GDP SPACE SYSTEMS

ACROAMATICS
TELEMETRY SYSTEMS

Real-time Mobile TM Data Server & Analyzer

Model 3022**A**P

Features:

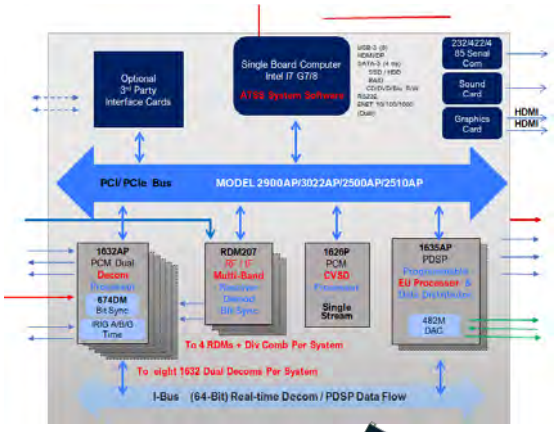
- 2 - 6 PCM Stream Chapter 4 and IRIG 218-20 TM Processing
- Real-time OS Independent Card Embedded Dynamic Software Decom and EU Processing
- 4th Gen MD1632AP Dual Stream 50 + Mbps PCIe “all-in-one” Telemetry Processor Card
- 4th Gen MD1635AP PCIe real-time SHARC® Multi-Stream EU Processor - to 6 MS/Sec rates
- ARTM TIER 0/I/II Multi-Band RF/IF RDM207 Receiver Card
- Full featured local & network **ADAT** Display & Analysis Tool
- Modular and extendable TM Data Services - per decom module
- Real-time Raw and Processed Mission Data Recording,
- CH 10/11 format Compliant Data Products, and direct UDP Input
- World Class 8 bps - 40 Mbps Bit Synchronizers
- Multi-Stream Dynamic 64 Mbps PCM Simulator / Encoder
- Card embedded Windows Independent low latency CVSD
- Supports Multiple Ext Monitors

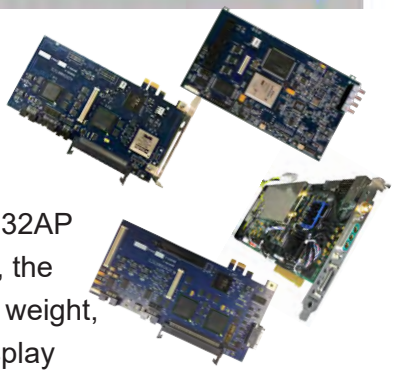
ILIAD LabVIEW TopSET MATLAB IADS

IRIG Chapter 4/5/8/9/10 CVSD **TMATS**

General Description

The Model 3022AP is a third generation portable, low-latency multi-stream telemetry data processing and analysis unit. Based on Intel Core i7 motherboard technology, its PC chassis provides the ideal platform with which to host Acroamatics’ signature low-latency, card embedded multi-function telemetry processing cardsets. Modular and extendable to suit a variety of project or matrixed organization telemetry processing needs, the Model 3022AP provides the same set of integrated data decommutation, EU conversion, and data output formatting methods used in Acroamatics’ line of high performance range control center and low-latency range safety telemetry data server lines.





Featuring from one to three of Model 1632AP real-time single card telemetry modules, the 3022AP offers rugged design, very light weight, and a 17” 1920-1080 high resolution display specifically designed to support long-term field and lab portable tes applications. Operating under Windows 10 64-bit or Linux system OS, the card embedded Model 3022AP telemetry processing card suite guarantees that users will have ample processing potential to meet most complex display, recording, and networked data services display and analysis demands.

