

CAPTOR-M (Mechanically Scanned) Radar for Eurofighter Typhoon

Introduction

The best-in-class Captor-M radar is the primary sensor for the world's most advanced multi role combat aircraft, the Eurofighter Typhoon.

The radar detects, identifies, prioritises and engages targets beyond the effective range of the enemy weapon systems whilst remaining resistant to severe electronic jamming. In both air-to-air and air-to-ground modes, Captor-M supports all weather operations, is compatible with the latest range of weapons and operates effectively in an intensive Electronic Counter Measures (ECM) environment.

The Captor-M radar is manufactured by the EuroRADAR consortium. SELEX Galileo is the lead contractor for this consortium, partnered with Cassidian (Germany) and Indra (Spain). EuroRADAR has delivered over 250 Captor-M radars into the Typhoon programme and has orders for over 200 more.

Product Capability

Building on significant development investment, the proven production Captor-M radar is integrated with the Typhoon weapon system, providing discriminating capability:

- Long range detection and tracking
- RAID assessment and target identification
- Flexible, powerful and effective ECCM
- Designed for Beyond Visual Range (BVR) weapons
- Simultaneous multiple target engagement
- Decreased pilot workload through intelligent automation
- Close integration with other avionics sensors

With the focus on AESA (Active Electronically Scanned Antenna) radars it is important to understand that the Captor-M radar offers certain performance advantages over typical first generation fixed plate AESA radars such as those found on other European and American fighters. Some AESA radars lose power at the edges of their field of regard with corresponding significant reductions in range, ability to track and data link to missiles. Captor-M maintains its capability in these critical areas. (NB SELEX Galileo has introduced innovative technology to address this shortfall in the AESA Fire Control designs. See Captor-E press backgrounder).

The radar is in service with the air forces of the following countries:

- UK
- Germany
- Italy
- Spain
- Austria

- Saudi Arabia

Future Developments

There will be significant reliance on the Captor-M Processor and Receiver in the production of the Captor-E AESA Wide Field of Regard (WFOR) radar programme. This committed programme was announced by Eurofighter, EuroRADAR and SELEX Galileo at the Farnborough International Air Show on 20th July 2010.

Conclusion

The Captor-M radar is a best-in-class radar system which provides discriminating performance and significant elements of technology for the future development of the Captor-E AESA radar. The Captor-M radar offers discriminating performance in key areas over typical fixed plate AESA.

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