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ACROAMATICS

TELEMETRY SYSTEMS



Product Catalog

2012-2013

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Photo Approved for Public Release 10-MDA-5576 (17 June 10).

Cover Photo

On March 17, 2009 the THAAD missile defense element completed a successful intercept of a ballistic missile target at the Pacific Missile Range Facility off the island of Kauai in Hawaii.

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About Acroamatics

Since 1971, Acroamatics has designed and manufactured advanced real-time Telemetry Processing systems and products as solutions to some of the most demanding range test and evaluation mission requirements yet conceived. Our products are known for providing decades of reliable service, while adapting to the ever-changing needs of our aircraft development, defensive systems, launch, and space operations customers. Acroamatics has been a consistent vendor and enduring small business partner in the midst of uncertain economic times and rapidly evolving technology landscape. Keeping pace with advances in technology and continuing to introduce high value, innovative product solutions to our customers and assuring their continued success is the keystone of Acroamatics success.

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About Acroamatics

PLEASE JOIN US IN CELEBRATING OUR 40TH ANNIVERSARY IN 2011!

Ac`ro`a`mat´ic

English

The word Acroamatic is built off the Greek word for hearing, akroasis or, in the verbal form, akrosthai.

The noun form, acroasis refers to an oral discourse or a discourse listened to. But the word is also used to describe a secret message or the **special initiate who receives such a message.**

Applied to the *esoteric* teachings of Aristotle, those intended for his genuine disciples**.** Acroamatic emphasizes **not just the secretiveness of the message but the fact that you *really need to listen* to what is being said in order to hear it properly.**



ACROAMATICS TELEMETRY SYSTEMS

TABLE OF CONTENTS

Telemetry Data Systems and Software Overview

Acroamatics Telemetry Products Intro 1

ATSS & **TDPSet II** System Software ***Updated*** 2

CHASSIS BASED TELEMETRY SYSTEMS AND DEVICES

Telemetry Data Processing System Products

Model **2900P** / **2900AP** 4u PCI TDP Range Systems ***NEW*** 7

Model **2270P** 7u PCI TDP Range System - 2220V Upgrade Pat ***Updated*** 9

Model **2425** PCI Telemetry DAC Multiplexer 10

Model **3002P** Portable PCI TDP Systems 12

Model **CTS 4000** / 4000-B Compact Telemetry Systems 13

Lab and Range Bit Synchronizer Units

Model **2430D** 40 Mbps Advanced Single\Dual Bit Synchronizer ***NEW*** 15

Model **2950P** / **2650P** 40 Mbps Multi-Channel Bit Synchronizer ***NEW*** 17

Range Instrumentation and Data Validation Products

Model **2435D** PCM Link Test Set ***NEW*** 19

Model **2602** & **2602P** Best Source Selector Systems ***Updated*** 21

Model **2618** 8-Channel Frame Validation Unit 23

Model **2680P** AGC Data Logging System 24

PCI / MEZZANINE / IP TELEMETRY MODULE PRODUCTS

Model **1602P** PCI Single Card “all-in-one” Modular PCM Decom 26

Model **1612P** PCI Single Card “all-in-one” Modular PCM Decom ***NEW*** 27

Model **470M** IRIG Time Code/Format Simulator Mezzanine 28

Model **474DM** Advanced Digital Bit Synchronizer Mezzanine ***NEW*** 29

Model **1605P** PCI Programmable Data Stream Processor Module 30

Model **1611P** PCI 40 Mbps Advanced Digital Bit Synchronizer ***NEW*** 31

Model **482M** D-A, A-D Converter Mezzanine 32

Model **1626P** PCI Single and Multi-Channel PCM Decom 33

Model **1626PC** PCI PCM CVSD and Digital Voice Decom Module 33

Model **750 IP** Dual Stream Frame Sync / Simulator IP Module 34

Model **1650P** 8-stream Telemetry Data Frame Sync / Verifier 35

Customer Services, Training, and Consultation

Legacy Product Support 36

Legacy VME Product PCI “Drop-in” Replacement ***NEW*** 37

Acroamatics Warranty 38

Customer Service, Training, Consultation and Integration 39

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Acroamatics TM Data Processing Products

Acroamatics products are unrivaled in terms of dedicated, real-time telemetry processing functionality. Acroamatics TM processing products are uniquely engineered to deliver trouble free multi-stream, deterministic processing of thousands of precisely correlated telemetry data parameters and derived data products in real- time.

To assure the highest level of operational stability, reliability, performance, minimum processing latencies, and maximum accuracy in real-time data processing application, Acroamatics telemetry data processing systems and modules are designed with the express purpose of processing telemetry in real-time independently of the system host Windows OS, CPU, and PCI bus.

Operating System Independence — truly

Each of the Acroamatics PCI devices that constitute your Telemetry Data Processing system (TDP) utilize functionally dedicated, micro-coded card resident processors. Once set-up, all functions performed by the PCI cards on an incoming PCM telemetry stream are ***independent*** of the Windows operating system … *including* conditional format switching, decommutation of embedded asynchronous frame data, concatenated word data, and processing of complex derived if/then/else parameter data.

