

# ***AN/TPQ-50 COUNTERFIRE RADAR***

Performs **early warning** for indirect fire, counterfire target acquisition, and air surveillance modes.

The AN/TPQ-50 counterfire radar provides continuous 360 degree surveillance and 3-D rocket, artillery and mortar (RAM) location using a non-rotating, electronically steered antenna. When compared to its expeditionary predecessor, it detects targets with flatter trajectories while calculating the point of origin more accurately from a greater distance. Its full azimuth coverage allows it to simultaneously detect and track multiple rounds fired from separate locations within a 700 square kilometer surveillance area. The radar can also be configured to scan less than 360 degrees, providing focused sector coverage with more frequent update rates.

Once RAM or improvised munitions are detected, the radar sends an early warning message indicating a round is incoming. It then gathers enough data to accurately locate the point of origin to within 50 meters from more than 10 kilometers away. This information is reported back to an integrated command and control station or short range air defense system for a counterfire response.

## ***POWERFUL SURVEILLANCE IN A SMALL PACKAGE***

The AN/TPQ-50 system detects incoming RAM from low quadrant elevations. It also provides a more accurate point of origin calculation from greater distances than previous models, resulting in a more precise counterfire response.

These enhanced capabilities are delivered in a system weighing less than 500 pounds and standing less than seven feet tall. The radar's light weight and small size allows for vehicle mounted transportability and operation, or rapid emplacement in challenging terrain by installing it on a tripod.



***THE AN/TPQ-50 RADAR DETERMINES A WEAPON'S LOCATION FROM 15 KILOMETERS AWAY FOR A COUNTERFIRE RESPONSE***



Deployment configurations of the AN/TPQ-50 radar

# AN/TPQ-50 COUNTERFIRE RADAR

## PROVEN PERFORMANCE

The AN/TPQ-50 counterfire radar is an official U.S. Army Program of Record, a distinction of its effectiveness at filling a critical need for America's warfighters. The radar has been designed and tested against strict U.S. military standards, including:

- MIL-STD-461E, Requirements for the Control of Electromagnetic Interference, Characteristics of Sub-systems and Equipment
- MIL-STD-464A, Electromagnetic Environmental Effects Requirements for Systems
- MIL-STD-810G, Test Method Standard for Environmental Engineering Considerations & Laboratory Tests

The predecessor of AN/TPQ-50 received the Top 10 Army Greatest Invention award in 2004. This award recognizes the best technological solutions for soldiers, and how these new technologies increase competence for the U.S. Army.

## BENEFITS

- Saves lives by providing early warning of incoming fire
- Quickly locates enemy RAM launchers
- Cues a counterfire response from any integrated system
- Transports easily in challenging terrain
- Low lifecycle cost
- Unattended remote operation

## SPECIFICATIONS

- Operating frequency: L-Band
- Detection range: 15 km, depending on weapon type and trajectory
- Point of origin accuracy: 50 m at 10 km
- Azimuth coverage: 360°
- Elevation coverage: 0 - 30°
- System weight: < 227 kg / 500 lb
- System size: 40 in/102cm diameter by 85 in/216cm high (adjustable)
- Power requirements: 1,200 W, 110/240 VAC 50/60 Hz, 24 VDC

## FEATURES

- Simultaneous tracking of multiple targets in 3-D
- Multi-mission capable: early warning, counterfire target acquisition and air surveillance
- 360 degree coverage with non-rotating, electronically steered antenna
- Small footprint
- Ruggedized with no moving parts for minimal maintenance
- Supports IP networks
- Rooftop, tower, tripod or vehicle mountable
- Powered by AC grid, generator, 24 VDC vehicle, or battery
- Integrated logistics support

BELOW: the LCMR mounted on a vehicle



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