Flight Test & Instrumentation

Modern aerospace instrumentation systems can be highly complex, with evolving requirements that can cause significant and costly program delays. The ability to reliably capture flight test data is essential for avoiding expensive additional flights or losing months of program data. As a global leader in flight test instrumentation (FTI) solutions, Curtiss-Wright lowers these risks through a comprehensive range of cutting-edge COTS-based systems that can be customized as required.

These reliable flight test solutions have been proven on hundreds of programs to reduce the risk of data loss, repeating flights, or compromising a maintenance program. Curtiss-Wright's extensive portfolio of products allows rapid delivery of large complex systems with significant flexibility for future adaptation. This comprehensive FTI product family includes data acquisition, telemetry, recording, switching, data display, and processing solutions that enable applications such as flight test, missile and hypersonic development, launcher and space instrumentation and usage monitoring.

Space Data Acquisition

Electronic systems that work well in terrestrial environments can fail with severe consequences in harsh space environments. Curtiss-Wright mitigates this risk with cost-effective, proven solutions for launchers, low-earth orbit (LEO) platforms, and space vehicles. These space data acquisition systems are deployed on many platforms including, the Boeing CST-100, ULA Delta Atlas V, SpaceX Dragon, Space Shuttle, Virgin Galactic SpaceShip Two, NASA SLS, Airbus DS ISS ACLS, and ASL Ariane 6 platforms. Our products include space COTS and radiation-tolerant systems for both development and operational flight instrumentation.

Data Acquisition

Axon™/ADAU

Advanced data acquisition units (DAU) that offer low SWaP with the best feature set and performance

- Next generation data acquisition architecture
- High data throughput (up to 380 Mbps per DAU)
- Single 15V backplane power rail for improved efficiency
- Multiple industry0standard format support

MnACQ

Miniature DAUs that use 100s of off-the-shelf modules to reliably acquire data

- Compact network-based data acquisition
- 100s of analog, bus, encoding, etc., modules to meet virtually any data acquisition and processing need
- Environmentally rugged with proven performance in the harshest conditions

MATS

Designed for applications that need a compact DAU, telemetry, and flight safety telepack solution

- Compact, one box solution
- Modular design that can adapt to meet the needs of all stages of development
- Encryption solutions that secure streaming telemetry data
- Field configurable

Telemetry, Flight Safety and Imaging

TTS-9800-2

High-efficiency airborne multi-band multi-mode transmitter

- State-of-the-art modulation
- Supports forward error correction, and spacetime processing to IRIG-106-15
- Highest RF power efficiency with programmable power levels
- Dual-channel, 10 watts per channel

FTR-200

Airborne flight termination receiver and tone decoder

- Rugged miniature packaging
- Sensitive RF receiver with programmable RF center frequency
- Programmable decoder tone frequencies
- Full failsafe operation with standard range safety logic

nHSC-36-S1

High-speed camera for applications where space is at a premium

- Rugged, lightweight, and miniature size
- High frame rate
- IEEE 1588 for time synchronization and timestamp support
- Circular buffer for pre-event and post-event image capture

Recorders and Switches

ADSR-4003

A small form factor, rapidly installable, all-in-one recorder

- Intelligent, IP packet recorder and networked file server
- High-speed Ethernet packet recording
- Three solid-state memory modules
- Supports IEEE-1588 precision time protocol plus IRIG-B time

nREC-7000

Compact high-speed network recorder for use with flight test data acquisition

- Records up to 18,000 Mbps sustained, 10G acquisition and recording at full line rate
- Records in multiple data formats simultaneously: Each of the 6 virtual drives can be configured with its own data format
- Two hot-swappable Removable Memory Modules (RMM) cartridges

NSW-16GT

Rugged 16-port Ethernet switch

- Highly rugged for harsh environmental conditions including excessive heat and cold, shock and vibration
- Twelve 1000BASE-T and four 10GBASE-SR ports
- Supports IEEE 1588 V1 or V2 and SNMP V2c/V3 network management
- Full line rate non-blocking switching capacity

Software and Ground Station Hardware

IADS® RTStation

Complete real-time and post-test display, and analysis software suite

- Real-time data processing, archiving, computation, display, and reporting components
- Connects to a wide range of data sources
- Interactive interface that enables custom data displays, parameter definitions, analysis options, and test setup

Post Test Explorer

Data search, analytics, and visualization platform

- Enables the user to enter natural language search queries to find data of interest
- Search across multiple test flights for data conditions or test events
- Visualize results in a graphical format
- Perform data analysis using custom Python code or large built-in library of functions

DTU-7004-1

High-speed rackmount download unit

- Supports up to four RMMs
- Thunderbolt™ 3 interface
- PCIe Gen3 speed (up to 32 Gbps interface)
- Each RMM can download data at 2 Gbps or greater
- Hot-swappable