

TELEMETRY SYSTEMS

Telemetry Data Processing & Simulation Systems

RECEIVER / BIT SYNC / FRAME SYNC

- DECOMMUTATION
- ENGINEERING UNIT CONVERSION
- DERIVED MEASUREMENT PROCESSING
- RECORDING / PLAYBACK
- REAL-TIME QUICK-LOOK DISPLAY
- POST TEST ANALYSIS
- SIMULATION



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TELEMETRY DATA PROCESSING & SIMULATION SYSTEM

Acroamatics' Telemetry Data Processing and Simulation System (TDPSS) offers a flexible, configurable, and expandable solution for today's telemetry decommutation processing and display requirements. This multifunction system addresses all of the common telemetry range functions in a single integrated system.

The system can be configured with front-end functions such as RF/IF Receivers, Bit Synchronizers, and Frame and Sub-Frame Synchronizers. The heart of the system performs multi-stream data decommutation, providing unique ID tags and time tags for each measurement at ingest. Decommutated data can then be sent to high-performance, real-time processors which perform engineering units conversion, limit checking, derived measurement processing and other functions without bogging down the host central processing unit (CPU). The resulting raw or processed measurements can then be recorded or displayed. Playback of recorded data can be used to regenerate PCM stream for processing by TDPSS decommutators and real-time processors or be analyzed and displayed. Each input PCM stream has an associated simulator/ encoder function which can be configured to support multi-stream mission and ground system checkout and set-up validation.

HARDWARE COMPONENTS

Chassis

The TDPSS is available in several form factors; each contains a PCIe backplane, a multi-core Intel I7-based single board computer, and accommodates a mix of TDPSS modules, data storage, and rear panel signal I/O connector options.

- 12-Slot 4U MD2900AP Rackmount (to 16 strm)
- 2-Slot 1U MD2500AP Rackmount (2 strm)
- 3-Slot 2U Rackmount (to 4 stream)
- 4-Slot MD3022AP Lunchbox Portable
- Custom Chassis Option





MD3022AP

Modules

The TDPSS is a high-performance, modular hardware-based system. It does not depend on the processing capacity of the host CPU for low latency, real-time processes. The available modules change over time as technology changes, new features are added and new modules are designed. However, the generic modules listed below should give an understanding of the general capability of the system. Pick and choose the module for your application.

- PCM Decommutation / Timecode / Simulation Modules
- Bit Synchronizer Mezzanine Modules
- Programmable Data Processor Modules
- RF / IF Receiver Modules
- Third Party Modules







MD1635AP



MD1632AP

SOFTWARE COMPONENTS

Acroamatics Telemetry Software Suite

The TDPSS is delivered with Acroamatics Telemetry Software Suite (ATSS). ATSS offers superior data imaging, analysis, and system operations tools. This powerful operating system independent software package provides an extensible environment for setup and control of the TDPSS as well as recording, playback, real-time quick-look display, and precise post system analysis of the acquired telemetry measurement data.

The ATSS can be delivered for use on either a 64-bit Windows 10 (Secure Host Baseline validated) or Red Hat Enterprise Linux 7 Acroamatics telemetry processing platforms allowing the TDPSS system to be tailored to the customers preferred OS environment. Applicable DISA STIGs are applied and support is available to maintain compliance with the latest cyber security requirements. Acroamatics' high-performance telemetry processing solutions provide users a winning combination of unique architectural and functional advantages.

- Operating System Independence
- Freeform Graphic Desktop
- Widget-based Real-time & Analysis Tools
- Run Time System Control
- Real-Time Status
- Data Record and Playback
- Quick-look and Post-test Data Display
- Configurable Font Size and Color
- Customizable Components
- Multi-page / Instance Display Environment
- Industry Leading Support



Freeze, zoom (all-points), scroll in real-time & playback.



Contemporary user-defined, widget-based display & set-up design.



Stripchart replacement, limits and alarms, auto-scale, status & ops controls.







RANGE TELEMETRY DATA SERVER PLATFORM



GDP Space Systems

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Acroamatics Telemetry Systems

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