

# GRIFO-346

## FIRE CONTROL RADAR

ELECTRONICS DIVISION



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.

Thanks to its modular architecture based on a configurable number of compact Line Replaceable Units, GRIFO can be easily integrated in modern avionics suites and fully interfaced via HOTAS command, for a cost-effective solution.

The GRIFO-346 is the latest version of the GRIFO Radar Family, featuring a wider set of advanced and up to date capabilities proposed for the Leonardo M-346 LCA.

### KEY FEATURES

- › Multimode, multirole X-band
- › Multiple channels fully coherently pulse Doppler processed
- › Open architecture
- › Air cooled, high efficiency TWT transmitter
- › Advanced processor
- › Broad suite of field proven air-to-air, air-to-surface and navigation modes, high resolution SAR and ISAR
- › Full set of ECCM provisions
- › Tracking accuracy supporting missiles release and guidance
- › Monopulse flat plate slotted array antenna
- › Growth capability to extend the existing features, including sensor fusion with IRST

### OPERATIONAL BENEFITS

- › Comprehensive suite of operational modes supporting A/A and A/S missions
- › Long range detection and tracking in all scenarios: lookup and look-down, any altitude, any aspect
- › High Resolution imaging: sub-metric SAR and ISAR
- › Wide scan sector
- › Multiple target tracking
- › HOTAS and HMD designation
- › Modern, effective, flexible, and operationally proven
- › ECCM provisions

## DESIGN BENEFITS

- › Fully coherent, high efficiency TWT-based, air-cooled transmitter
- › Multiple channel receiver
- › High rate DSP, wideband waveform generator
- › Four waveforms (LPRF, MPRF, MPRF look-up, HPRF), all including range and velocity de-stagger for optimal target detection in any clutter condition
- › Embedded scan converter and symbol generator
- › Modular software architecture for radar modes update and customisation

## INTEGRATION WITH WEAPON SYSTEM

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

## TECHNICAL CHARACTERISTICS

### GENERAL

- › Weight: < 100kg
- › Cooling: air cooled
- › Dissipation: < 1.5 kW
- › Average Transmitted Power: Class of 200W
- › Frequency: X-band
- › Scan Coverage:  $\pm 60^\circ$  both in Azimuth and Elevation

### KEY PARAMETERS

- › Track while scan: 10 targets tracked, 8 displayed
- › SAR resolution: < 1m
- › Track formation range: > 50 NM
- › Look-up detection range: > 60 NM

## MODES

### AIR-TO-AIR

- › Single target track
- › Dual target track
- › Track while scan
- › Range while search (normal)
- › Radar while search (adaptive)
- › Velocity search
- › Spot
- › Situation awareness mode
- › Raid assessment

### AIR COMBAT

- › Slewable scan
- › Vertical
- › HUD
- › Boresight
- › Wide
- › Narrow

### AIR-TO-SURFACE

- › Real beam ground map
- › Doppler beam sharpening
- › Synthetic Aperture Radar (SAR)
- › Moving target indicator on SAR
- › Air-to-ground ranging
- › Inverse Synthetic Aperture Radar (ISAR)
- › Ground moving target indicator
- › Track while scan air-to-surface
- › Sea surface search 1
- › Sea surface search 2
- › Fixed target track
- › Ground moving target track
- › Sea single target track
- › Sea moving target track

### NAVIGATION SUPPORT

- › Beacon interrogation
- › Weather
- › Terrain avoidance

### ECCM CAPABILITIES

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

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