125 Cremona, Suite 130 Santa Barbara, CA 93117 Phone: 805-967-9909 Fax: 805-967-8375

www.acroamatics.com
sales@acroamatics.com

GDP SPACE SYSTEMS

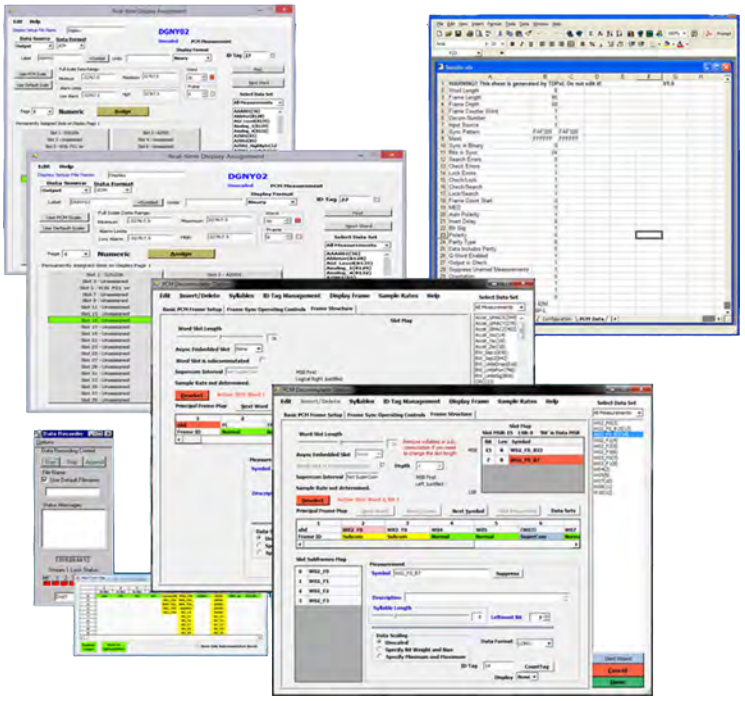
ACROAMATICS
TELEMETRY SYSTEMS

Overview

The 3022AP portable Telemetry Data Acquisition and Processing Platform (TDP) delivers ample processing power to meet the most demanding portable system real-time mission data display, recording and networked data distribution requirements. Each unit is built specifically to accommodate Acroamatics' Windows application independent telemetry processing card-set solutions. It meets requirements ranging from single stream instrumentation engineering lab to multi stream range data center telemetry server configurations. System configurations are scalable to accommodate applications ranging from the simple quick-look to the most extreme conditional format switch and frame embedded processing and data reformatting situations. The base functional capabilities of the Model 3022AP include low latency IRIG Class I & II PCM decommutation, integrated card embedded low-latency EU processing, recording, display and quick-look analysis, and networked data services.

System Software

Acroamatics Telemetry Suite (ATSS) TDP system software and industry leading ADAT display and analysis software include GUI applications to set up and operate the range of system hardware configurations available. Operators can store and instantly configure the system using project setup libraries managed by ATSS, or alternatively use convenient TMATS, Excel or TDP script file editors to define, manage, and update their own telemetry acquisition and post mission processing operations. Acroamatics Display and Analysis software enables users to create & optimize dynamic, data driven real-time & file driven post mission analysis environments.



PCI & PCIe Chassis

The Model 3022AP is based on a purpose-designed, rugged and lightweight "lunch-box" style portable "all-in-one" PCI/PCIe compatible backplane chassis configured to specifically meet the demands of rigorous T&E TM groundstation & portable control room applications. Lightweight and shock resistant, the Model 3022P features lightweight and corrosion resistant all metal construction, with edge protection and durable industrial carry handles and connector fasteners. Its standard features include a large 17.1" built-in high resolution/brightness display panel, integral full size keyboard, removable HDD and optional high capacity flash system storage, a rugged internal card cage, and enhanced thermal management. Standard system options include a wide variety of disk storage configurations, RAM configuration, and standard high performance i7 Core ATX processing card. For applications requiring just one or two TM Streams to accommodate data interface requirements, compact (1u & 2u) MD2500P TDP & MD4032 Compact Telemetry System units are alternatives to meet your needs. See product data sheets for more information.

125 Cremona, Suite 130 Santa Barbara, CA 93117 Phone: 805-967-9909 Fax: 805-967-8375

www.acroamatics.com
sales@acroamatics.com

PCIe Telemetry Cards

Acroamatics cards can process anything from a single PCM stream to sixteen streams of complex telemetry data simultaneously in a single TDP chassis, and now includes new generation integrated high performance RF receiver / demod PCI module and TMoIP & Chpt 10/11 UDP direct input processing. The following descriptions of the functions supported by the individual cards is summary in nature only.

Refer to specific module data sheets for complete capabilities descriptions.
Assistance prior to ordering is recommended to ensure proper configuration.

NEW Model 1632AP-2 PCIe PCM Decom

New 4th generation Model dual stream 1632AP-2 PCIe multi-function PCM decom processing cards serve as the backbone of the Model 3022AP and companion Acroamatics TM processing systems. The 1632AP provides improved performance and functional capabilities - while retaining drop-in compatibility with earlier generation cards for upgrade purposes. The 1632AP-2 is the hub of a powerful, self-contained stored program "programmable software decom" card level software defined real-time architecture supporting unmatched decommutation and processing power in a true, Windows free low latency processing environment. It handles the most complex conditional, format switched, stream embedded capable, high rate stream decom and output processing requirements. It utilizes user defined micro-coded "soft-decom" processing techniques run within card resident real-time processors to provide six sub-frame deep decommutation, each with dual buffered memories for execution of instructions and data processing algorithms with absolute determinism and timing correlation. Data rates of over 50 Mbps are supported and are coupled with a powerful programmable simulator, integral distribution, recording, CVT, and ring buffered DMA fed data network capabilities. In the case of the 1632AP-2, two complete PCM processing engines combine to enable the 3022AP lunchbox telemetry system to be configured to process 6 stream missions.

