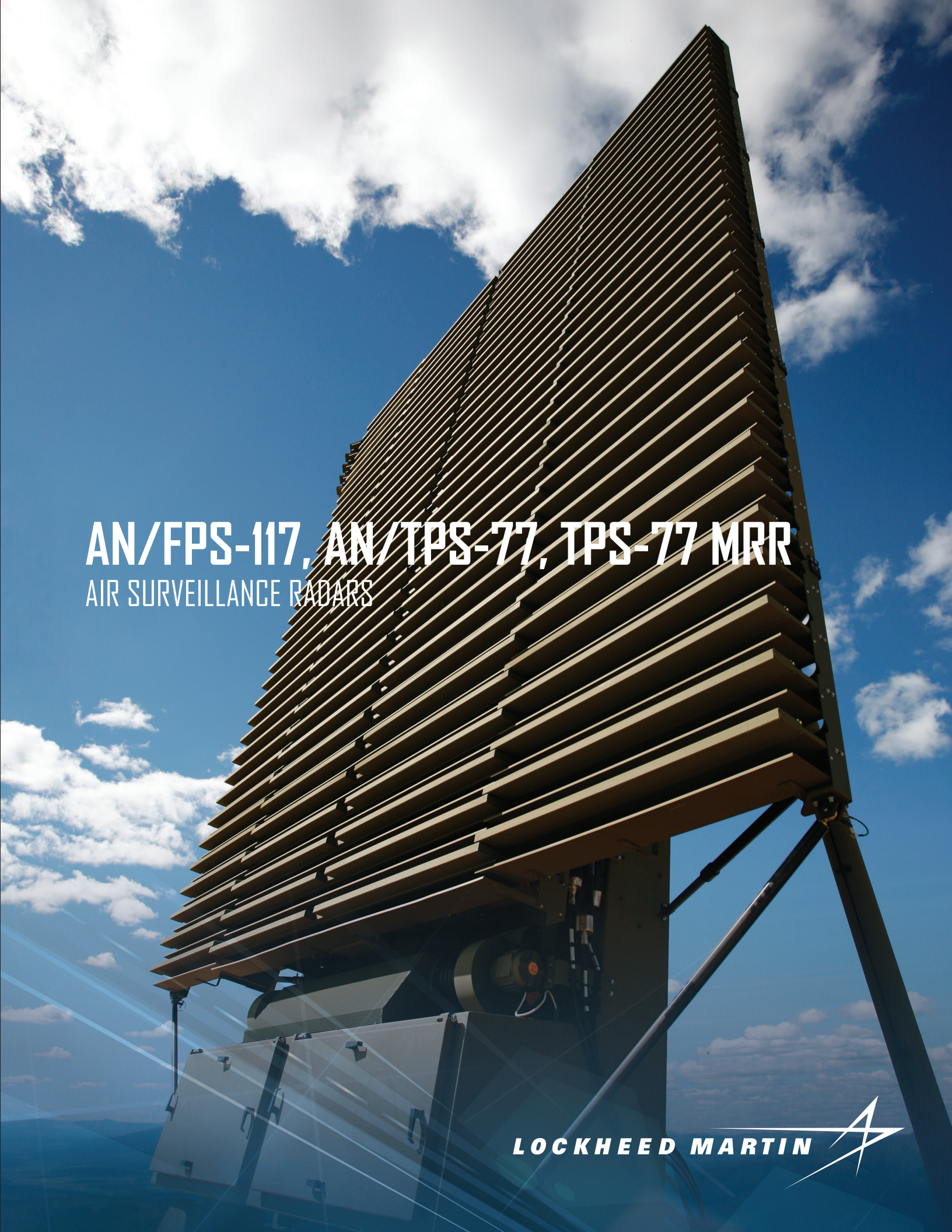
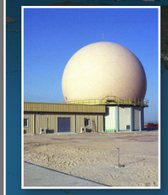


