NORTHROP GRUMMAN

IR/EO Simulation Systems

Our mission:
To provide a set of integrated products for electronic warfare environment simulation, test, and training in the infrared and electro-optic spectra.

RISS - Real-time IR/EO Scene Simulator

Covering all bases from requirements definition to installed system testing.

Why invest in a tool that is used in test and evaluation if you're still defining requirements or just starting the initial design phase?

- Because it would streamline development, reduce costs, and keep your program on schedule.
- Because it would eliminate the costly fire/fix/fire approach to live range testing.

Our Real-time IR/EO Scene Simulator (RISS) provides these advantages for missile seekers, missile warning systems, FLIRs, and IRST systems throughout the program life cycle:

- It helps requirements definition teams to specify systems accurately and economically.
- It enables contractors to design, develop, and produce systems - on time and within budget - that meet performance requirements.
- It allows end-users to verify system performance while it's still cost-effective to do so - with confidence that live range tests will validate simulated results.

RISS provides unrivaled spatial, spectral, and temporal fidelity. Our physics-based approach, along with the use of validated models and the newest graphics technology, offers a level of performance that cannot be obtained using simulators designed for training or other vis-sim applications.

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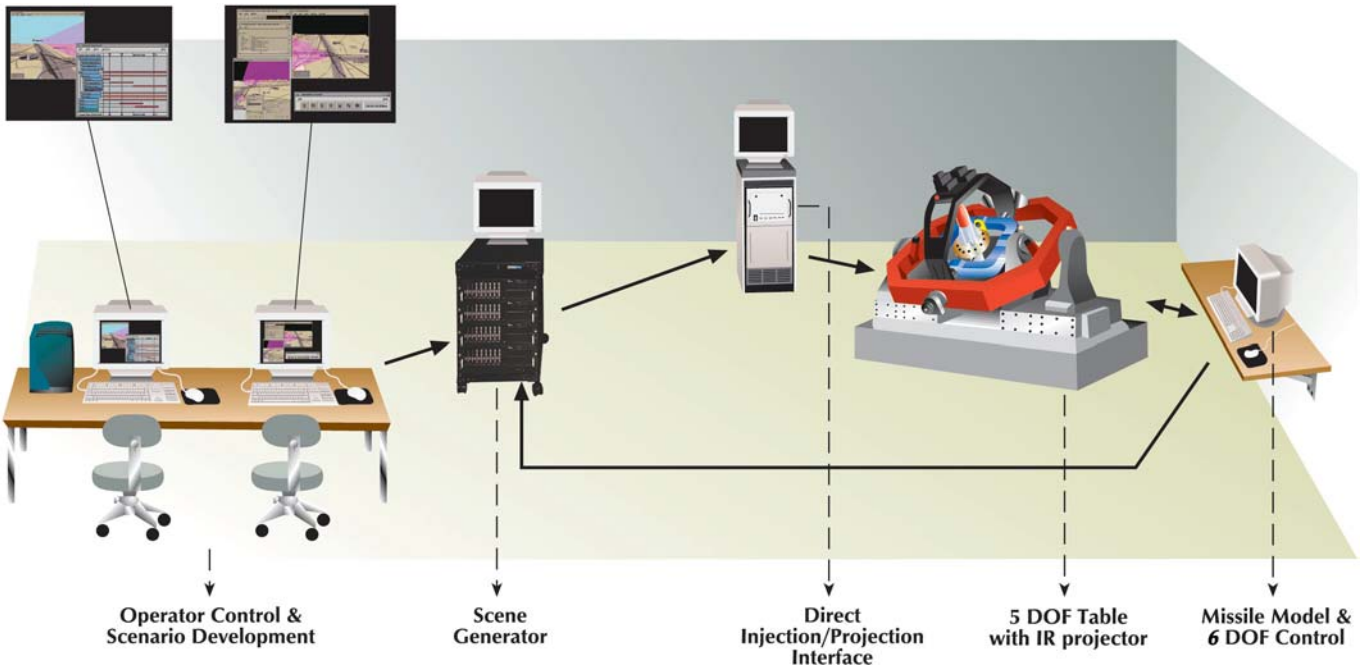
Complete Simulation Solutions

Integrated software and hardware tools provide high-fidelity, real-time, reactive imagery for test and evaluation systems in hardware-in-the-loop and man-in-the-loop configurations. The complete simulation process is supported, starting with synthetic environment database development, test scenario lay-down, image generation, and sensor effects modeling. For developmental purposes, the applications can be synchronized to the system-under-test to run at real-time rates, or run faster or slower than real time.

RISS Components Include:

Model Builder - Supports import, attribution, and management of 3D target, object, and terrain databases. Extensible, open database standards are used for model import and run-time database creation.

Model Toolkit - An integrated tool set for building real-time databases from high-fidelity, validated, EOIR signature and phenomenology models including MODTRAN, SPIRITS, RadThermIR, SPURC, DISAMS.



Scenario Builder - An interactive environment for scripting operational test scenarios. Provides GUIs for event sequencing, gaming area and event visualization, and test previewing.

Controller - The interface for configuration of simulation assets and real-time control of the simulation. A graphical situation display provides visualization of simulation events.

Scene Generator - A high fidelity, real-time EOIR image generator. Uses advanced graphics technology and commercial interface standards. Scaleable for all applications.

Programmable Sensor Emulator - A real-time image processing system, providing an interface between an image generator and a scene projection device, a sensor, or display hardware. It provides post image generation processing for EOIR sensor emulation and direct signal injection formatting.

For more information, please contact:

Northrop Grumman Corporation
Amherst Systems
1740 Wehrle Drive
Buffalo, New York 14221-7032 USA
Phone: 1-800-631-0610, ext. 2259
Fax: (716) 631-0629
e-mail: amherstsolutions@ngc.com
www.dsd.es.northropgrumman.com/amherst