

TPS-77 MRR

Multi-Role Radar



LOCKHEED MARTIN 

TPS-77 MULTI-ROLE RADAR SYSTEM

Radar Characteristics

General Characteristics

Multi-Role Radar System
 Frequency Band (D/L) - 1215 to 1400 MHz
 Active Electronic Elevation Scanning Array
 Solid State Transmitters

Multi-Role Characteristics

Performance Designed to Meet Customer Requirements
 Highly Configurable Performance due to Flexible Time Energy Management
 Operator Mission Selection by Azimuth Identification

Configurable Parameters

Instrumented Ranges and Height	Rotation Rate
Maximum Elevation Coverage	Transmit Power

Example Missions

Long Range
 Gap Filler Radar
 UAV Detection
 Low Level Flight Surveillance
 Tactical Ballistic Missile Warning
 Ground Based Air Defense
 Maritime Surveillance
 Border Security / Surveillance
 Ground Control Intercept Drug Interdiction
 Customer Unique

System Reliability

Availability	99.9%
Critical MTBF	> 2000 Hours
MTRR	< 45 Minutes

Frequency Control

4 Agility Modes
 100 Center Frequencies
 Azimuth Based Control

Target Loading

1500 Plots

Transportation Configuration

C-130, Helicopter, Truck, Train

Long Range Surveillance Mission

Coverage Volume

Range	10 - 463 km (5 - 250 nmi)
Azimuth	Selectable
Height Coverage	0 - 30.5 km (0 - 100 kft)
Elevation Coverage	0° - +20° with electronically adjustable tilt
Scan Rate	5 RPM

Performance

Target Size: Typical fighter aircraft

Probability of Detection	80%
PD Range	222 km (120 nmi)
PD Height	up to 30.5 km (100 kft)

Accuracies - up to 15.2 km (50 kft)

Range	< 50 m (164 ft) out to 222 km (120 nmi)
Azimuth	< 0.25° out to 222 km (120 nmi)
Height	< 1372 m (4500 ft) out to 204 km (110 nmi)

Low Level Flight Surveillance Mission

Coverage Volume

Range	2 - 150 km (1 - 81 nmi)
Azimuth	Selectable
Height Coverage	0 - 15 km (0 - 50 kft)
Elevation Coverage	0° - +40° with electronically adjustable tilt
Scan Rate	10 RPM

Performance

Target Size: Typical fighter aircraft

Probability of Detection	90%
PD Range	150 km (81 nmi)
PD Height	up to 15 km (50 kft)

Accuracies - Up to 12km (40kft)

Range	< 50 m (164 ft) out to 150 km (81 nmi)
Azimuth	< 0.20° out to 150 km (81 nmi)
Height	< 850 m (2800 ft) out to 150 km (81 nmi)

- Optional Mobility Configuration Shown -

With more than 65 years of experience developing and delivering ground-based radar solutions to our customers, our high-performing, high-reliability, solid state radar systems specialize in early warning, situational awareness and defense. Our radars are designed with significant commonality and fully integrated SSR systems. They can operate in all environments and are deployed worldwide.



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