ELECTRONICS DIVISION

# KRONOS® GRAND MOBILE

## FULLY AESA MULTIFUNCTIONAL FIRE CONTROL RADAR


The KRONOS® GRAND MOBILE is a high-performance multifunctional radar, designed for Air and Missile Surveillance and Defense, both in land and littoral environment to contrast any type of threat.
This system, part of the KRONOS radar family, has been specifically designed for high tactical mobility and quick strategic deployment.
The radar exploits the horizontal and vertical beam steering capability of its Active Electronically Scanned Array (AESA) Antenna to optimise Detection, Tracking, Threat Classification and Missile Guidance against multiple targets. Its antenna and signal processing combined management is provided for high probability detection and tracking precision, even in heavy clutter environment, for air and maritime threat, such as aircraft, Short Tactical Ballistic Missiles, high speed missiles, low level UAVs, pop-up targets, hovering helicopters, rockets and artillery blasts, as well as vessels and small, stealth boats.
The KRONOS AESA technology is based on the company's fully-owned GaAs and GaN manufacturing capability (based on a patented technology), developed by in-house laboratories.

## RAPID AND EASY ENCAMP

The KRONOS® GRAND MOBILE can be deployed with any ISO 20 ft standard compliant transportation mean.It can be quickly set to operational status on arrival in unprepared sites using two operators in less than 15'.

## SHARED SERVICES AND INTEROPERABILITY

The radar can be connected to different C2 centres at the same time exchanging dedicated target data and radar controls. The system can be supplied with an optional C3 sub-system to increase the level of interoperability and functionalities within Integrated Air and Missile Defense (IAMD) Architectures.
This option adds three Command and Control workstations, a Multiple Data Link Processor (M-DLP®) for real time data exchange and a number of radio and network secure connectivity solutions.

## KEY FEATURES

- Optimized Surveillance Modes: Defence Mode for fast reaction, Air Surveillance Mode and TBM Mode
- Automatic alignment to North
- Simultaneous multiple target tracking with update rate up to 1s for highly manoeuvring dangerous threats
- Target classification
- Integrated IFF (Mode 1, 2, 3/A, C, S, 4 and 5)

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# TECHNICAL SPECIFICATIONS

## THREAT ENGAGEMENT CONTROL
- Track fast initialization (1s after first detection)
- Weapon cueing and engagement control.

## SAM WEAPONS COORDINATION AND CONTROL
- Integrated and certified with third party anti-air missiles and firing systems.

## COUNTER ROCKET, ARTILLERY AND MORTAR (C-RAM OPTION )
- Fire Finder Function for artillery detection and location
- Fire Director Function to direct friendly fire estimating shell launch and impact points.

## MULTIPLE USER CONTEMPORARY ACCESS
- Radar functionalities can be made available up to three different C2 centres at the same time.

## RELIABILITY AND MAINTAINABILITY
- No single TX device and High Voltage components
- Plug-in TRMs, low number of spare parts, reuse of digital boards allow easy maintainability.

## ECCM CAPABILITIES
- EMission CONtrol (EMCON)
- Jammer detection
- Wide band high frequency agility
- Automatic Least Jammed Frequency Selection
- Side Lobe Blanking (SLB)
- Track On Jammer (TOJ) and Burn-Through (BT)
- Jammer Cancellation

## TACTICAL MOBILITY
- Completely contained in full standard 20-ft ISO container
- Power generator (1+ 1redundant) in a trailer
- It can be transported by standard commercial trucks, aircraft, ship or train

## C3 MODULE FEATURES (OPTIONAL)
- 3 operator multifunctional consoles available for Radar Control & Surveillance, Radar Status and Weapon operators
- Operator training sub-systems
- Up to 4 HF/VHF/UHF radios with operator intercom and VoIP radio gateways
- Secure Multiple Data Link Processor (M-DLP)
- Integrated state-of-the-art IFF transponder
- Embedded Power Generator Group with UPS

## SURVEILLANCE /TRACKING/ ENGAGEMENT
- Instrumented range:

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|---|---|
| Defence: | ≥ 250km |
| Air Surveillance: | ≥ 300 km |

- Elevation coverage:

| | |
|---|---|
| Surveillance mode : | ≥ 70° |
| Tracking mode | 90° |

- Update rate :

1s for engaged air tracks
4s for not engaged air tracks
1s for jammers

| | |
|---|---|
| • Target RCS: | <0.01m2 |
| • C-RAM (optional): (elevation) FOV | ± 45° (azimuth), ± 60° |
| • Total number of tracks: | >1000 |
| • Contemporary engaged targets: | 30 |

## TECHNICAL MAIN FEATURES
- C-Band Radar
- Active full phased array antenna, TX/RX solid state modules
- Azimuth & Elevation Monopulse for high accuracy tracking
- Antenna rotation speed: 60rpm
- NBC Protection
- Run-time fault identification and Location (BITE)

## TACTICAL MOBILITY
- 1 single container (20-ft ISO) radar system
- 1 (optional) redundant power generator
- 1 (optional) single container (20-ft ISO) C3 module with 3 operator stations
- Transportable by road, rail, aircraft and ship
- Deployment time (unprepared sites) < 15min/2 operators
- Fully remotable control
- Emergency decamp less than 5 min.

## RELIABILITY
- MTTR < 45 min (MIL-HDBK-472)
- Availability > 0,999

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