



### Compact Telemetry Analysis Platform Model 2500P

#### Features:

- Up To 4 PCM Stream Processing Capacity
- Compact 1u and 2u Rackmount Chassis Configurations
- Real-time, OS Independent Telemetry Processing
- Card Level, Micro-coded Software Decommuration
- Powerful third generation card embedded real-time SHARC® Multi-Stream EU Processor and Data Distribution
- Full featured local and network Display & Analysis
- Modular and Extensible TM Data Services - per PCM Module
- Real-time Raw and Processed Mission Data Recording
- 8 Hz to 44 Mbps PCM Bit Synchronizers
- 0-40 Mbps PCI Advanced Multi-Function PCM Decoms
- Multi-Stream Dynamic 0-50 Mbps PCM Simulator/Encoder
- *NEW* Multi-Band RF/IF ARTM 0/1 compliant TM Receiver/Demod card - SOPQSK to 30+ Mbps
- RF Receivers, Analog, DAC, Aircraft Data Buses, Discrettes, GPS and more

#### General Description



The Model 2500P is a third generation low-latency, portable, multistream telemetry data processing and analysis unit. Based on Intel Core i7 motherboard technology, the 2500P host PC chassis provides a compact rackmount host to Acroamatics' signature low-latency, card embedded multi-function telemetry processing cardsets. Modular and extensible to suit a variety of manufacture, design lab, and test range decom processing needs, the Model 2500P provides an expanded set of card integrated RF data acquisition, decommutation, EU conversion, and Windows independent output formatting methods, and offers a level of performance unsurpassed by any comparable integrated telemetry data acquisition processing product on the market.

Featuring from one to three of our single or dual stream, real-time, single card telemetry processing modules, the 2500P offers rugged design, very light weight, and powerful networking capabilities specifically designed to support long term field and telemetry data center telemetry applications. Operating under DOD SHB compliant Windows 10 64-bit system OS, Acroamatics Windows application independent low-latency, deterministic card embedded processors guarantee that users will have ample processing potential to meet the most complex display, recording and real-time networked data server client display and analysis needs of customers for years to come.



LabVIEW



MATLAB





### Overview

The Acroamatics 2500P Single/Dual/Quad Stream Telemetry Data Processor/Server (TDPS) delivers a unique combination of card embedded, low-latency, dynamic decom and EU processing, with Windows high performance engineering data display and analysis power to meet the most demanding compact data center and lightweight portable telemetry processing applications. The 2500P delivers real-time mission data display, recording and networked data distribution of virtually any IRIG, CCSDS or packetized PCM formatted telemetry data stream. *Stream decommutation, EU conversion, deterministic derived processing, and specific data output formatting (limit setting, alarms and a variety of card embedded processing algorithm and user defined output data format) requirements.* The 2500P is offered in both a 1u and 2u rackmount height chassis, and is purpose designed to accommodate Acroamatics industry leading, Windows application independent telemetry processing cardsets. The 2500P supports from one to four stream decom/EU applications and a variety of optional input/output cards (optional bit sync, multi-band ARTM 0/I/II receiver, DAC/A-to-D/Discrete - and new TMoIP PCM I/O support).

### System Software

Acroamatics Telemetry Software Suite (ATSS) TDP system software includes GUI applications to set up and operate the range of system hardware configurations available - with integrated real-time, quick-look displays and IADS, DEWESoft, MATLAB, and ILIAD display and analysis workstation “plug-n-play” compatibility. Operators can store and instantly configure the system using project setup libraries managed by ATSS, or alternatively use convenient TMATS, Excel or script set-up editors to define and modify mission TDP configuration. Using ATSS, users can configure and initiate mission support operations from the Mission Console menu or control individual TDP functions through specific control panel GUI utilities, such as the Data Recording GUI.



### PCI Chassis

The standard Model 2500P is based on purpose-designed 1u and 2u rackmount style chassis, light enough to support portable operations with ease, yet rugged enough to meet rigorous shipboard and field mobile applications. The 2500P meets the most demanding integrated telemetry decommutation needs, adding precisely correlated low-latency EU, derived, and formatting of user defined data products via local media, display or networked data services. The 2500P is scalable to support single or dual stream operations, yet lightweight and versatile, with a full array of panel mount, rear panel BNC/Triax signal I/O connectors. Model 2500P standard features include a front panel removable system & data drives, CD/DVD recorder drive, front and rear panel USB (4 ea), SVGA or DVI video monitor, and serial com port. Unit administration and operations are supported by Acroamatics ATSS system software operating under DOD SHB compliant Windows 10, 64-bit OS and Intel Gen 7 Core i7 CPU based host processor. For applications requiring just single stream decom only applications, please refer to Acroamatics compact Model 4022-CTS Single-Stream Compact Telemetry System. See product data sheets for more information.

