

AN/TPQ-36 FIREFINDER WEAPON LOCATING SYSTEM

EXTENDED AIR DEFENSE MISSIONS

AIR COMMAND AND CONTROL MISSIONS

BATTLEFIELD SURVEILLANCE AND COORDINATION MISSIONS

COMBINED COMMAND AND CONTROL MISSIONS



Pinpoint targeting data for the counterattack


ThalesRaytheonSystems

AN/TPQ-36 FIREFINDER WEAPON LOCATING SYSTEM

Description:

Medium-Range Surveillance

ThalesRaytheonSystems' compact, mobile, combat-proven AN/TPQ-36 Firefinder radar accurately, rapidly, and automatically locates medium-range enemy mortars, artillery, and rocket launchers. It can handle simultaneous fire from weapons at multiple locations, detecting and reporting their positions on the first round. No longer must front-line troops and armor be exposed to long periods of enemy mortar, artillery, and rocket attacks. The AN/TPQ-36 directs accurate counterfire to neutralize enemy positions.

The AN/TPQ-36's automatic detection, tracking, and locating process is so fast that an enemy weapon's position can often be pinpointed before its projectile impacts. Locations of enemy weapon positions are automatically corrected for altitude differences, using computer-stored digital maps, and presented to the operator in northing, easting, and altitude coordinates. The system is so automatic and simple to operate that, once set up, the operator need not be present in the operation control shelter to determine a weapon's location.

Rounds from friendly weapons also can be tracked, for more accurate delivery.

Defeats Enemy Firepower, Supports Friendly Weapons

The AN/TPQ-36's stationary antenna sweeps a rapid sequence of beams along the horizon, forming an electronic radar curtain over a 90° area. Any target penetrating the curtain triggers an immediate verification beam. On verification, an automatic tracking sequence begins.

While tracking any single target, the radar continues scanning, locating, and tracking others.

The AN/TPQ-36 can detect and report the positions of up to 10 different weapons in seconds, at a maximum range of 24 km. The system also corrects and improves the delivery of friendly fire.

Signal and data processors test each track to filter out birds, aircraft, and other unwanted returns, giving the AN/TPQ-36 an extremely low false-location rate and a very high probability of location. Once the computer establishes a target's validity, it smooths the measured track data, deriving a trajectory that it extrapolates to establish the target's firing position and impact location. Those data are displayed on a visual map and printed out in map coordinates.

From the operation control shelter, the power-driven antenna can be tilted or rotated to any azimuth position. The system also offers a 360° sectoring mode, in which it will search one sector for a short period, then automatically rotate in turn to the other sectors.

Highly Mobile

Compact and highly mobile, the AN/TPQ-36 supports rapid deployment of forces and close combat. It can be positioned and ready for operation in 15 minutes. It can be readied for movement in 5 minutes by a five-man crew. Because it can move quickly from one position to another, it is typically located close to the forward battle line in direct support of brigade operations.

The AN/TPQ-36 comprises an antenna-transceiver trailer, a generator, and an operation control shelter that contains processing equipment, the weapon-locating unit, and communications equipment. For the U.S. Army, the 2,500-lb shelter is carried on a HMMWV or a 2.5-ton truck; however, it can also be carried by other tactical vehicles. The manned operation control shelter can be located as far as 50 m away from the unmanned antenna trailer.

Exceptionally Reliable

With high system reliability and maintainability simplified by computer-controlled, built-in test equipment, ThalesRaytheonSystems' AN/TPQ-36 provides unusually high system availability. On-line fault detection and off-line fault diagnostics alert the operator to system faults, directing repair action to the unit that must be replaced. Ninety percent of all repairs required in the field can be performed by the crew, with a mean-time-to-repair of only 30 minutes.

The AN/TPQ-36's cost effectiveness is enhanced by its 90°–360° sector, small crew, ease of operation, and high availability. The operation control shelter can be used interchangeably with either the AN/TPQ-36 or the longer-range AN/TPQ-37, with only a software change, thereby providing operational flexibility and much greater life-cycle cost effectiveness.

AN/TPQ-36 Firefinder Weapon Locating System		
Capabilities	Specifications	Features
Locates mortars, artillery, and rocket launchers	Maximum range: 24 km	Permanent storage for 99 targets
Locates 10 weapons simultaneously	Effective range Artillery: 18 km Rockets: 24 km	Field exercise mode
Locates targets on first round	Azimuth sector: 90°	Digital data interface
Performs high-burst, datum-plane, and impact registrations	Frequency: X-band, 32 frequencies	
Adjusts friendly fire	Prime power: 115/200 VAC, 400 Hz, 3-phase, 8 kW	
Interfaces with tactical fire	Peak transmitted power: 23 kW, min.	
Predicts impact of hostile projectiles		

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