

NORTHROP GRUMMAN*Electronic Systems*

Simulation & Training Technologies

EW and IR/EO Simulation and Stimulation Across the Spectrum

Our mission:

To provide customers with innovative solutions to test, evaluation, training, and maintenance problems by applying our unique expertise in integrating single-spectrum and multispectral simulation assets to a wide range of EW applications.

Cradle-to-Grave Support:

- Reduced life-cycle cost
- Improved concurrency
- Test stimulus commonality
- Reduced cost & schedule risks
- Realistic training & mission rehearsal

Integrated S&TT Applications**Concept Exploration****System Development****Weapon System Platform Evaluation****Test, Evaluation and Maintenance**

Amherst Systems has acquired the singular experience and technological depth required to develop, maintain, and operate *turnkey* EW test, evaluation, and training facilities, including open-air EW ranges. By tailoring proven EW products and tools, S&TT will create the integrated laboratory or installed system environment that meets your specific T&E or training requirements.

We've supported the development, test and evaluation, or training of most major US tactical weapon and EW sensor systems currently in service, including those found on such platforms as the F-22, B-2, F/A-18, F-15, F-16, EA-6B, JSF, Longbow Apache, and the AEGIS warships and fast-attack submarines. In addition, we've played a key role in developing

advanced test facilities at the Integrated Demonstrations and Applications Laboratory (IDAL), Wright-Patterson AFB; the Air Combat Environment Test and Evaluation Facility (ACETEF), NAS Patuxent River; and the Joint Threat Modeling and Simulation Center, US Army Threat Systems Management Office. We also have EW environment simulators operating at the Navy's Pacific Missile and Southern California ranges. Currently, we're supporting development of an Integrated Hardware-in-the-Loop Avionics Test (IHAT) facility for the F-22 and an integrated test facility encompassing multiple laboratories at the Electronic Combat Product Group (ECPG), Robins AFB.

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S&TT Integration Capabilities

Amherst Systems has developed modular products and integration tools which are the basis of turnkey EW systems test, evaluation and maintenance facilities, and reactive EW test and training ranges. Responding to specific customer requirements, we develop a customized approach that leverages S&TT's technological breadth and experience in concept exploration, systems and software engineering, real-time programming, scenario development and visualization, and data management. S&TT specializes in facility integration, tailoring its products and applicable tool sets to provide cost-effective, low risk solutions.



System Integration Laboratories:

S&TT developed and installed the scenario development, control, and synchronization capabilities into Lockheed Martin's F-22 Integrated Hardware-in-the-loop Avionics Test (IHAT) facility. We defined the concept of operations and provided the tools for data file preparation, test preparation, test execution, scenario activity visualization, post-test analysis, and data management. Our IHAT master control station integrates disparate EW threat stimulators into a coherent, multispectral, high-fidelity threat environment for testing the F-22's integrated avionics sensor suite. The IHAT lab is the centerpiece of the F-22 SIL at Edwards AFB where it directly supports T&E activities, including range testing.



S&TT is also currently providing multi-stimulator test control and synchronization of systems in 14 separate laboratories as part of the USAF's upgrade to the Electronic Warfare Avionics Integration Support Facility at Robins AFB.

Installed Systems Test Facilities

Amherst Systems had a principle role in the development of the Infrastructure & Generic Test Capability for the Electronic Combat Integrated Test (ECIT) facility, an upgrade to the Benefield Anechoic chamber at Edwards Air Force Base. We developed the test control software that integrates and synchronizes ECIT assets, including EW and GPS stimulators and instrumentation devices. This chamber can hold up to 5 aircraft in an electronically secure environment, and allows for testing of the avionics systems on the aircraft in a realistic, simulated, dense threat environment.



Reactive EW Test and Training Ranges

S&TT is integrating multiple units of the Amherst Systems' Mobile Reprogrammable Emitter Simulator (MRES) and adding the ability to sense and react to aircraft EW activity for more realistic testing and training. These integrated/reactive ranges emulate the behavior of specific threat weapon systems and enable the simulation of a realistic Integrated Air Defense System (IADS) for the development and training of EW tactics in an open-air environment. With these enhancements, simulators react to both player movement and ECM in a manner that is characteristic of the actual threat. Our reactive EW ranges generate dense, realistic, tactically correct threat environments that are required to test today's EW sensor systems and train combatants.

Our integrated turnkey EW ranges provide unmatched fidelity, flexibility and affordability for the test and training communities.

For more information, please contact:

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