ENSCO®

Simulation, Test and Recording System (STARS)

As command/control and mission-critical systems become increasingly complex, fully understanding how these systems perform in a dynamic environment and the subsequent responses of operations' personnel becomes paramount. The Simulation, Test and Recording System (STARS) from ENSCO Inc., was developed to reduce risk and ensure system integrity and safety by simulating the operational environment prior to deployment.
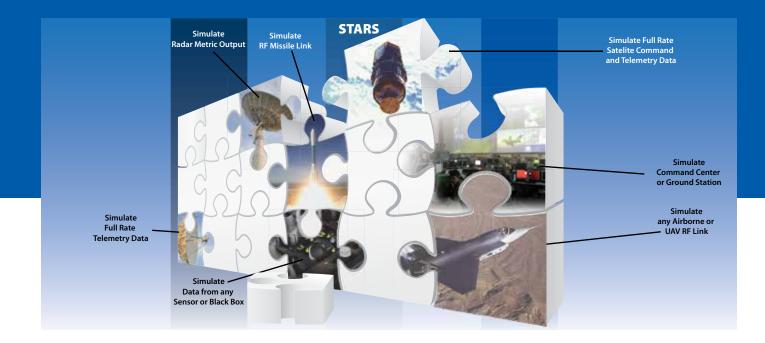
STARS will thoroughly evaluate system elements before risking mission success and expensive assets, or compromising safety

STARS – A comprehensive simulation solution

STARS provides a comprehensive simulation solution with a wide range of applications across many mission-critical systems, such as range safety, range telemetry and other automated systems. These may be either collocated or geographically dispersed. STARS features a hardware in-the-loop, real-time solution that can simulate any type of data. Its use is not limited to space and missile applications, but is relevant anywhere real-time data provides the basis for critical decision making.

Thorough system testing

Whether performing a component or full systems test, STARS generates realistic, full fidelity data streams, creating and managing multiple, real-time sessions. These sessions facilitate complex "what if" scenarios through seamless integration of operationally realistic simulations.

Multiple, simultaneous streams of data, varying in format, can be incorporated into each scenario. For example, a single system can simulate the telemetry and radar data streams from a multi-missile target and interceptor engagement. The STARS operator has full control over all timing parameters, including synchronization and latency, of the various data streams. Additionally, during the simulation's creation phase, all parameters in the data streams can be modified to emulate maximum stress conditions of the tested system.

STARS

- Simulate Radar Metric Output
- Simulate RF Missile Link
- Simulate Full Rate Satelite Command and Telemetry Data
- Simulate Command Center or Ground Station
- Simulate Full Rate Telemetry Data
- Simulate any Airborne or UAV RF Link
- Simulate Data from any Sensor or Black Box

Forward flexibility

STARS offers forward flexibility to meet the evolving needs of your mission-critical systems. Its open architecture and scalability allow for integration of all data sources and subsystems as well as simulation system growth as requirements expand.

Procedure review

STARS allows system personnel to create or add anomalies and perform real-time scenario playbacks. This affords timely identification of procedural weaknesses that may not be evident under normal conditions. Operating improvements can be gauged without jeopardizing mission operations.

Personnel training and evaluation

STARS goes beyond traditional simulation, creating numerous simulated data streams that are indistinguishable in context and format from true operational data. Such data emulation offers a real-world environment to test and train operations' personnel. Control room operators can directly interact with the system and affect true system responses or changes in simulation data. This provides a cost-efficient, accurate and effective training opportunity.

The ENSCO advantage

STARS simulators are currently in use at numerous government and commercial space and missile launch ranges throughout the U.S. and around the world.

As with all ENSCO products and solutions, STARS represents ENSCO value – the benefit of four decades of advanced engineering, research and development combined with real-world industry experience. From the early days of space flight to recent missile range design and architecture, ENSCO engineers have supported U.S. military and government customers. We stand ready to help solve your most difficult mission assurance challenges.

STARS Technical Specifications

- Capable of injecting more than 20 simultaneous data streams
- High-speed data rates (>10Mbps)
- Full-rate telemetry
- Radar
- Synchronous serial data output
- Asynchronous serial data output (bi-sync, mono-sync, HDLC, SDLC, nine bit, IEEE 802.3)
- Network data (UDP, TCP/IP)
- CCSDS packetized data output
- Electrical Interfaces: TTL, V.35, RS 232, RS 422/485, RS-423, RS 530 and Ethernet
- Protocols: SS7, X.25, frame relay, HDLC, LAPD, radar receiver/SBSI (asynchronous, synchronous)
- Supports IRIG and GPS timing protocols
- Modular additions for telemetry encoding formats (NRZ, Bi Phase, Viterbi, etc.)
- Telemetry RF modulation option
- User option for populating data stream time fields (current time, set time, file time)
- Real-time GPS navigational source option
- External sensor interaction

⩘ENSCO®

800-ENSCO-VA
info@ensco.com
www.ensco.com