## PCI Telemetry Cards

You can select a set of Acroamatics cards to process anything from a single PCM stream to eight streams of complex telemetry data simultaneously in a single TDP chassis. The following brief descriptions of the functions supported by the individual cards is summary in nature only. Please refer to specific module data sheets for complete capabilities descriptions. Please consult with us prior to order placement for assistance in configuring a TDP to best suit your requirements.



### NEW Model 1622P PCI & 1632AP PCIe PCM Decom

Model 1622P PCI and PCIe 1632AP dual stream are third gen Acroamatics PCI telemetry decom module designs. The 1622P & 1632AP are not just updates, they include important new functional capabilities and 65% faster processing speed - without sacrificing backward compatibility with Acroamatics earlier generation telemetry card and processing systems. The PCIe card form factor 1632AP is a powerful, dual stream decom module that is a self contained card-level programmable PCM processor and output data formatter, delivering gobs of real-time decom, processing, and output formatting power in a true, Windows-free, real-time card-level processing environment. Like the 1622P, the 1632AP handles the most complex conditional, format switched, stream embedded, high rate decom and output processing requirements in stride. Acroamatics card embedded processors utilize user defined micro-coded "soft-decom" processing techniques run within card resident real-time processors, providing six sub-frame decommutators each with dual buffered memories for execution of instructions and data processing algorithms with absolute determinism and timing correlation. We've raised stream input rates above 40 Mbps and incorporated our powerful onboard programmable simulator and other new capabilities to both the 1632AP PCIe and 1622P PCI multi-function telemetry processing cards.

### NEW Model 1635AP PCI Programmable Data Stream Processor and Data Distribution Module

The Model 1635AP is another recently upgraded component of Acroamatics' unique low-latency telemetry processing architecture. The new 1635AP allows merging and processing of data from up to eight Model 1632AP decom modules, along with reference IRIG timing, external discrete and A/D inputs, HOTLink, PCI and network input data. The 1635AP supports low-latency complex data merging and distribution, outputs multiple data products via dedicated card resident network interfaces, and provides low-latency / real-time processing of data using its powerful card-embedded SHARC DSP. A library of over 400 telemetry algorithms supports deterministic sequential algorithm chaining, derived "if-then-else", to 7th order polynomial calculations, and user-defined expression creation, processing and output formatting in real-time - INDEPENDENT of Windows applications processing software.

### NEW RDM207 PCI LL/UL/S/C ARTM 0/I/II Receiver Card

Now available as standard options to all Acroamatics TDPS family products is a new, off-the-shelf TM receiver from our sister company, GDP Space Systems - a leading vendor of telemetry receiver products. The RDM207 delivers ARTM 0/I/II demodulation, pre and post-detect diversity combining, and a choice of single or multiple RF bands, with the best PCI module telemetry receiver performance and signal processing technology available today - at an affordable price.

### NEW Model 474DM Single and 674DM Dual 40 MHz Bit Synchronizer Mezzanine

The state-of-the-art 474DM and 674DM dual PCM Bit Synchronizers featuring tunable data rates from 8 Hz to 44 MHz in ALL codes. The card contains selectable input sources, AGC and DC restoration circuitry, and programmable digital filtering for optimum data recovery. Sophisticated PLL (phase-locked loop) circuitry synchronizes a clock to the incoming signal to extract digital data from input PCM stream data. The 474DM & 674DM provide bit sync performance and noise specifications comparable to full size PCI cards and the best range chassis based units - but are sized to attach to the new Model 1612P, 1622P, and 1632AP modules to deliver single slot TM stream processing solutions.

### Model 1611P PCI 40 MHz Advanced Digital Bit Synchronizer

The 1611P features tunable data rates from 8 Hz to 40 MHz for all codes, supports all IRIG standard and randomized codes, and provides "best-in-class" bit error, jitter, and sync retention performance. Error performance is well below 1 dB of theoretical - typically in the 0.5 to .25 dB range.

