



FIRE CONTROL RADAR FIELD PROVEN, COMBAT READY

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 Alenia Aermacchi 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.

GRIFO-346

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 | ± 60° 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