



# TPS-77 MRR

MULTI-ROLE RADAR

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



# 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  
 Terminal Control Radar  
 Customer Unique

### System Reliability

|               |              |
|---------------|--------------|
| Availability  | 99.9%        |
| Critical MTBF | > 2000 Hours |
| MTTR          | < 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            | 360°  |
| 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                 | 259 km (140 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                             | < 0.22° out to 222 km (120 nmi)           |
| Height                              | < 915 m (3000 ft) out to 185 km (100 nmi) |

## Low Level Flight Surveillance Mission

### Coverage Volume

|                    |   |
|--------------------|---|
| Range              | 2 - 150 km (1 - 81 nmi)                       |
| Azimuth            | 360°  |
| Height Coverage    | 0 - 15 km (0 - 50 kft)                        |
| Elevation Coverage | 0° - +30° 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 12 km (40 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) |

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.

- Optional Mobility Configuration Shown -

