



Naval & Air Defence Systems

SHORT/MEDIUM RANGE 2D SURVEILLANCE RADAR

RAN 21S is a short to medium range, all-weather surveillance radar designed to detect and track small air and surface targets (including missiles), from the radar horizon and up to 70° in elevation. It provides a high resolution air and surface situational awareness picture, which helps to improve decision-making and self-protection.

The reflector antenna operates with a cosec² pattern and allows the switching between linear and circular polarisation. This provides more resistance to signal degradation due to atmospheric conditions. In order to maintain detection performance even in heavy clutter environments, RAN 21S make extensive use of clutter characteristics estimation (Power, Doppler and Spectral Width) for creating clutter maps.

KEY FUNCTIONS

RAN 21S provides the following functions:

- Automatic surface target detection and tracking
- Automatic air target detection and tracking
- Designation of air targets to weapon systems.



OPERATING MODES

Medium Range

This mode is most-suited for point defence, including the detection and designation of threats up to medium distance with reduced scan time.

Long Range

This mode is specifically designed for the detection of targets with medium and large Radar Cross Sections (RCS) over longer distances.

KEY STRENGTHS

- Air and Surface Surveillance in littoral environments
- Operational on medium naval vessels up to large support ships
- High availability >99.9%
- Helicopter control
- Integration with IFF systems, supporting Mode 5/S

RAN 21S provides reliable performance even in cluttered environments and is highly resistant to the latest jamming technology. It offers a variety of self-protection techniques including frequency diversity, sectored control (with 5 emission levels), PRF stagger, and frequency agility, coded waveforms and jam strobe function.

RAN 21S performs constantly threat evaluation, classifying threats and allowing for the timely delivery of appropriate counter measures. It fully integrates with Athena (the company's mission proven scalable Combat Management System) for the transmission of target information and provides protection against any attack.

TECHNICAL SPECIFICATION

ANTENNA

Type	Reflector, monopulse
Beam type	Cosec2
Rotation speed	30/15 RPM

TRANSMITTER

Type	Solid-state
Frequency	S-band
Peak power	19KW

RECEIVER

Type	Digital
Instrumented range	60/120km
Minimum range	120m
Number of tracks	200

DIRECTOR

Bearing coverage	360°
Elevation coverage	Up to 65°

IFF

Modes	1,2,3/A, C, S,4, 5
Frequency	L-band

