



AN/TPS-77  
LONG-RANGE AIR SURVEILLANCE RADARS

**LOCKHEED MARTIN**   
*We never forget who we're working for®*

# TPS-77 Long-Range Radar System

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

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

