



MGR

NATIONAL SURVEILLANCE RADAR PSR & MODE-S SSR AIR TRAFFIC SURVEILLANCE RADAR SYSTEM

National Surveillance Radar System (MGR) is an Air Traffic Control Radar System designed and developed through national capabilities for the effective monitoring and management of air traffic. Developed in compliance with international ICAO and EUROCONTROL standards, the system consists of two key radar technologies:

S-Band Solid-State Pulse Doppler Primary Surveillance Radar (PSR)

- MGR PSR has the capacity to detect and track aerial targets up to 60 nautical miles. The PSR system features a weather channel capable of detecting precipitation zones and intensity levels within its coverage area.

L-Band Enhanced Mode-S Secondary Surveillance Radar (MSSR)

- MGR Mode-S SSR provides comprehensive tracking capability by collecting critical information such as identity, altitude, and flight data of aircraft up to 200 nautical miles.

The MGR PSR/MSSR System ensures accurate traceability of aircraft, while offering long-term operational reliability through its fully redundant architecture, remote control and built-in test (BIT) capability, and 24/7 continuous operation, making a significant contribution to Turkey's airspace security.

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KEY FEATURES

Primary Surveillance Radar (PSR)

Solid-State GaN High-Power Amplifiers
Fully Coherent Signal Processing
Pulse Compression
Ground Clutter Suppression
Frequency Diversity
PRF Staggering
Moving Target Detection (MTD)
Dual Beam (High/Low), Dual Polarization (Circular/Vertical)
6-Level (US NWS) Weather Reporting

Mode-S Secondary Surveillance Radar (MSSR)

SSR Mode 1/2/3/A/C and Mode-S Support
Solid-State GaN High-Power Amplifiers
Adjustable Output Power
PRF Staggering
Interlaced and Mixed Interrogation
Precise Angle Estimation with Monopulse Capability
Mitigation of Garbling, FRUIT, Reflection, etc.
ISLS, IISLS, RSLS
Datalink Functionality

Adjustable operating speeds of 7.5 – 15 RPM

EUROCONTROL ASTERIX Messaging Format

Data Recording (Raw data, plots, tracks) and Playback

User-Friendly Software Interfaces (PPI, RMD, RCMI)

