

ELECTRONICS DIVISION

GRIFO E

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)

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

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 Slewable scan / Vertical / HUD / Boresight / Wide / Narrow

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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