Electronic Warfare

EMITTER SITES & RESOURCES

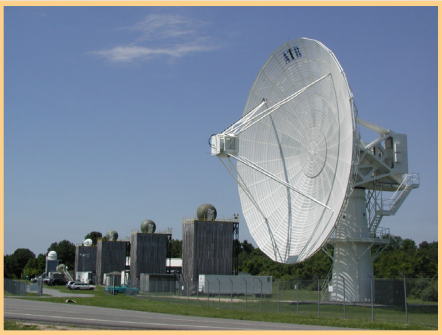
ATR
Atlantic Test Ranges

The Atlantic Test Ranges (ATR) operates multiple emitter sites to supply Electronic Warfare (EW) simulations for use by Research, Development, Test & Evaluation (RDT&E) and training programs. These emitters can be stand-alone or used with visual targets supplied by ATR. Emitters include fixed and mobile assets such as the Triple Ground Threat Emitter, shipboard and mobile threat emitters, the Automated Communications Test System (ACTS) and the Battlefield Communications Simulation System (BCSS). Many of these resources are mobile, for use around the country and the world, and provide real-world threat scenarios for testing or training exercises.

FIXED, LOCAL AND REMOTE EMITTER SYSTEMS

The ATR emitter systems are ground-based threat radar simulators that support EW test and training requirements. The systems include the Fixed Emitter System (FES) and the Local Emitter System (LES), both located at the Cedar Point Complex; and the Remote Emitter System (RES), located at Point Lookout, Md., 18 nautical miles south of ATR. The FES, LES and RES systems provide a realistic electronic combat environment. Controlled centrally from the EW workstation at ATR, these systems provide additional radar emitter density and greater signal complexity, and use Combat Electromagnetic Environment Simulator (CEESIM) software to define threats and run EW simulations.

- FES and RES frequency range: 2 - 18 GHz
- LES frequency range: 150 - 450 MHz and 700 MHz to 18 GHz
- Signal density: up to 64 simultaneous emitters from the system
- PRI range: 1 - 600,000 microseconds, with up to 1,024 stagger levels
- Multiple PRI modulation segment types include stable, jitter, discrete jitter stagger, switching, periodic and pulse bursts
- Pulse width range: 23 nanoseconds to 99 microseconds
- Multiple antenna scan types include steady, conical, sector, circular, raster, palmer, helical and spiral
- Nominal ERP: 90 dBm at 2 GHz to 110 dBm at 18 GHz



Fixed emitters at Cedar Point

Local emitters at Cedar Point

Remote emitters at Point Lookout

FOR MORE INFORMATION

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AUTOMATED COMMUNICATIONS TEST SYSTEM

The Automated Communications Test System (ACTS) provides test signals and communications transmissions for RDT&E and fleet training and exercise support. ACTS provides test signals to stimulate threat warning receiver, RF direction finding systems and jammer systems aboard airborne aircraft. ACTS can be used for antenna calibration, calibration verification, direction of arrival, jammer response time, battlefield simulation and fleet exercise support.

- Frequency range: 2 MHz to 2 GHz
- Modulation types include AM, FM, CW, pulse, FSK, PSK, QAM, SSB
- Signal density: up to 16 simultaneous signals
- High-speed switching capability: GPS-time synchronized

Transmitter antennas at the ACTS facility

MOBILE SIMULATORS

In addition to supporting operations within its warning areas and around the Patuxent River Complex, the Atlantic Test Ranges (ATR) also supports an increasing number of remote operations across the country. Personnel and mobile threat assets are regularly requested by other ranges and at contractors' facilities to support test, evaluation and training events.

Mobile electronic warfare (EW) threat emitter assets allow test platforms to fly in airspace across the country – using proven range systems. ATR fields a number of mobile EW threat systems that can be deployed anywhere in the world.

- Battlefield Communications Simulation System (BCSS)
- Patuxent River Infrared Signature Measurements (PRISM): mobile trailer, cameras, kineto tracking mount and mobile infrared van
- Mobile Remote Emitter System (MRES)
- Triple Ground Threat Emitters (2)
- Mobile Single Threat Emitters (6)

Mobile Remote Emitter Simulator