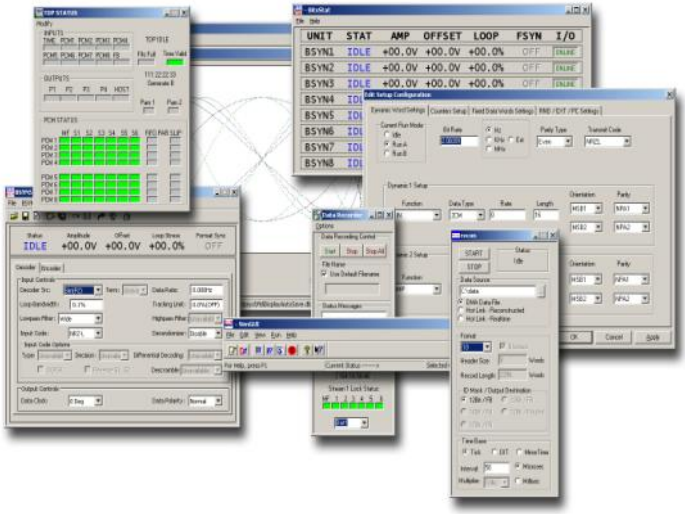
While Acroamatics PCI TDP systems use standard Windows OS/CPU supported processes for video display, local recording to disk, and select network broadcast and communications of data products in real-time, program execution and communication between the TDP devices and cards are performed entirely by the card hardware and associated interconnecting buses.

The PCI bus is not involved in any way in the real-time decommutation and data processing chain of events, and there is no interaction whatsoever with the OS except for status and data displays. The sole function of the OS is to generate and maintain source files to be fed to a compiler whose output will be a binary program that will be loaded directly into one of the devices listed. Once the program is loaded, it remains in the registers and memory of the device where it is executed by the logic on the device. The latter use sampled data sources read from PCI cards requiring an insignificant amount of time by the OS to access and ***do not*** impact TDP real-time PCI card hardware operation or throughput.

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Acroamatics Telemetry Software Suite

Acroamatics believes that each product you purchase from us should include all necessary software when it leaves our factory, *at no additional charge* - whether it be an integrated multi-stream PCI based Telemetry Data Processing (TDP) System, PCI decom, multi-stream quick-look decom, CVSD decom, PCM simulator, or Digital Bit Sync module. Each Acroamatics product is delivered with a suite of Windows (XP & Win 7 compatible) software in support of system set-up, database management,



mission operations, and both real-time and post mission analysis. A complete set of tools required for the set-up of Acroamatics TDP system and card level TM modules are provided.

Bundled with each Acroamatics product and system is our Acroamatics

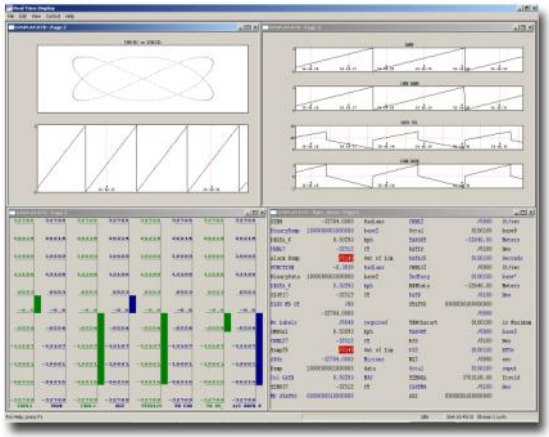
TDPSet II Systems Set-up and Data Management

Telemetry Software Suite (ATSS) composed of the user friendly TDPSet II wizard based system set-up and data management application and a suite of GUI based real-time operating, data formatting, recording, display, and IO functional controls that simplify the set-up and management of your Acroamatics Telemetry Data Processing solution as never before.

In addition, we routinely develop custom features at the request of our clients in order to meet unique processing requirements. Over the years,

this has resulted in a software toolset and operations suite that has proven it can handle the most complex formats decommutation and computational tasks. Though delivered and supported at no additional cost to the customer, ATSS users receive regular updates and online access to the most recent improvements made, along with rapid response to trouble calls and applications questions.

Acroamatics Telemetry Software Suite (ATSS) software provides users maximum flexibility in preparing system set-ups, which may be loaded with minimal delay (depending on mission complexity). ATSS supports multiple methods of user system set-up creation and editing. The first and primary method is our intuitive and easy to use Windows GUI style application called “TDPSet II”. TDPSet II provides extensive embedded “help” and windows style user “wizard” support.



Secondary TDPSet set-up editing and creation methods include our integrated IRIG Telemetry Attributes Transfer Standard (TMATS) ASCII file import (ATSS also supports OTIS-9), Excel, ACCESS, and direct ASCII command line interface for advanced applications and fine tuning of system project set-up scripts”. New users can use the TDPSet GUIs to build their entire system set-up and, because resultant set-up scripts are plain text files, find they can readily alter them as needed with the command line interface. It is your choice which style of interface best suits your particular need, but rest assured that your new Acroamatics telemetry system offers the software tools you need to get the job done—and we’ll be there to help every step of the way.