### Model 482M D to A Converter Mezzanine (Companion to Model 1615AP PDSP)

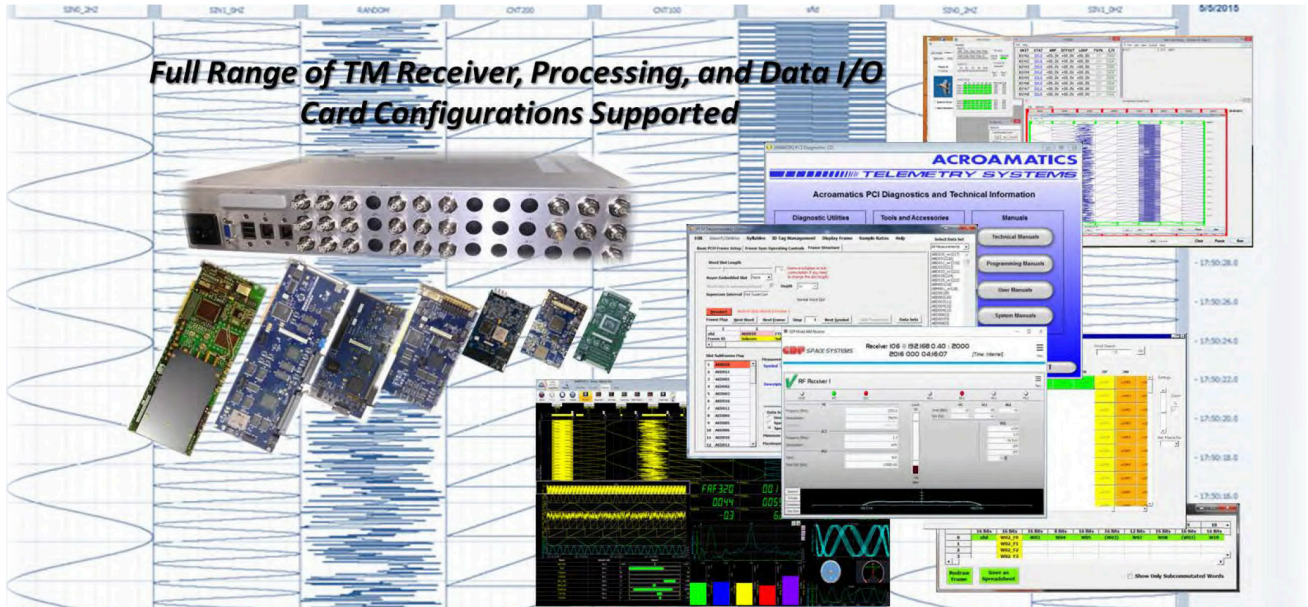
The 482M is a mezzanine card for the PCI-bus Model 1615P. Two configurations of Model 482M are available. Model 482M-8 provides a total of 8 channels of 12-bit D-to-A output. Model 482M-32 provides a total of 32 channels of 12-bit D-to-A output plus 16 channels of 12-bit A-to-D input with a 400KHz sample rate.





### Model 2500P Specifications

Physical	2u 3.48" (8.84cm)H x 19.0" (48.26cm) W x 13.3" (33.8cm) D (1u rackmount height optional)
Display	External Monitor Out - SVGA (DVI/HDMI option)
Backplane	One to three Telemetry Card Slots
Processor	Intel Core™ i7 7th gen 3.4 GHz system and host processor
Networking	Dual Ethernet 10/100/1000
USB	4x USB 2/3 (2 rear panel & 2 front panel mounted)
Memory	16 GB (min) DDR3 SDRAM
Storage	Dual x 2.5" 1 TB SSD drives - Front panel removable
Power	100-240V 47-63 Hz Power, ~1.5 A Max - may vary with configuration
CD/DVD	Slim slot-loading CD/DVD burner/player
Signal I/O	BNC/Triax rear panel-mount, assignable to TM cardset requirements
O/S	Window10 Pro, 64-Bit, SHB compatible and tested for STIG compliance
Environmental	Shock 6G, Non-Operating 50G
Vibration	Operating 0.5G, 5 to 2000 Hz, Non-Operating 1.2G, 5 to 500 Hz
Temperature	Operating 0 to +40° C, Non-Operating -40 to +86° C



### SOFTWARE INCLUDED

Acroamatics Telemetry Software Suite (ATSS) software set-up and operating environment is installed in each TDP system as the integrated operations hub of your new TDP system. ATSS consists of a closely integrated pre-mission TDP system set-up program (TDPSet), TDP Mission Operator Console (MOC) set-up and desktop operations “environment”, and various real-time system editing (e.g. bit sync & decom “tweaking”), control tools (recorder & networking control panel), and various console display editing and system management utilities.

### CUSTOM CONFIGURATIONS AND SPECIAL DESIGNS

Acroamatics has the hardware and software expertise necessary to solve even the most complex problems. Our system and card level product capabilities allow us to quickly and effectively design new or modify existing card level modules in response to individual requirements and evolving range and aircraft testing standards. Third party aircraft data busses, receivers, graphics, modules and a wide variety of software application tools are accepted by the Model 2900AP with no special modifications. Acroamatics is an experienced integrator of large multi-vendor systems, with facilities and expertise to assemble, test, and deliver solutions specifically tailored to your needs.

### CUSTOMER SERVICE

When you call Acroamatics for support you won't have to work your way through an automated system or an anonymous help desk. You'll be connected directly to the engineers and programmers who designed your system to quickly resolve problems.

### WHY ACROAMATICS

Over thirty years of experience, far-ranging expertise, excellent products, and outstanding support make Acroamatics not just a telemetry system supplier, but a partner you can rely on to meet your needs.

*Specifications subject to change without notice.*