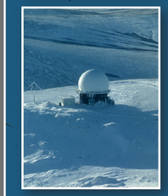
AN/FPS-117, AN/TPS-77, TPS-77 MRR

AIR SURVEILLANCE RADARS

LOCKHEED MARTIN

World's Leading Manufacturer of Ground-Based Radar Systems





- Reliably Developing and Delivering Radar Systems to Our Customers for Over 60 Years
- Utilize State-of-the-Art Technology in All Our Radar Products
- Leader in Solid-State Electronically Steered Phased Array Technology
- Over 175 Long-Range Ground-Based Radars Delivered World Wide - Greater Than any Other
- Proven Operational Performance Under All Environmental Conditions

FPS-117, TPS-77 and TPS-77 MRR Radars Offers A Proven Advanced Architecture

- D/L Frequency Band and Scanning Pencil Beam Architectures Makes Radars Highest Performing in Class
- 30+ Years Experience Developing Adaptive Algorithms for Complex Operating Environments (Cognitive Radars)
- Radars Provide Simultaneous Low, Medium and High Altitude Coverage
- Full Monopulse Provides Accurate Target Position in Single Beam Dwell
- Fully Independent Transmit and Receive Beams Allows Multiple Missions Simultaneously
- Proven Radar Design that is Routinely Updated with "State-of-the-Art" Technology
- Radars Delivered Mission Ready with Operator Shelter and Space for Customer Communication Equipment

Active Electronic Elevation Scanning Arrays

Dedicated TBM Track Beams Track Targets up to 60° in Elevation While Maintaining Coverage in the Normal Surveillance Volume

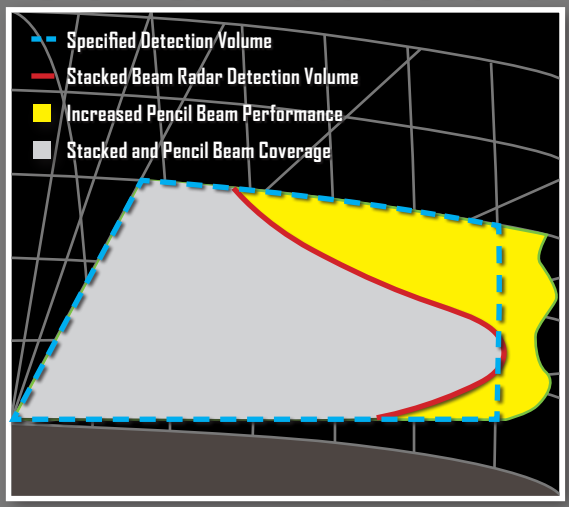
Utilize MTI and Doppler As Well As Adaptive Beam Forming Processing to Minimize Impact of Clutter

Clutter-Resistant Pencil Beams Detect Low-Flying Targets Around Windfarms

Long-Range Beams Provide Additional Sensitivity for Detecting Targets at Greater Distances

Ultra-Low Valley Coverage to -6° Without Losing Coverage in the Normal (0° - 20°) Surveillance Volume (No Mechanical Tilt Required)

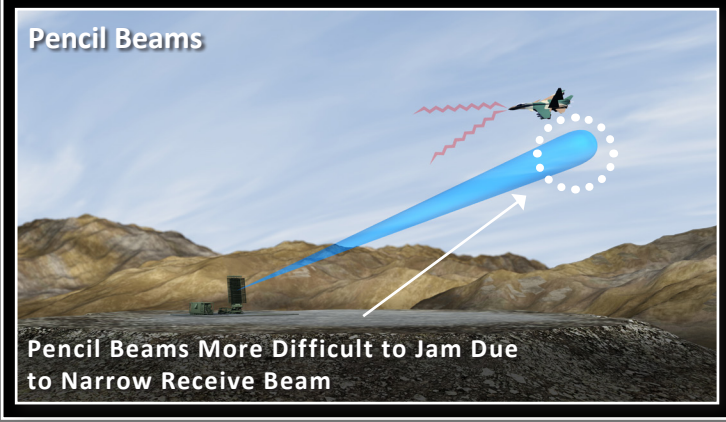
Pencil Beam Radars Out Perform Stacked Beam Radars