Remote Setup and Operations Software

An important advanced feature of the entire software suite is that the hardware interface is implemented using an RPC such that all components of your ATSS software toolkit can run on any PC located on the network. The RPC server (running on the computer where the telemetry cards

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reside) allows you to run displays, perform system setup, and operate from any PC that has network access privileges on the Acroamatics system.

CH 5 CVSD and embedded Audio Capabilities

Acroamatics Software/Hardware supports reconstruction of audio data embedded in the PCM stream. Formats currently supported include CVSD CH 5 and Digitized Audio. A Model 1626P PCM Module is required to support this functionality, delivering real-time (less than 1 usec latency) deterministic hardware processing and delivery of output audio exclusive of any Windows OS involvement.

Third Party Real-Time Display Interfaces

Acroamatics has extensive experience integrating 3rd party hardware and software products, and has developed extensive 3rd party setup and control software to that end. In addition, Acroamatics telemetry systems and their individual components are supported by the software tools of many other vendors, including EMC's TIMS™ and ILIAD™ processing and test management environments, used widely within the Air Force flight test community. Acroamatics TDP systems and products are also supported by Spiral Technologies OTIS™ TMATS Translator system and by OTIS Control™, Spiral's mission setup system, and IADS Telemetry Data Display Software by Symvionics via optional ATSS interfaces jointly developed for those purposes.

Symvionics IADS

Acroamatics offers a TDP Server software application which supports a data connection to either a local (TDP) socket or networked IADS Data Server platform. Acroamatics provides an integrated wizard within our standard systems set-up software, TDPset II, which includes an "IADS Data Manager" function, effectively giving users the ability to automatically create the required PRN (parameter definition) file which allows your TDP to connect to a specific IADS Server configuration, thus eliminating the labor intensive task of manually generating this critical interface definition each time IADS server mission data requirements are modified.

National Instruments LabViews

The LabViews Examples Installation Package supports customer development of integrated control and acquisition functions for Acroamatics telemetry front-end products using LabViews VIs (Virtual Instruments) software development application.

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Quick-Look Data Display and Imaging

Acroamatics real-time displays provide users a useful, full- featured real-time display system for quick-look analysis and post-mission playback and viewing of recorded data. In its design, we placed great emphasis on performance, relying on Acroamatics-coded display drawing software rather than third party library facilities. This enables us to achieve higher plotting speeds and faster chart scrolling than display tools developed for other applications which have been adapted to real-time TM quick-look analysis.

Displays can be defined either during creation of a system set-up file using TDPset II or after mission set-up is complete using provided display utilities software. In either case a a binary setup file is generated that can be saved and reloaded for use in future projects, as desired.

Displays extract data from three possible sources: Current Value Table (CVT) via the 1605P distribution processor gives access to composite raw and processed data simultaneously derived from all inputs on multi-stream systems in real-time, via the CVT on each individual PCM decommutator module, or directly from a recorded data file. A real-time display file server delivers data to an emulation of the CVT so that you can use your real-time displays to support many of the file formats that Acroamatics produces, and has a data mapping definition that allows it to be used with an arbitrary arrangement of tag-data pairs, and with or without embedded time annotation. If time annotation is present, the server synchronizes to the computer clock to synchronously supply data to the CVT. This facility makes it a very convenient tool for quick look, because it is vastly easier to set up than are general purpose analysis tools.

Acroamatics supplies a documented applications interface (implemented in

API Support

DLL libraries) that allows 3rd party programs access to all system hardware features. In addition to providing unlimited access to the setup registers and memories of TDP telemetry components, programmers are provided access through subroutine calls to Current Value Table data. 3rd party software processes are provided access to data resources in real-time, concurrent with Acroamatics system software. The system manages any instantaneous lock-outs necessary through processes that are transparent to system users. Hardware abstraction is handled through a DLL so that all configurations are transportable between systems.

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PCI Telemetry Data Processing System

Acroamatics processing and analysis products are designed specifically to enable rapid development of an engineered solution to specific customer requirements and mission needs. Custom designed, turn-key aircraft and weapons telemetry analysis products are a core competency of our company. We will integrate your choice of Acroamatics PCI Telemetry modules and specialized 3rd party aircraft buss and receiver products into a purpose designed host PC platform of your choice , warranted to meet your exact requirements.

Tell us what your preferences are and we will engineer and integrate a system specifically suited to your needs. Call or email us with your requirements today!

