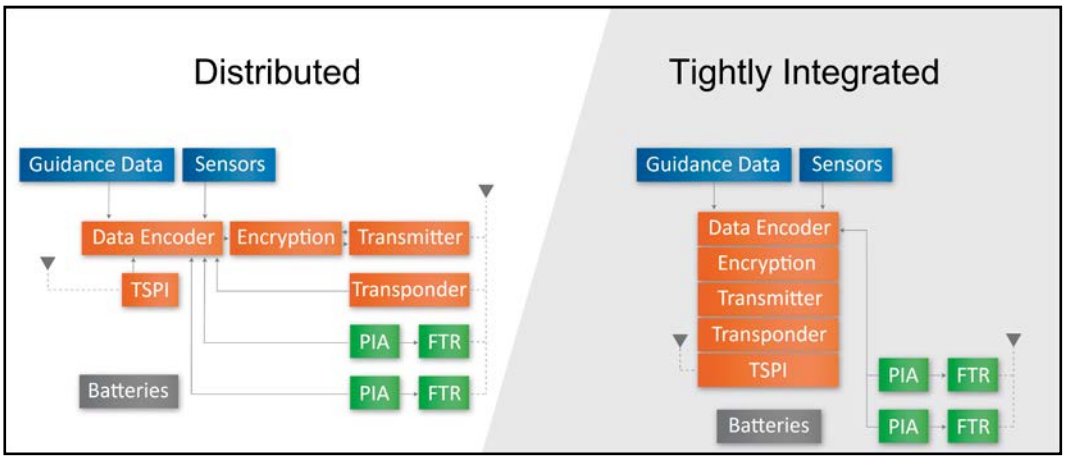
Flexible and Adaptable Telemeter Systems

Several aerospace platforms present unique challenges for electronic systems that must meet limited space, low weight, and power requirements while working reliably in very harsh environments. Curtiss-Wright has decades of experience developing such proven solutions for missile, sounding rocket, UAV, space vehicle, rotorcraft, and fast jet test applications. Our modern modular and configurable telemeters utilize our extensive COTS hardware to meet requirements quickly and are flexible and adaptable. These are available as distributed and highly Integrated systems to meet your specific needs.

Key Features

+ Industry-leading compact data acquisition, transmitter, transponder, receiver, recording, and flight safety products
+ Highly compact, one box solutions for constrained spaces
+ Modular designs that can adapt to meet the needs of all stages of development
+ Legendary support and an expert partner to aid in design and integration
+ Developed in close consultation with the RCC range safety community
+ Encryption solutions that secure streaming telemetry data
+ Flight-proven re-radiation systems for stealth applications



Curtiss-Wright provides all the necessary components to create custom and flexible telemeter solutions, whether distributed or tightly integrated

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Products

Curtiss-Wright offers a broad portfolio of products that can be used to develop telepacks ranging from ultra-compact line replaceable units to larger, more capable systems better suited to high data throughput applications or to integrate with existing systems.

AXN/CHS/03U

Modular Airborne Telemetry System (MATS)

MATS is a state-of-the-art secure telemetry solution. The fully programmable system is highly configurable, thanks to the wide range of signal conditioning modules it supports, including excitation, low and high-voltage analog data, GPS, isolated power supplies, data security, and transmitters. The chassis has a miniature double-wide form factor and can be used to encode a wide range of sensors, transducers, and data bus sources into a wideband PCM output stream at rates up to 20 Mbps. The fully ruggedized MATS system can be configured to operate in standalone PCM systems, networked systems, and CAIS remote systems.

The MATS total solution approach enables system designers to configure the functionality they require flexibly. This Curtiss-Wright approach helps to reduce system size and weight by moving most functions into a single chassis. This also means fewer power supplies are required for a lower power draw and a more reliable system. Fewer wires result in a less complex, more reliable, and lower weight system, while a modular approach enables simplified changes for different phases of platform development, testing and deployment. Additional modules for power interface unit (PIA) and flight termination receiver (FTR) functions will be added at a future date.

Data Acquisition and Encoders

Axon ADAU

Our Axon family is the most advanced airborne data acquisition system available today. It features a high data throughput (up to 380 Mbps per DAU), is compact with optional remotely mounted modules, and has multiple modern time- and cost-saving functions, such as in-situ updating, faster pre-flight checks, and system health monitoring.

MnACQ

Curtiss-Wright's Miniature Network Data Acquisition Units (MnDAU) deliver network-based, high-speed data acquisition and encoding in an environmentally sealed package and small footprint. They utilize a library of over a hundred modules to meet the most demanding data acquisition requirements.

Telemetry

TSPI

The MiTSPI range provides user defined TSPI information for both real-time telemetering via Ethernet and/or Chapter 4 PCM (Clock and Data), as well as simultaneous recording for data retrieval post flight. This miniature solution can be integrated into the MATS system to add high quality position and orientation data.

Encryption

The MESP-100 range is an exportable encryption solution that encodes streaming telemetry data using AES-256 and is ideal for use in missile telemetry and test, flight test, and aircraft monitoring applications. The module set provides a PCM encoder interface, ARTM transmitter interface and an optional cryptographic key management software package.

Transmitters

Curtiss-Wright has a wide range of single and multimode transmitters with a bandwidth efficiency improvement of two to one compared to many competitors. Depending on the model, features include state-of-the-art modulation, forward error correction, and space time processing compatibility to IRIG-106-15, with user programmability options for serial and parallel interfaces with a high efficiency power amplifier chain.

Transponders

Curtiss-Wright provides RF transponders with the highest efficiency in the industry including flight proven re-radiation systems for stealth applications and IP-transceivers for point to point Ethernet links.

Flight Termination Receivers

Our flight safety products, developed in close consultation with the RCC range safety community, are miniature airborne flight termination receivers with tone decoders for flight termination system applications that utilized tone-based command messaging. They provide a highly sensitive superheterodyne RF receiver whose center frequency is programmable.

Custom Telepacks for Missile Applications

Curtiss-Wright has decades of experience providing solutions for missile applications and today has the ability to create highly custom and adaptable solutions using COTS product. These can be optimized to fit into different spaces and the same core system can be used in different phases of the platform's development with minor changes to system cards. These include propulsion, control, and guided test vehicles, as well as in lot testing and training applications.

Environmental Qualification

The Axon product range has been qualified to MIL-STD-810, MIL_STD-461, and DO-160. Typical categories include

+ Temperature
+ Altitude
+ Vibration
+ Shock
+ Humidity
+ RF emissions
+ RF susceptibility
+ Indirect lightning
+ Power input
+ Voltage spikes

A full list can be found in the Axon Environment Handbook.