

CONTINUOUSLY COLLECT OPERATIONAL, TEST AND TRAINING DATA

Any plane, any mission, any time



Collins Aerospace

FOUR-HOP RELAY CAPABILITY

(Applies to broadcasts, uplinks, downlinks and crosslinks)



ONE SYSTEM TO SECURELY RECORD AND UPLINK/DOWNLINK OPERATIONAL DATA IN REAL TIME

ANY AIRCRAFT OR VEHICLE

The speed and accuracy of today's advanced weapons systems have outstripped the ability of prior-generation Advanced Range Data System (ARDS)-based testing ranges to provide accurate performance data.

To meet this need, Collins Aerospace has fielded the Common Range Integrated Instrumentation System (CRIIS). CRIIS fulfills a critical DoD requirement to provide Time, Space and Position Information (TSPI) and systems evaluation data to support testing for a variety of current and next-generation platforms.

CRIIS is much more than a replacement TSPI instrumentation system. Steps have been taken to realize the U.S. DoD's vision of a common solution for test and training missions. It has been demonstrated to enable secure blending of live/synthetic advanced test and training environments. CRIIS incorporates advanced systems and algorithms to operate effectively in a GPS degraded or denied environment.

ANY PLANE, ANY MISSION, ANY TIME

CRIIS features an open architecture with user-configurable, cross-domain solutions. Range users can quickly scale it with user-defined rulesets and adapt it to any aircraft and level of mission capability they need. This enables one range and CRIIS to satisfy the individual or combined needs of any mix of participants.

Multiple platform interfaces are available for bus monitoring, sensor stimulation, telemetry, data aggregation and event-driven messaging to stimulate other systems. This combined capability eases the blending of live and synthetic entities into highly-tailorable, operationally-relevant mission environments. Over 250 CRIIS pods and internal mounts have been delivered to date. CRIIS is currently flying on F-15, F-16, F-18 and soon will be flying on the F-22 and F-35.

OPERATE ANYWHERE

CRIIS is installed at Eglin, Edwards, and Nellis AFBs, as well as NAS Patuxent River, Pt Mugu, NAWS China Lake and White Sands Missile Range. It can be operated both off-range as well as deployed to other locations, as required. These ranges either have or are nearing completion of airworthiness certification for test and fleet aircraft, and will soon have authority to operate across the U-TS operational spectrum.

FLEXIBLE CONFIGURATIONS

Multi-platform and multi-range support is built into CRIIS via pod, internal mounts (IM) and module/ground form factors combined with the ability to reconfigure range assets via IP networks. This enables ranges to run multiple independent simultaneous missions and/or combine resources for a larger geographically distributed mission—leveraging assets on multiple ranges. The user-configured, certified cybersecurity solution includes MILS CDS and Type-I encryption to protect TS-U data with remote management, enabling mission tailoring and ease-of-use. When combined with the mesh networking, a user can control other sensors, telemetry equipment or stream synthetic mission environments to any mission participant. Features of the software-defined radio include broadband and spectrum efficient modes operating in upper and lower L band.

CONTINUOUS DATA COLLECTION

Flight tests that verify aircraft performance can be "extended" to continuously collect system, subsystem and sensor data on every flight, anywhere, any time. CRIIS can be configured to record any bit, byte or message from aircraft busses. This data can then be ingested by "big data" analysis tools to identify operational issues, bugs or trends.

COMMON RANGE INTEGRATED INSTRUMENTATION SYSTEM (CRIIS)



PLANNED UPGRADES

Collins Aerospace is committed to delivering new functionalities for the CRIIS. Current upgrades underway include: enhanced operations consoles for streamlined workflows to enable quicker STIG upgrades; a full-function datalink API for sensor integration; and an expendable version for targets, surface vehicles and watercraft.



To learn more, go to:
→ collinsaerospace.com



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