Order #	Description
2900P	4U All-Steel Rugged PCI TDP Chassis, 8 stream / 12 slot, BNC Bulkhead I/O
2900AP	4U Lightweight Aluminum PCI TDP Chassis, 8 stream + / 12 slot, BNC I/O
3002-3	Portable “lunchbox” single or dual stream TDP System
4000-CTS-B	Compact Telemetry System Decom, IRIG time, PCM Sim w/ Bit Synchronizer
Custom	1u to 6u custom rackmount and specialized rugged system chassis



Model 2900P & AP 4u PCI TDP System

The Model 2900 PCI Telemetry Data Processor (TDP) is based on a durable, purpose designed chassis created by Acroamatics specifically to accommodate the unique requirements of fixed ground station and field mobile TM applications. The Model 2900 uses an open architected processor, operating system, and backplane design fashioned specifically to accommodate our high performance suite of PCI TM data interface modules, and able to accept third party data acquisition or peripheral devices which comply with the standard. Our Model 2900 family of devices provides you with the processing power you need today, while preparing for tomorrows expanding demands. Systems accommodate applications that range from single to multiple streams, from simple to extremely complex formats and real-time processing tasks. We will work together with you to create a Model 2900 Acroamatics TDP solution with the specific features you require, combining Acroamatics high-performance processing cards with third party vendor supplied cards and interfaces suited exactly to your needs, with performance warranted by a single, proven partner, with a demonstrated record of excellent customer service and performance.

Model 2900P & AP System Includes

- Bona Fide Real-time, Deterministic Telemetry Processing
- Acroamatics Telemetry Software Suite (lifetime updates)
- Project and Archive file forward/backward Compatibility
- LED TDP Status Display
- Option of All-Steel Rugged or New Lightweight Aluminum Chassis
- Optional Front Panel Touch Screen LCD Operator Interface
- Flush Mount Rear Panel Bulkhead BNC I/O
- Hot Swap Redundant Power Supplies

Model 2900P Options





Acroamatics Telemetry Card Options:

1602P	Frame Sync & Decom\Single Board Data System	
1605P	Programmable Data Stream Processor	
1611P	Advanced Digital PCM Bit Synchronizer	***NEW***
1626PC	IRIG Ch 5 CVSD Digital Audio Processor	***NEW***
1626P	Multi-Channel Frame Synchronizer/Single Board Solution	
470M	Time Code Translator/Generator / PCM Simulator Mezzanine	
474DM	Advanced Digital Bit Synchronizer Mezzanine	***NEW***
482M	Analog I/O Processor w/optional A to D converter Mezzanine	
750IP	Industry Pack daughter board dual stream PCM Simulator VME/PCI/cPCI/PC-104/PCIe	***NEW***

Third Party Cards supported off-the-shelf include:

- PCI Telemetry Receivers
- PCI 1553 Interface / ARINC 429/629
- High Speed Analog
- GPS Receiver
- Multiple Storage Options



1U Lay-Flat Dual-Slide LCD Display and Keyboard.

Ordering information

Order #	Description
2900P	4U PCI TDP Chassis, 8 stream / 12 slot, BNC Bulkhead I/O
2900AP	4U Lightweight PCI TDP Chassis, 8 stream + / 12 slot, BNC Bulkhead I/O
2900APC	4U Lightweight PCI TDP Chassis, 8 stream + / 12 slot, w/touch screen LCD
603XXX	1U 17” Dual Slide “Lay-Flat” LCD Display, Keyboard with Touchpad

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Model 2270 7u PCI TDP System

The Model 2270P features a standard 19” RETMA rack-mounted, 7u 12-slot PCI chassis intended to support large ground station applications and as a “drop-in” replacement for Acroamatics legacy 2220V family of TDP system products. Specifically configured to emulate the footprint and signal I/O characteristics of the widely used legacy Model 2220V TDP product line, the Model 2270P allows transparent upgrade to our PCI architecture, including system mission set-up and data recording/storage format compatibility for users of Acroamatics legacy VME TDP products.

Model 2270P features include a built-in 12" LCD display and retractable keyboard, supports a total of 12 PCI card slots, and offers a full range of storage, peripheral and networking interfaces. Standard chassis features include a front-panel real-time LED Telemetry Status Monitor, removable media disk drives (at least one is required), redundant power supplies and a CD\DVD drive. Four front panel USB Ports support peripherals and twin rear-panel 1000BT ENET ports are standard. A variety of HDD storage options are offered, as are all of the signal processing and capabilities of the Model 2900P product line, including support for coherent processing of up to 8 independent Bit Sync / Decom strings.

Ordering information

Order #	Description
2270P	7U PCI TDP Chassis, 8 stream / 12 slot, BNC Bulkhead I/O
Misc Options	As offered in the Model 2900P section of the catalog.



Model 2425 DAC Multiplexer

Deterministic, Low Latency, fiber-driven DAC Strip Chart Multiplexer

Each compact, 2u / 3.5” rack height DAC Multiplexer chassis enables up to six Model 2900 P Telemetry Data Processor systems to send serial DAC and Discrete data messages to as many as eight 8-channel chart recorders (a total of 64 channels) - requiring but a single copper or fiber connection to each TDP. An optional expansion card supports the interconnect of up to **four** DAC Multiplexer chassis, enabling up to twelve (12) TDPs to share up to thirty-two (32) 8-channel strip chart recorders, with each TDP having access to any or all channels, thus enabling the strip charts to be easily re-allocated if a strip chart fails.