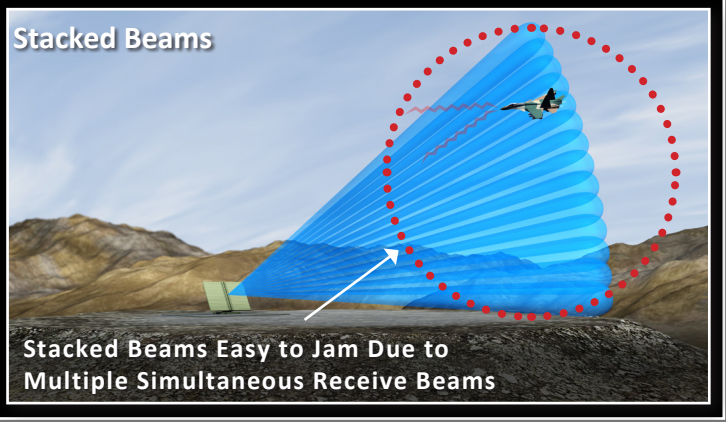


Characteristics	Limitation of Stacked Beams
Total Elevation Coverage	Beam Shape Limits Elevation Performance
Terrain Adaptation	No Sectorized Terrain Adaptation
Look-Down Capability	Requires Mechanical Tilt
TBM Track	Limited to Normal Volume Only: <20°
Low Elevation Detection	Limited Due to Transmit Beam Shape
Susceptibility to Jammers	Multiple Simultaneous Receive Beams

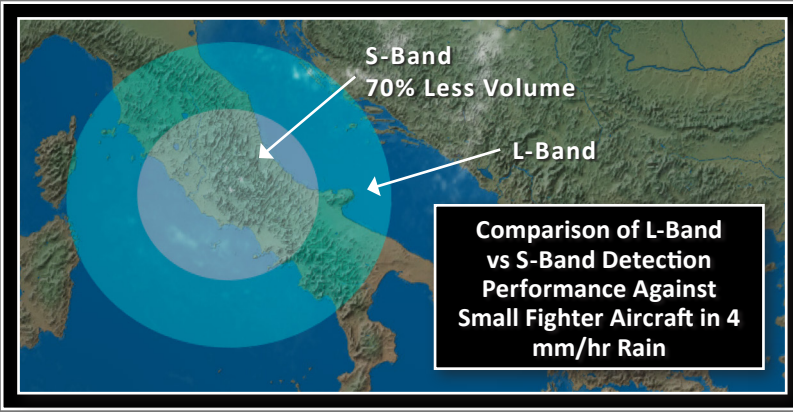
Stacked Beam Radars More Susceptible to Jamming

Advantage of Pencil Beam Radars Against Active Jamming





D/L-Band Frequency of Choice for Long Range Surveillance Radars



- **Significant Performance Advantage in Clutter Over S-Band Radars**
- **Greater than 20 db Clutter Rejection Improvement Over S-Band Radars**
- **Lower Frequency Makes Radars Less Susceptible to Different Forms of Clutter**
- **In 4 mm/hour Rain, L-Band Provides Almost 3.5 Times More Surveillance Volume Than S-Band**

Best Support in the Industry

- **Each Radar Backed by a Strong Support Network**
- **For More than 30 Years No Radar Taken Out of Service**
- **LM Users Conference - Customers Introduced to Latest in Radar Technology**

ROME LOCKHEED MARTIN FPS-117 Radar User's Conference

FPS-117 Users' Conference Orlando, FL USA • October, 2001

AN/FPS-117 AN/TPS-77 USERS CONFERENCE March 20-24, 2006 Jacksonville, Florida USA

LOCKHEED MARTIN Global Long Range Radar Users Conference 23-27 March 2009 Orlando, Florida USA

LOCKHEED MARTIN INTERNATIONAL GROUND-BASED RADAR USERS CONFERENCE

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