SELEX GALILEO

A Finmeccanica Company

GRIFO S - FIRE CONTROL RADAR
Field proven, combat ready

SELEX Galileo has over 60 years of experience and masters all the technologies involved in radar design, development and production. A leader in the airborne radar market, the Company delivers state-of-the-art, modular radar systems.

With over 450 units sold and more than 100,000 flight hours, the GRIFO Radar family, a fourth-generation of X-band coherent pulse-doppler multimode fire-control radar, offers advanced performances to new and upgraded aircraft. Thanks to the modular architecture made by a configurable number of compact Line Replaceable Units (LRU), GRIFO can be easily integrated in modern avionic suites and fully interfaced via HOTAS command, for a cost-effective solution.

The GRIFO S is the most powerful version of the GRIFO Radar Family, featuring a unique 560W air-cooled TWT-based transmitter with wideband frequency agility, a monopulse flat plate slotted array antenna with guard channel fully processed and IFF dipoles, as well as the flight-proven suite of operative modes of the radar family.

KEY FEATURES

- Multimode pulse Doppler
- Antenna tailored to the installation with guard horns and IFF dipoles
- Open architecture
- Worldwide most powerful, air cooled, TWT transmitter
- Advanced processor
- Broad suite of air-to-air, air-to-surface and navigation modes
- Full set of ECCM provisions
- Compatible with BVR missiles
- High reliability
- Ready for Electronic Scanning Antenna
- Growth capability of the existing, field proven, set of radar modes including sensor fusion with IRST and additional Customer request.

Operational Advantages

- Comprehensive suite of operational modes supporting A/A and A/S missions
- Long range detection and tracking in all scenarios:
  - Look-up and look-down, any altitude
  - Head on and Tail Target aspects
- High Resolution imaging (sub-metric SAR) and identification capability
- Wide scan sector
- Multiple target tracking
- HOTAS and helmet designation.

Design Advantages

- Fully coherent, TWT-based, air-cooled transmitter
- Dual channel receiver
- Digital signal and data processing, adaptive pulse compression technology
- Four waveforms -LPRF, MPRF, MPRF look-up, HPRF (with ranging capability), 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

- Compatibility with modern semi-active and active missiles:
  - Short Range IR missiles (e.g. AIM-9L-M-X, Python 4)
  - BVR (e.g. AIM-120 AMRAAM, MICA, Derby)
- Support of CCIP and CCRP through precise air-to-surface ranging
- Modern, effective, flexible, and operationally proven ECCM provisions.

The high degree of modularity, with configurable LRUs, allows for installation on various platforms, such as JF-17, F-16, Mirage V, Mirage 2000, MiG 23, MiG 25 and MiG 29.

TECHNICAL CHARACTERISTICS

Weight	< 120kg
Cooling	air cooled
Dissipation	<2.9 kW
Average Transmitted Power	560W
Frequency	X-band
Scan Coverage	± 60° both in Azimuth and Elevation
Scan Rate - Slew Rate	up to 100°/s - 400°/s
MTBF	>220 hrs
Modes Available	
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
Air combat	Slewable scan Vertical acquisition HUD acquisition Boresight acquisition
Air-to-surface	Real beam ground map Doppler beam sharpening Spotlight Synthetic Aperture Radar Inverse Synthetic Aperture Radar Ground moving target indicator Sea surface search 1 Sea surface search 2 Fixed target track Ground moving target track Sea single target track Sea moving target track Air-to-ground ranging
Navigation support	Beacon interrogation Weather avoidance 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

Key Parameters	
Track while scan	10 targets tracked, 8 displayed
SAR resolution	< 1m
Track formation range	> 40 NM
look-up detection range	> 50 NM

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