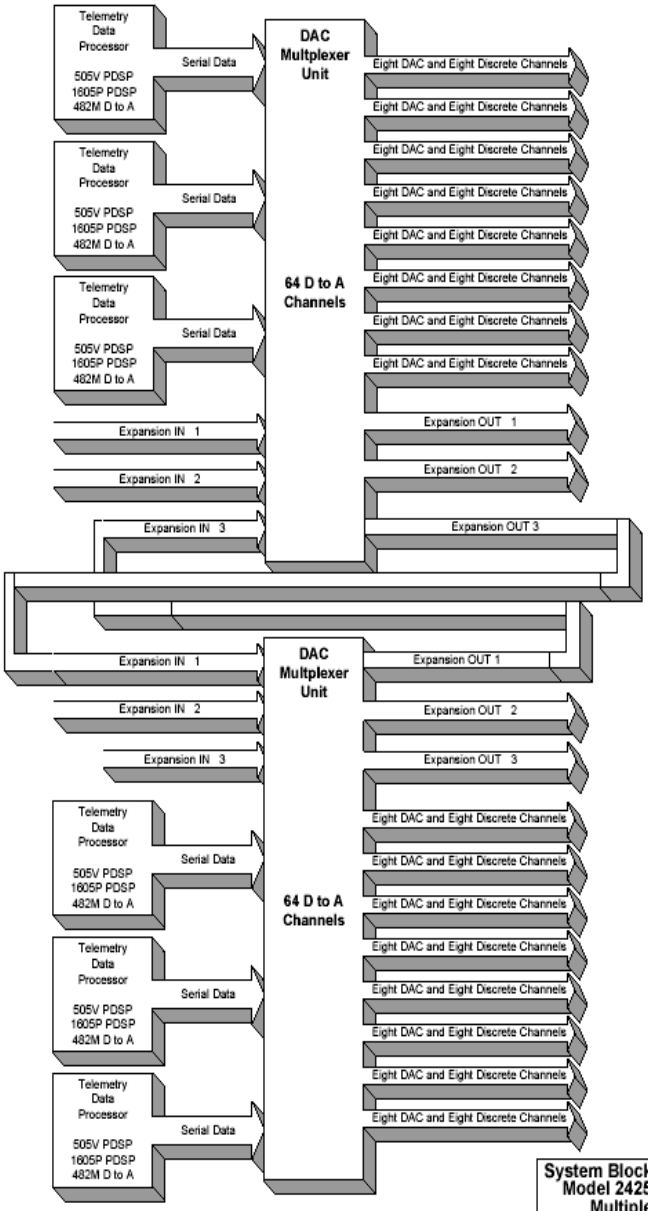
The serial interface allows the strip charts to be located up to 100 feet from a TDP chassis when using copper links, and up to 1000 feet with the fiber-optic link. Chassis options provide various combinations of copper and fiber -optic links.

A second option card receives and regenerates IRIG B time code, slow code, and the front panel PAPER RUN switch, providing these signals on eight separate RJ45 connectors, or one for each strip chart recorder. Serial input messages are generated by the Acroamatics 1602P, 1605P, and 505V (legacy) cards over copper wire links, and by the 482M mezzanine DAC card over a fiber-optic link.

Ordering information

Order #	Description
2425-1-0-0	Model 2425 DAC Multiplexer (Copper Inputs), 64 Channel
2425-1-0-1	Model 2425 DAC Multiplexer (Copper Inputs) w/ I/O Copper Expansion
2425-2-0-0	Model 2425 DAC Multiplexer (Fiber Inputs) , 64 Channel
2425-2-0-2	Model 2425 DAC Multiplexer (Fiber Inputs) w/ I/O Fiber Expansion

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System Block Diagram
Model 2425 D to A
Multiplexer



Model 3002P
Ruggedized Portable PC Telemetry System

Complete, turn-key, portable PCI based telemetry system. Compatible with all features of the lab Model 2900P, in a rugged portable “lunchbox” configuration. Accommodates one or two 1602P Frame Synch/decom modules equipped with 470M IRIG time code/PCM format simulator and our all new 474DM Advanced Bit Sync. Optionally it can include a 1605P Data Distribution System, with or without the Model 482M DAC A-to-D analog I/O card. Includes carry case, Windows XP or 7 OS and Acroamatics Telemetry Software Suite (ATSS).

Options

For up to date detail specifications check our website

Optional features (solid state HDD, receivers, custom interfaces) quoted on request.

Ordering information

Order #	Description
3002-3	Portable “lunchbox” TDP System
1602P/470M/474DM	Single card PCM processing solution, one or two per system
1605P	Real-time Data Distribution and Processing Module
482M	DAC, D-to-A and discrete mezzanine card for 1605P

