



AN/TPS-77
LONG-RANGE AIR SURVEILLANCE RADARS

LOCKHEED MARTIN 
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TPS-77 Long-Range Radar System

Radar Characteristics	
General Characteristics	
Frequency Band (D/L) – 1215 to 1400 MHz	
Active Electronic Elevation Scanning Array	
Solid State Transmitters	
Antenna Characteristics	
RF Power	19.9 kw
Average RF Power	3.6 kw
Antenna Aperture Size	27.1 m ² (291.7 ft ²)
Number of Active Rows	34
Scan Rate (Dual)	5/10 or 6/12 RPMs
ABT Coverage Volume	
Range	10 – 470 km (5 – 250 nmi)
Azimuth	360°
Height	0 – 30.5 km (0 – 100 kft)
Elevation	-6° to +20°
Transportation Configuration	
C-130, Helicopter, Truck, Train	
TBM Coverage Volume	
Range	10 – 470 km (5 – 250 nmi)
Azimuth	360°
Search Elevation	-6° to +20°
Track Elevation	-6° to +60°

TPS-77 Performance	
Frequency Control	4 Agility Modes 100 Center Frequencies Sectorized Control
ABT Detection (80% P _D , Typical fighter aircraft)	300 km (160 nmi)
ABT Accuracy	
Range	< 50 m (164 ft)
Azimuth	0.25° at 250 km (135 nmi)
Height	915 m at 250 km (3000 ft at 135 nmi)
System Reliability	
Availability	99.5%
Critical MTBF	> 2000 Hours
MTRR	< 45 Minutes

