Technology Service Corporation

Radar Simulators

For over thirty years, Technology Service Corporation (TSC) has designed, developed and produced state-of-the-art Radar Environmental Simulators (RES). Our products have proven to be extremely valuable tools used in developing, validating, and maintaining high performance radars throughout their entire life cycle.

DIRECT INJECTION SIMULATORS

Our direct injection RES products allow radars to be safely operated in a laboratory environment without the need for RF radiation. The RES synchronizes to the radar under test and provides a scenario of targets, clutter and noise that are injected directly into the radar. These realistic simulations are fully repeatable, providing a valuable tool that can be used for radar development, testing, training, and sustainment engineering.

Examples of our direct injection RES products are shown below. The system on the left is a RF-injection RES developed for the U.S. Navy's SPS-49 radar; the RES on the right is a digital injection RES developed for the U.S. Army's TPQ-48 Lightweight Counter Mortar Radar. Both systems are designed to be easily transportable and offer an easy to use Graphical User Interface.

SPS-49 RES

TPQ-48 RES

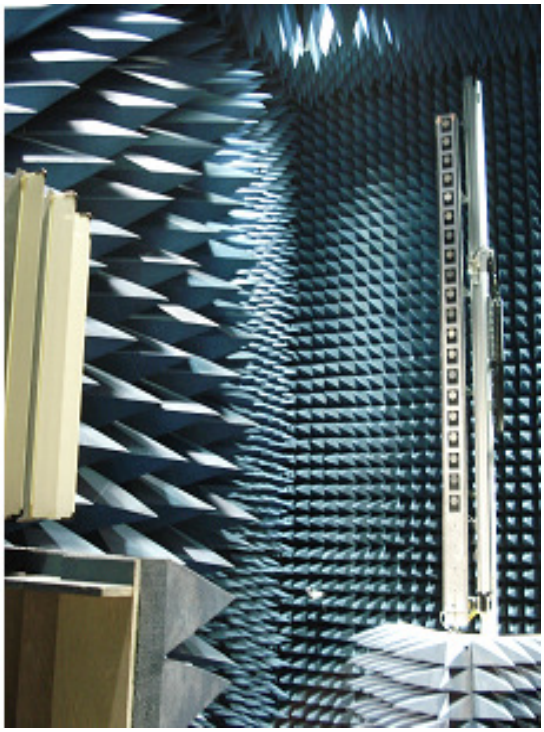
FREE-SPACE SIMULATORS

TSC's free-space simulators allow testing of radars at full power, providing a complete end-to end test of the radar. Used outdoors or in a chamber, these RES products allow radars to be operated in their normal operating configuration. These simulators have been used for both radar development and production testing.

Examples of our free-space simulators are shown below. The system on the left is a C-band system developed for the European COBRA mortar locating radar. The transportable system was designed for outdoor use and can be assembled by two men in less than one hour. Positioned approximately 100 meters from the radar antenna and without any physical connections to the radar, a linear array of antennas and associated electronics captures the radar's transmitted pulse and returns a time and spatially delayed, Doppler modified pulse to the radar, simulating trajectories for mortar and artillery shells. The free space simulator has been successfully used during program development and for production line testing.

The system on the right is an L-band system developed for the U.S. Army's TPQ-48 radar. Housed in an anechoic chamber, the Live Fire Test Simulator (LFTS) uses mechanical and electronic components to simulate the complete trajectories of mortars and rockets. The LFTS has been validated by the U.S. Government as a fully functionally equivalent to live fire testing and is currently used as the basis for acceptance of new and repaired TPQ-48 radars.

COBRA Free-Space Simulator



TPQ-48 Free-Space Simulator

WHY TSC?

TSC was founded in 1966 by Dr. Peter Swerling and has over 400 employees and $75M in annual sales. TSC has made important contributions to several Firefinder programs over the last 30+ years, including RES and the Army's Firefinder Position Analysis System (FFPAS). The FFPAS has been used on every Army counter fire radar. TSC is also the Navy SETA contractor on the PHALANX gun system that is used in the Army's C-RAM program.

CONTACT INFORMATION

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