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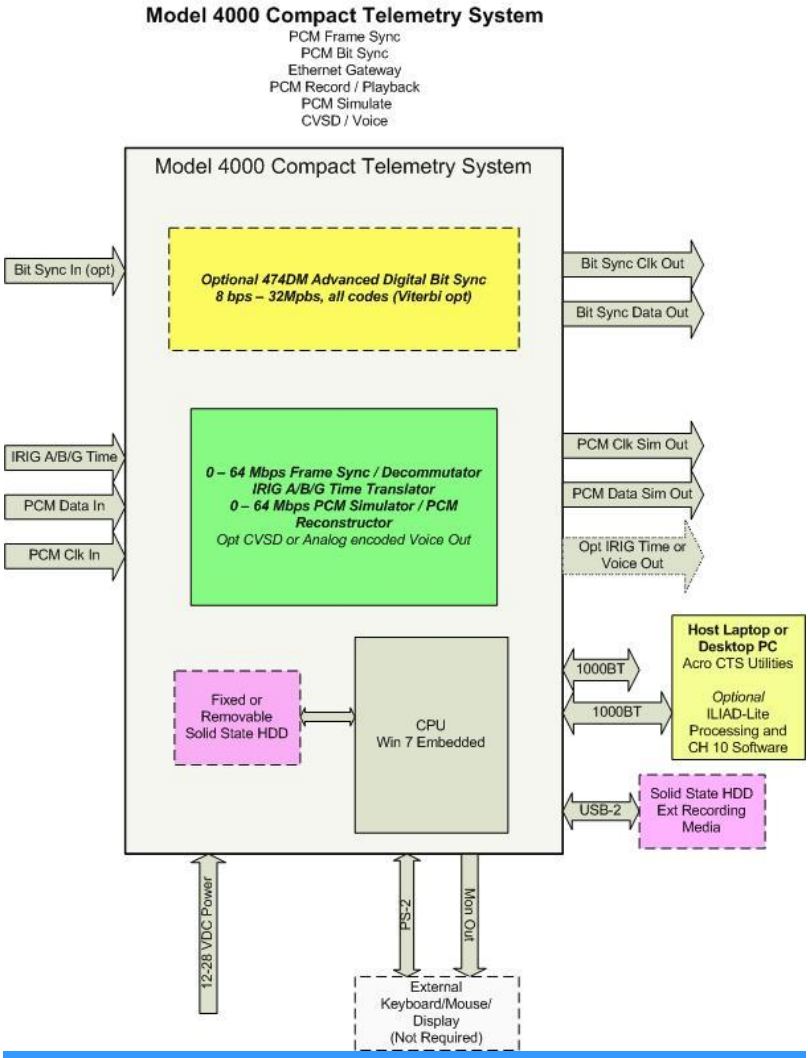
Model 4000 Compact Telemetry System

The Model 4000 Compact Telemetry System is a remarkably cost effective single stream PCM processing solution capable of processing telemetry data streams at data rates up to ***64 Mbps***. The Model 4000 is based on the Acroamatics Model 1626P Frame Synchronizer, with or without our world class integrated programmable bit sync (the new 474DM Advanced Digital Bit Sync). Model 4000 hardware capabilities include bit synchronization, decommutation, IRIG time translation, PCM recording, CVSD voice reproduction, networked data transfer and operation, and programmable PCM simulator / playback.

The Model 4000 chassis is easily interfaced to any Windows 7 or XP host laptop or desktop PC via standard Ethernet. Included Acroamatics Windows CTS software suite (CTSS) supports set-up of the Model 4000 bit sync, frame sync/decom and applications such as IRIG time correlated data recording, Internet PCM Frame “Gateway” data delivery, post-test analysis/data playback (including serial PCM data/clock playback), raw frame data display, user defined PCM stream simulation and more.

Ordering information

Order #	Description
4000-CTS	Compact Telemetry System - frame sync/decom, IRIG time, PCM Sim
4000-CTS-B	Compact Telemetry System w/ Bit Synchronizer
4000-CTS-BC	Compact Telemetry System w/ Bit Synchronizer and CVSD audio output



Iliad Lite® Software Suite

Optional companion ILIAD Lite software provides software decommutation, database, test management, and Chapter 10 archival storage and replay at rates up to 20 Mbps on the Model 4000. ILIAD Lite is designed to give you the tools you need to manage information, process, view, and analyze test data. Hosted by a standard Windows laptop PC, ILIAD Lite Telemetry Software performs functions such as set up and control of the hardware, data display, data processing, and data recording.

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NEW



Model 2430D 8 Hz to 40 MHz Advanced Digital Single, Dual, or Quad Bit Synchronizers

The 2430D is the latest addition to Acroamatics flagship rack-mountable 3.5" height single or dual stream, range-quality bit synchronization systems. The new 2430D provides maximum performance in minimum space. Built in a compact 3.5 inch chassis, the Model 2430D comes in configurations containing one, two, or four Acroamatics Advanced Digital Bit Synchronizer cards that operate at up to 40Mbps - in ***all codes,*** offering "best in class" noise performance of within 0.25 to 0.5db (typ) of theoretical. Standard options include Viterbi decoding, Bit Error Rate Tester (BERT), and Frame Sync Verifier.

In addition to standard codes, the uniquely flexible architecture of the COTS Model 2430D can support a variety of standard and custom options.



