

# 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 with IRST
- 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

<b>Antenna size</b>	Customisable to optimise installation on aircraft
<b>Weight</b>	105kg to 160Kg, depending on antenna size
<b>Absorbed power</b>	3.4kVA to 7kVA, depending on antenna size
<b>Cooling</b>	Liquid and air cooled
<b>Frequency</b>	X-band
<b>Scan Coverage</b>	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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