# 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
- Maximum Elevation Coverage
- Rotation Rate
- 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.