

FIRE CONTROL E-SCAN PULSE DOPPLER MULTIMODE AIRBORNE RADAR



With over 60 years of experience in radar design, development and production, leading in the airborne radar market, we deliver truly state-of-the-art radar systems.

With over 450 units sold and more than 100,000 operational flight hours, the GRIFO Radar family, a fourth-generation X-band coherent pulse-Doppler multimode-multirole fire-control radar, provides advanced performance to new and upgraded aircraft.

The GRIFO E is the latest version of the GRIFO Radar Family and features a wider set of advanced and up to date capabilities and provides remarkable levels of situational awareness.

Furthermore, thanks to its modular architecture, based on a configurable number of compact Line Replaceable Units, GRIFO E can be easily customised and integrated adapting it to platform constraints.

The combination of cutting edge-technologies and modularity makes GRIFO E a powerful fire control radar that can be proposed for any Fighter or LCA.

KEY FEATURES

- › AESA with high-efficiency low-consumption GaN technology
- › Multi-mode, multi-role X-band
- › Multiple channels fully pulse Doppler processed
- › High-speed DSP capacity
- › Simultaneous processing of modes
- › Full set of ECCM provisions
- › Tracking accuracy supporting missile release and guidance
- › Growth capability to extend the existing features, including sensor fusion withIRST
- › High scalability through absorption/cooling tuning/adjustment to meet aircraft constraints
- › High reliability for reduced maintenance and lower through-life support costs
- › Low overall weight and consumption

OPERATIONAL BENEFITS

- › Broad suite of field proven air-to-air, air-to-surface and navigation modes supporting air defence and strike missions
- › Long range detection and tracking of multiple targets in all scenarios: look-up and look-down, any altitude, any aspect
- › High resolution imaging: sub-metric SAR, MTI® on SAR and ISAR
- › Wide scan sector in azimuth and elevation
- › Fully controlled through avionic bus, for HOTAS and HMD designation
- › Modern, effective, flexible, and operationally proven

DESIGN BENEFITS

- › Multiple channel coherent receiver for advanced adaptive radar processing techniques
- › Air/liquid cooled
- › Wideband waveform for excellent high resolution performance
- › Four waveforms (LPRF, MPRF, MPRF look-up, HPRF), all including range and velocity de-stagger for optimal target detection in any clutter condition
- › Modular software architecture for radar modes update and customisation
- › Easily customisable to overcome aircraft limitations (nose dimension, power and cooling)

TECHNICAL CHARACTERISTICS

GENERAL

- | | |
|------------------|---|
| › Antenna size | Customisable to optimise installation on aircraft |
| › Weight | 105kg to 160Kg, depending on antenna size |
| › Absorbed power | 3.4kVA to 7kVA, depending on antenna size |
| › Cooling | Liquid and air cooled |
| › Frequency | X-band |
| › Scan Coverage | Exceed. $\pm 60^\circ$ (azimuth/elevation) |

KEY PARAMETERS

- › Track while scan - 24 targets tracked
- › Track formation range versus fighter-sized targets from 40NM to 75NM
- › Look-up detection range versus fighter sized targets from 45NM to 85NM

MODES

AIR-TO-AIR

- | | |
|---|--|
| › Track & Search | Track While Scan
Range While Search (Normal, Adaptive)
Velocity Search
Spot |
| › Multiple Target Track (up to 8 targets) | Single target track
Situation Awareness Mod
Raid assessment |

AIR COMBAT

- | | |
|--------------|---|
| › Air Combat | Sleuable scan
Vertical
HUD
Boresight
Wide
Narrow |
|--------------|---|

WEAPON SYSTEM INTEGRATION

- › Multiple target tracking supporting accurate weapon aiming
- › Compatibility with modern IR missiles (e.g. AIM-9L M-X, Python 4)
- › Capable of BVR missile guidance
- › Support of CCIP and CCRP through precise air-to-surface ranging

AIR-TO-SURFACE

- › Real Beam Ground Map
- › Doppler Beam Sharpening
- › Synthetic Aperture Radar (SAR), with MTI®
- › Air-to-Ground Ranging
- › Fixed Target Track
- › Ground Moving Target Indicator and Track
- › Sea Surface Search and Track
- › Inverse Synthetic Aperture Radar (ISAR) on Seaborne and Airborne targets
- › Simultaneous A/S-A/A mode

NAVIGATION SUPPORT

- › Beacon interrogation
- › Weather Avoidance
- › Terrain Avoidance (fit for Autom. Terrain Following)
- › Simultaneous WA/GM

ECCM CAPABILITIES

- › Low antenna sidelobes
- › Guard channel fully processed
- › Monopulse antenna
- › Multichannels fully processed for adaptive rejection of multiple Jammers
- › Low peak power; pulse compression
- › Random and adaptive frequency agility
- › DOJ, HOJ and AOJ
- › Provisions against
Range gate/velocity gate stealers
Noise jammers
CW jammers

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