Equipped with a built-in 4.9" LCD display, the Model 2430D provides convenient front panel setup and display of both parameters and status. Remote monitoring and programming capability is available via serial, and Ethernet interfaces. An embedded processor provides nonvolatile storage for up to 20 setup programs. Windows compatible graphical user interface remote software is provided for use with 2430D serial and Ethernet remote control interfaces. Acroamatics standard Bit Synchronizer remote GUI can program and monitor any combination of Acroamatics bit sync products over a network, including board level, TDP, and other Multi Bit Sync Chassis based units.

Bit Sync Options include Viterbi QPSK encode/decode, Frame Sync Verify / Bit Error Rate Test (FSB), specified at the time of order or as a field upgrade. Single and Dual channel Best Source Selection (2x1) is a standard feature on two and four stream units, w/ FSB option (see below).



VITERBI (VT)

The Viterbi option adds differential decoding, V35 descrambling, G2 and alternate symbol inversion, provides a signal to noise improvement in excess of 5 db at a BER of 10^{-5}.

FRAME SYNC - BERT (FSB)

Provides programmable frame length and sync pattern validation, and polarity detection and automatic inversion of the output data. Automatic source selection for frame data (this requires two channels). Programmable sync pattern error limits for check and lock states. Programmable frame generator with pseudorandom “fill” data. Provides programmable pattern generator and receiver providing PN codes, N=7,9,11,15. A programmable BER sample period from $10e^3$ to $10e^9$, or continuous accumulate. Programmable blanking period of 64, 128, or 256 bits. Forced error inject. BER monitoring of “live” frame data and BER testing of external clock/data

Ordering information

Order #	Description
2430D / 2430D-PP	Single or Dual 40 MHz PCM Bit Synchronizer
2430D / -PP -FSB	Single or Dual 40 MHz PCM Bit Synchronizer w/ Frame Sync BERT
2430D/ -PP -VT-FSB	Single or Dual 40 MHz PCM Bit Synchronizer w/ Viterbi & Frame Sync BERT
2430D/ -PP -VT	Single or Dual 40 MHz PCM Bit Synchronizer w/ Viterbi
2430D-DD	Quad 40 MHz PCM Bit Synchronizer
2430D-DD-FSB	Quadl 40 MHz PCM Bit Synchronizer w/ Frame Sync BERT
2430D-DD-VT-FSB	Quad 40 MHz PCM Bit Synchronizer w/ Viterbi & Frame Sync BERT
2430D-DD-VT	Quad 40 MHz PCM Bit Synchronizer w/ Viterbi

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NEW



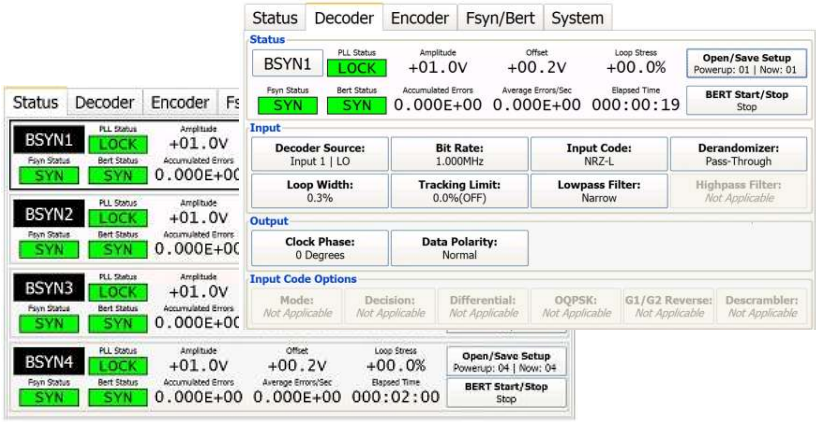
Model 2950P 8 MHz to 40 MHz PCI Multi-Stream Bit Synchronizer System

The Model 2950 Multi-Channel Bit Synchronizer consists of up to eight Model 1611P Advanced Digital Bit Synchronizers in a single 4U PCI chassis, with the option of accepting up to eight additional Model 474DM Advanced Digital Bit Sync Mezzanine daughter cards for a maximum of 16 channels. The Model 2950 Chassis includes a state of the art Single Board Computer and Acroamatics Touch-Screen compatible Multi-Channel Bit Sync Software Suite with Windows XP/7.

At the heart of the system is the new Model 1611P 40Mbps Advanced Digital PCM Bit Synchronizer card. Each Model 1611P can be enhanced with standard hardware options such as BERT, Viterbi, and Frame Verification applications. Higher density requirements are addressed using the new Model 474DM Advanced Digital PCM Bit Sync Mezzanine.

GUI Setup and Operation Status displays and menus are accessed via the units LCD touch screen display, and/or via optional 1U external monitor/ keyboard/mouse drawer. Each bit synchronizer can be configured and set up independently, or as a mission group. All Acroamatics documentation is supplied on CD-ROM.

The unit automatically recognizes the number and type of installed bit synchronizers as well as their features, and is easily field upgradeable. Setup configurations can be stored and retrieved for all previous missions as a group or individually. A page lock command accessible via the GUI prevents users from inadvertently reconfiguring mission critical setups in order to ensure data recovery during a live mission. Remote users can control the unit via the included Ethernet port. If two users are viewing the system simultaneously, both see the changes made in real time by either user.