NEW Model 1635AP PCIe Programmable Data Stream Processor and Data Distributor

Another recently upgraded component of Acroamatics' low-latency telemetry processing architecture is the recently introduced PCIe 1635AP card. This new card enables merging and processing of data from up to eight Dual 1632AP decom modules, including IRIG time, network fed, and external event inputs. The 1635AP PDSP 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 on-board SHARC® DSP embedded processor. A library of over 300 telemetry algorithms is provided, sequential algorithm chaining and derived "if-then-else" processing is supported, as is processing of user-defined expressions. *NEW use of dual 1635AP* modules is now supported. See NEW Model 1635AP PCIe product data sheet or request supporting technical literature for more details.

674DM Dual 40 Mbps Bit Synchronizer Mezzanine

The 674DM PCM Bit Synchronizer offers state-of-the-art Bit Synchronizer features, including tunable data rates from 8 bps to 40 Mbps in ALL codes, dual software selectable input sources, advanced 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. Each provides bit sync performance and noise specifications comparable to full size PCI card and the best range chassis based units, is a compact, flush mounted mezzanine design compatible with 1612AP, 1622P, 1626P and new dual 1632AP multi-function PCM decom and processing modules .

Model 682M D to A Converter Mezzanine (Companion to Model 1635AP PDSP)

The newly introduced Model 682M is a mezzanine daughter card mounted to the Model 1635P PCI PDSP card. The Model 682M-32 provides a total of 32 channels of 12-bit D-to-A and discrete outputs, with a variety of output scale ranges. The 682M also supports 32 discrete outputs, and 16 channels of 12-bit A-to-D user programmable inputs. *See the product data sheet for more information.*

NEW Model RDM-207 LL/UL/S/C Band Receiver Module

Now available within the Model 2900 and 3022AP TDP family product line is a new, affordable, off-the-shelf PCI card based line of integrated RF Receiver/Demod cards. Evolved from our GDP Space sister division's over two decades of experience in the satellite receiver marketplace, the RDM207 supports Tier 0/I/II demodulation, delivering the best compact telemetry receiver performance technology available today in a modular, single card PCI format solution.

125 Cremona, Suite 130 Santa Barbara, CA 93117 Phone: 805-967-9909 Fax: 805-967-8375

www.acroamatics.com
sales@acroamatics.com

ACROAMATICS
TELEMETRY SYSTEMS

Specifications

Physical	14.05” x 16.46” x 6.96” (H x W x D) / and under 22 Lbs., with cards
Display	17.3”, 16:9 Display, 1920 x 1080 Resolution, 300 cd/m2 Brightness
Backplane	4 each PCI, PCI-e, or mixed card slot combinations
Processor	Intel Core™ i7- G9 4 GHz
Networking	Dual Ethernet 10/100/1000/2500 BT
USB	10x USB 3.0 (6 rear panel & 4 internal header mounted)
Memory	64 GB DDR3 SDRAM
Storage	Dual removable 1TB SSD SATA 3 with accommodations for four total drives, side mount carrier.
Power	100-240 VAC, 47-63 Hz Power, Battery (Optional) to support 2 Hr standalone operations.
DVD	Slim slot-loading DVD burner/Slim Blu-ray player indicators
Signal I/O	Multi-pin mini-D, with BNC female conversion cables provided (standard 10” length)
O/S	Windows 10 Pro 64-Bit , with DOD SHB STIG configuration compliance - LINUX & LTSC options.
Environmental	Shock 6G, Non-operating 50G
	Vibration Operating 0.5G, 5 to 2000 Hz, Non-Operating 1.2G, 5 to 500 Hz Operating 0 to 40 C°,
Temperature	Non-Operating -40 to 86° C

***NEW** Integrated Dual Monitor Option*

Software Included

Acroamatics Telemetry Software Suite (ATSS) featuring new Acroamatics Display and Analysis Tool (ADAT) 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), ADAT widget based customizable display and operations desktop , and various real-time system editing (e.g. bit sync & decom “tweaking”), control tools (recorder & networking controls), 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 buss, receivers, graphics, modules and a wide variety of software application tools are accepted by the Model 3022AP with no special modifications. Acroamatics is an experienced systems integrator, with facilities and expertise to assembly, 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.

125 Cremona, Suite 130 Santa Barbara, CA 93117 Phone: 805-967-9909 Fax: 805-967-8375

www.acroamatics.com
sales@acroamatics.com