CUBIC

EW SIMULATORS

Introducing the HIDESS Portfolio:

The Ultimate in Electronic Warfare Simulation

Cubic's high-performance Electronic Warfare (EW) Simulators provide the most accurate and cost-effective means to test electronic airborne systems against real-world radar threats.

Used for operator training and receiver testing, Cubic's new line of High Density Simulation System (HIDESS) products generate radar threats identical to those that U.S. forces and allies would face in actual combat. Cubic EW simulators produce multiple radar signals — including surface-to-air missiles, air-to-air and air-to-ground threats – in real-time, dynamic scenarios.

The signals are injected into an aircraft's actual radar warning receivers and flight software to test the aircraft's ability to effectively handle various radar threats. The simulators are also used to train operators to recognize multiple signals, including hostile, neutral and friendly radar signals, in a constantly changing threat environment.

The simulators preserve the actual characteristics of both the radar signal and operational environment to provide the highest level of fidelity and realism possible. The systems' unique design provides a clear replication of the signals with minimal RF noise output.

The use of individual time clocks for each signal preserves the asynchronous nature of the threat environment – in real time. Signals are generated using the same basic frequency timing clock as the radar that is being emulated, providing unprecedented realism.

Cubic's EW simulators are modular in design with easy to use, re-programmable software that can be readily customized to meet future needs. The products can emulate standard radar, pulse Doppler (including ICW) or continuous waveform signals.

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CONFIGURATIONS

The Cubic EW product line is available in three configurations:

- **The Standard HIDESS** (Model 8207) for the complete EW facility
- **The TESTER HIDESS** (Model L8802), a desktop system for laboratory use
- **The Attaché HIDESS** (Model P8801), intended primarily for portable use

Together, the products address the full range of customer needs and may be modified or used in combination to meet individual customer needs.

KEY FEATURES:

REALISTIC THREAT ENVIRONMENTS

The fidelity of the EW environment produced by HIDESS ensures that the aircraft's equipment is tested under the same conditions that pilots will encounter in combat. The key characteristics of both the simulated radar signal and total environment are preserved.

SIGNAL SYNCRONIZATION

HIDESS features unique separate clock generators for each produced signal, which allows replication of the "real world" EW environment. This is made possible with the use of individual timing generators for each radar system. Even if two radar systems are considered "identical," the manufacturing differences of the two systems will cause a slightly different timing pattern.

To preserve this asynchronism as seen in the real world, the system must generate the signals on separate clocks. Where multiple beams of a threat have the same timing reference, the HIDESS architecture allows multiple signal sources to be synchronized to the same clock. Complex signals such as pulse Doppler radar signals, including any ICW components and scan synchronization, are easily generated by the system.

MINIMAL RF NOISE OUTPUT

A unique RF module design ensures a very low-level of RF noise output. This provides additional usable dynamic range for testing sensitive, high dynamic range receiver systems.

ADVANCED SOFTWARE

At the heart of the HIDESS product line is the advanced software package, Escape2000. The Escape2000 signal generation and simulation control software operates on a Pentium-based personal computer system utilizing Windows XP operating system. Escape2000 allows the user to create a signal data base that can be used in many different tests or scenarios.

All user entries – including beam descriptions, pulse patterns, scan patterns, scan definitions and frequency agility patterns – are stored in a commercial data base. These definitions are then available to the user to build the scenarios and test sequences that are required. With advanced ProClock circuitry, even the Doppler effect on the pulse intervals and pulse widths can be replicated.

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