

# Electronic Warfare

## 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

The BCSS provides automated communications simulations to support DoD training exercises. It is computer-controlled, with scripted voice and data messages. Featuring a transit case configuration for transportation and operation, BCSS can be controlled remotely.

- Frequency range: 2 MHz - 2.4 GHz
- Output power: up to 100W
- Text-to-speech engine for scenario development
- AM, FM, CW and SSB analog modulation
- FSK, PSK, QAM, Pulse, TDMA and CDMA digital modulation
- Real-time audio inject
- Fixed, mobile, transportable
- Iridium satellite and GPS capabilities
- Desert camouflage vehicle configuration with onboard ECU and 10kW generator



BCSS installed in a GMC Yukon

## FOR MORE INFORMATION

(301) 757-0755  
23013 Cedar Point Road  
Patuxent River, MD 20670  
[www.navair.navy.mil/ranges](http://www.navair.navy.mil/ranges)

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## MOBILE REMOTE EMITTER SIMULATOR AN/UPT-4(V)5



The MRES provides a mobile, high-power, ground-based threat EW simulator capability to support aircraft and ship electronic system testing and combat crew training. It uses Combat Electromagnetic Environment Simulator (CEESIM) software to define threats and run EW simulations.

MRES provides additional radar emitter density and greater signal complexity, and creates a realistic electronic combat environment.

- Frequency range: 2 - 18 GHz
- Nominal ERP: 90 dBm at 2 GHz to 110 dBm at 18 GHz
- Signal density: up to 64 simultaneous emitters
- 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
- Capable of receiving active Electronic Countermeasures (ECM) transmissions

## MOBILE THREAT EMITTER SYSTEM



The MTES systems simulate over-the-horizon threats and can be used in conjunction with targets to simulate coastal defense, cruise missile sites and high-interest surveillance emitters. Computer-controlled for multiple threat simulations, the MTES can be used as a stand-alone threat simulator or to augment threat density scenarios. The emitter is fully

weatherproof for shipboard use and is easily portable, with a gas-powered generator for remote and field-use.

- Frequency range: 2.9 - 3.1, 4.9 - 5.1, 7.8 - 9.6 GHz
- Provides multiple threat bearings
- Selectable preloaded threat parameters
- Nominal ERP: 103 dBm

## TRIPLE GROUND THREAT EMITTERS AN/UPQ-8(V)



Triple Ground Threat Emitters provide portable threat emitter simulations of hostile missiles, seaborne radar signals and ground radar sites in support of aircrew training, electronic support measures, operator training and fleet training exercises. Completely portable

and computer-controlled, they are contained in lightweight, transportable, waterproof cases and can be configured as a single, dual or triple threat emitter. Antenna assemblies are mounted on a motorized tripod. Portable in a standard pickup truck, two-man setup of the emitters can be completed in less than 30 minutes.

- Capable of optical tracking and remotely-controlled slaving
- Simulates selected land- or sea-based acquisition, track and missile guidance emitters and various gun systems
- Provides multiple threat bearings and increases threat density
- Nominal ERP: 110 dBm
- Frequency Range: 4.5 - 5.3, 6.2 - 6.6, 7.8 - 9.6 GHz

## PATUXENT RIVER INFRARED SIGNATURE MEASUREMENTS



The PRISM system conducts dynamic, surface-to-air and surface-to-surface infrared signature measurements of fixed-wing aircraft, rotary-wing aircraft, missiles, engines, boats and unmanned aerial systems (UAS). PRISM provides data in the short-, mid- and long-wave infrared bands (SWIR, MWIR and LWIR), for both moving and non-moving targets, using infrared spectrometers and imagers. The PRISM system is completely mobile and is designed to be operated either locally at the Patuxent River Complex, or at any off-site location.

- Kineto Tracking Mount (KTM) Optical System
  - IR cameras, IR spectrometer and video cameras
  - Can be remotely operated up to 75 feet from the trailer
- Environmentally-controlled, 48-foot trailer