two operating modes suffice for radar management and optimal target detection in all conditions.
- **Clutter-free long-range detection** of all targets including very small targets.
- **Accurate designation** with multi-beam tracking function on up to 8 priority tracks at each rotation.
- **Rapid 3D scan.**
Automatic waveform and radar management provides an exclusive mixed beam technique to scan 5 beams in elevation every rotation, whatever the environmental conditions, and offering the most rapid clutter-free scanning performance on the market.
- **BITE** for fault identification and location with centralised read-out on front panel and multifunction console.

Functional Aspects

- 3D air target detection and surveillance
- Surface surveillance
- Fast Sea Skimmer track initiation
- Extremely accurate weapon designation
- Gun control
- 2 splash spotting channels
- Helo detection and classification support
- Integrated IFF (mode 1, 2, 3/A, C, 4 or NSM, mode 5 and mode S)
- Advanced ECCM
- Easy operation
- Lightweight antenna and compact below deck equipment.

Performance Data

- Max instrumented range: 180 km
- Max elevation: 70°
- Max surface channel: 80 km
- Min surface channel: 300 m
- Detection range performance:

small target :	40 km
fighter :	125 km
Liner :	180 km

Technical Data

Phased array antenna in elevation
Two full Doppler modes, long range and self-defence
Fully automatic track initiation and accurate designation
Automatic weather and ECCM management.

Antenna

Antenna rotation speed: 10 rpm, 30 rpm
Stabilisation: electronic

Transmitter

Frequency band: G band (C-band)
Integrated phased loop

Processing

Digital pulse compression
Finite Impulse Respond Doppler filtering (FIR)
Automatic mode selection depending on weather and jamming conditions
Advanced CFAR techniques
Accurate multi-beam measurement
Classification support.

System Overview



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ADDRESS

THALES NEDERLAND
P.O. Box 42
7550 GD HENGLO
THE NETHERLANDS
Phone : +31 74 248 81 11
Fax : +31 74 242 59 36

THALES
Parc Tertiaire SILIC 3,
Avenue Charles Lindbergh - BP 20351
94628 RUNGIS CEDEX FRANCE
Phone : +33 1 79 61 40 00
Fax : +33 1 79 61 11 78