TELEMETRY PROCESSOR

Sophisticated data display, trending, and analysis

Create, save, and restore mission definitions

Import existing telemetry format definitions

TMoIP, Serial, Analog, 1553, and other data interfaces
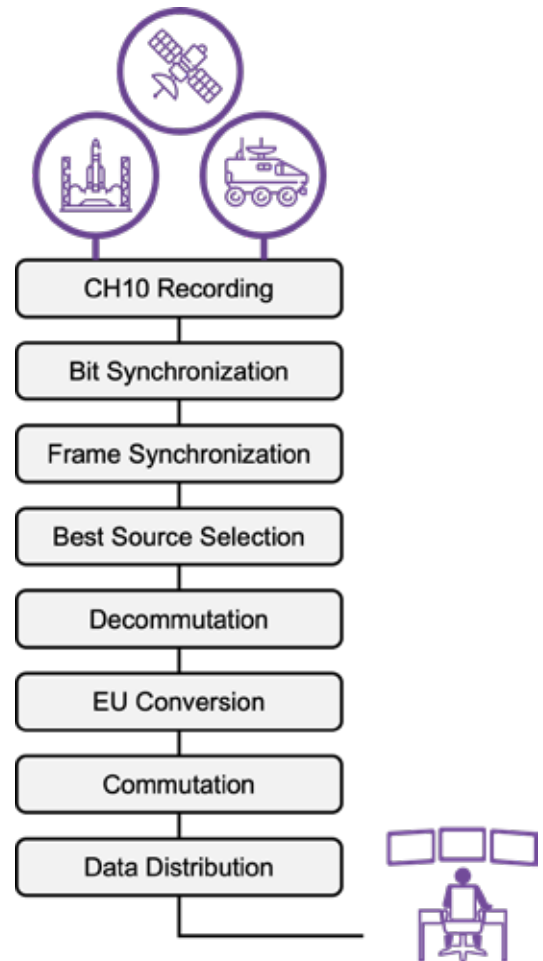
OVERVIEW

Acquire and process launch vehicle, missile, aircraft and satellite data with ARKA's inSIGHT™ Telemetry Processor. Powered by a suite of telemetry applications, the Telemetry Processor offers the ability to combine or distribute the traditional functions associated with processing a telemetry downlink, integrating into your current ground telemetry system, and evolving as your requirements change.

The Telemetry Processor uses modular software applications (Apps) to perform the telemetry functions often performed in proprietary hardware/firmware (e.g., bit synchronization, frame synchronization, and decommutation). With today's commercial multi-core processors, these functions are performed in the Telemetry Processor software at real-time speeds.

Choose only the Apps you need, and combine Apps on a single server or hosted in a distributed architecture per mission's concept of operations (CONOPS). Apps can be redistributed or combined to support a new CONOPS without re-work or installation of new hardware.

CH10 Recording

Bit Synchronization

Frame Synchronization

Best Source Selection

Decommutation

EU Conversion

Commutation

Data Distribution

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TELEMETRY PROCESSOR APPS

Telemetry Processor Apps interconnect using network protocols and matrix switching software, which allows Apps to be added and deployed to support a specific mission configuration. Process more telemetry streams by adding the necessary Bit Sync and Frame Sync Apps. Need to record data at multiple locations? Start Chapter10 Recorder Apps where needed. Switch between TMoIP and serial data streams using the corresponding Interface Adapter App.

inSIGHT Telemetry Mission Manager

Visualization And Analytics
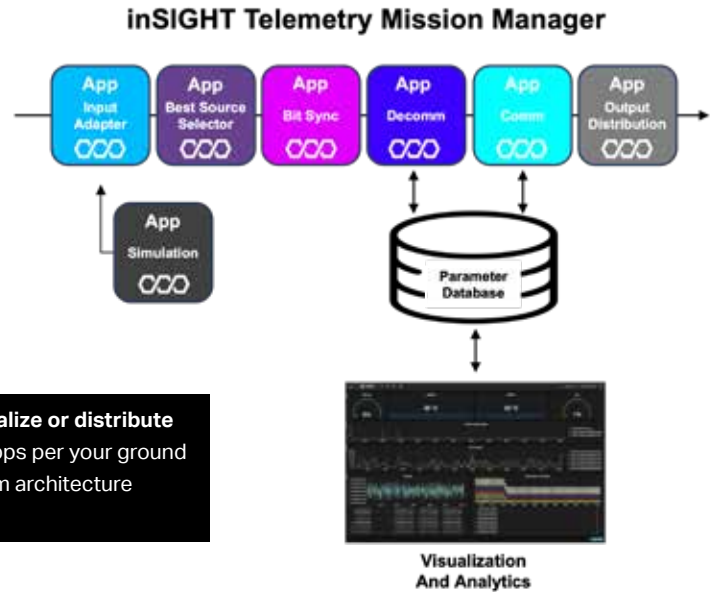
Mission Manager and **Mission Definitions** configure the Telemetry Processor Apps

Apps are deployed to match the number of telemetry streams and processing requirements

Centralize or distribute the Apps per your ground system architecture

SPECIFICATIONS

FEATURE	SPECIFICATIONS
Physical Interfaces	*Analog, digital, Ethernet, RS-530, RJ-45, BNC, Triax, DB connectors*
Protocols	*PCM and PCM/FM, TTL / RS-422, UDP / UDP Multicast, TCP, TMoIP, Ch10*
Bit Synchronizer	*Support for PCM formats* *Scalable data rates* *Viterbi and convolutional decoder*
Best Source Selector	*Uses frame sync statistics* *Virtually unlimited sources* *Manual, automatic, or mission timeline* *CRC and other data quality checks*
IRIG 106 Chapter 10 PCM Recording	*PCM packed, unpacked, and throughput* *ASCII TMATS format* *Store and replay raw or post-detection data streams* *Standalone or integrated with solution* *IRIG-B time-stamping* *Built-in BERT*
Frame Synchronization	*Programmable sync strategy* *Data rates up to 1 Gbps* *Error detection / correction*

FEATURE	SPECIFICATIONS
Decommutation	*Word, byte, or bit level* *Support for embedded frames* *Raw, EU, derived parameters* *Async embedded streams*
Parameter Archive	*EU converted measurands* *Archived with ms time accuracy* *Derived parameters* *Raw*
Data Display	*Current value display* *10 Hz real-time update rate* *Alerts, bar graphs, trend lines, strip-chart, Zoom in / zoom out*
Data Analytics/ Visualization	*Real-time or post-mission analysis* *Full complement of data display widgets* *Rapid analysis of historical or correlated data*
Telemetry Simulation	*File replay from RF/IF or Ch10 recordings* *Generated telemetry streams* *Digital, baseband, or RF outputs* *Parameter editing (recordings or playback)* *System test/verification* *Personnel training*
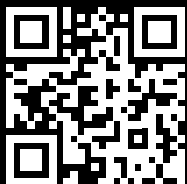
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