TSS SOLUTIONS

TIGAR™

TSS Integrated Ground-based Air Radar

What is TIGAR?

TIGAR is a next-generation, solid-state tactical radar that redefines what fielded air surveillance systems can deliver. Built from the ground up with a digital architecture, TIGAR provides the performance, resilience, and usability required to stay in command of modern threat environments.

We engineered TIGAR to deliver modern radar capability without the price, schedule, or sustainment burden of traditional prime-developed systems.

Full System or Upgrade

TIGAR is available as a full radar system built by TSS Solutions or as a modernization and service life extension for the AN/TPS-43/70/72/75 and other legacy tactical radar systems.

In an upgrade configuration, TIGAR leverages your existing antenna and shelter, replacing outdated components, such as the Klystron tube, with a modern, solid-state digital architecture that delivers performance comparable to new-build systems, without the expense or disruption of a full replacement.

Operator-centric Design

TIGAR gives operators direct, real-time control over how the system is used, tuned, and employed, enabling faster adaptation and more confident decision-making at the console. This allows operators to adjust system behavior to mission conditions without relying on external reconfiguration or engineering intervention.

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TIGAR™ | Under the Hood

Signal Processor

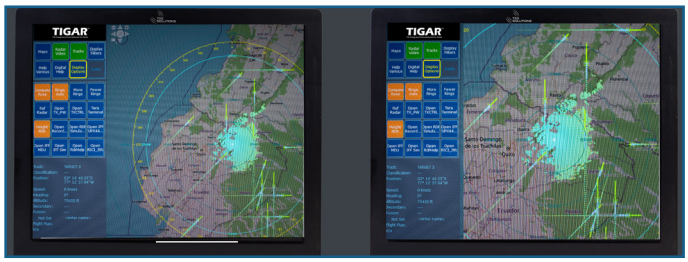
The TIGAR signal processor is the core of the radar, handling signal processing, tracking, and system control. Its native, software-driven design supports flexible feature development and system optimization within a modern digital architecture. Open internal interfaces allow the system to integrate and evolve over time without disrupting fielded operations.

Developed using TSS Next-Gen Technologies, the signal processor drives TIGAR's performance while enabling centralized control and consistent behavior across fielded configurations.

System Architecture

TIGAR is built on a modular, solid-state digital architecture designed for reliability, growth, and long-term support. Software-driven system functions can be updated, expanded, or integrated over time without redesigning the entire radar.

Touch-Screen Interface



TIGAR's touch-screen displays provide a modern operator interface supporting sustained, real-world operations. Software-driven visualization supports both tracked and untracked targets, with optional integration of additional data sources and advanced tracking capabilities, allowing display behavior to be tailored to mission needs without hardware changes.

The interface design emphasizes clarity and consistency to reduce operator workload, shorten training time, and maintain operator effectiveness during extended or high-tempo operations. Data outputs and display functions are built to support integration with external systems and future capability additions.

Mission Applications

Air defense
Long- to short-range air defense, low-altitude air surveillance, gap-filler coverage supporting integrated air defense architectures

Counter-UAS
Support for low-altitude air surveillance and integration within broader counter-UAS architectures

Force protection
Fixed-site and base defense, early warning for air and ground approaches, enhanced operator situational awareness

Ground surveillance
Wide-area surveillance and track management supporting ground/near-ground threat awareness

Border security
Land border surveillance, monitoring of remote and austere environments, cueing of downstream sensorsand responders

Coastal monitoring
Littoral and coastal surveillance supporting maritime domain awareness and small-vessel detection

Infrastructure protection
Security of airfields, ports, and other critical sites requiring persistent, reliable surveillance