2950P Multi Bit Synchronizer Remote Status and Programming views

Configuration Options:

1611P	PCI 40MHz Bit Synchronizer (to eight channels)
474DM	32MHz Bit Synchronizer Mezzanine (one per 1611P)

The 1611P and companion 474DM can be upgraded with a plug in module that adds any combination of the following options.

- Viterbi
- Frame Sync/BERT
- Customer specified encode/decode

Sold Separately:
1U Dual Slide Display/Keyboard/Mouse



Ordering information

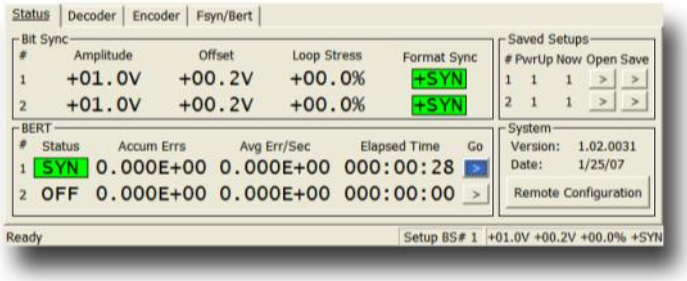
Order #	Description
2950P– *nn*	Chassis Model 2950P w/*nn* Model 1611P/474DM Bit Synchronizers
1611P	40MHz PCI Digital Bit Synchronizer (to eight each, per system)
474DM	32MHz Digital Bit Sync Mezzanine (one per 1611P, to eight each))
6031xxx	1U Dual Slide Display/Keyboard/Mouse

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Model 2435D 40 Mbps Bit Error Rate Tester

The 2435D is the latest addition to Acroamatics flagship rack-mountable 3.5" height single or dual stream PCM telemetry test and range instrumentation devices. The new Model 2435D is a single or dual stream PCM Bit Error Rate Test system optimized for use in telemetry link test and validation applications. The Model 2435D is available in either single or dual stream send/receive configurations and is housed in a compact 3.5" rack height (2u) 19" rackmount chassis. A comprehensive array of rear panel BNC/Triax/Multi-pin bulkhead mount signal connections are provided, with five operator program switchable inputs and multiple operator program selectable code/termination outputs.



The Model 2435D includes integral tunable digital Bit Synchronizer and telemetry Frame Synchronizer data validation capabilities. The Model 2435D supports rates to 40MHz, regardless of PCM code chosen, in both BERT and Frame Sync Verify modes of operation. Options include Viterbi decoding, "live data Best Source" select, and ambiguity resolution. In addition to standard IRIG PCM codes, the uniquely flexible architecture of the Model 2435D allows us to provide additional code, noise error, and timebase stability processing on special order. Network remote operations are supported. Equipped with a built-in 4.9" LCD display, the Model 2435D provides convenient front panel setup and display of both parameters and status. Remote monitoring and programming capability is available via serial, and Ethernet interfaces.

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Bit Error Rate and TM Frame Sync Test

Provides programmable frame length and sync pattern validation, and polarity detection and automatic inversion of the output data. Automatic source selection for frame data (this requires two channels). Programmable sync pattern error limits for check and lock states.

Programmable frame generator with pseudorandom “fill” data. Provides programmable pattern generator and receiver providing PN codes, N=7,9,11,15. A programmable BER sample period from $10e^3$ to $10e^9$, or continuous accumulate. Programmable blanking period of 64, 128, or 256 bits. Forced error inject. BER monitoring of “live” frame data and BER testing of external clock/data source is provided.

Bit Sync Options include Viterbi QPSK encode/decode. Dual channel Best Source Selection (2x1) is a standard feature on two channel units.

VITERBI (VT)
The Viterbi option adds differential decoding, V35 descrambling, G2 and alternate symbol inversion.

Ordering information

Order #	Description
2435D	Single Stream 8 Hz to 40 MHz PCM BERT Test Set Stream, w/ Bit Sync
2435D-VT	Single Strm 8 Hz to 40 MHz PCM Test Set, includes Bit Sync w/Viterbi
2435D-II	Dual Stream 8 Hz to 40 MHz PCM BERT Test Set Stream, w/ Bit Sync
2435D-II-VT	Dual Strm 8 Hz to 40 MHz PCM Test Set, includes Bit Sync w/Viterbi

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Model 2602 and 2602P Best Source Selector

The Model 2602 Telemetry Best Source Selector accepts PCM data at up to 32 Mbps per stream from multiple sources of mission telemetry, continuously evaluates the real-time frame synchronization status of all sources and, using operator selected strategies, automatically selects and routes the “best” source to output for further processing. Setup GUI and operational displays are provided by the built-in color LCD display and keyboard. Operational status is also available in text form via optional rack-mount Remote Display Units. Status is also logged to disk for post-mission analysis and reporting. The 2602 comes in various models configured to handle 8, 16 and 24 data sources depending upon the desired requirement, and may be easily modified to add additional source channels in the field by simple addition of Model 1650P 8 stream frame verifier cards. Optional Model 1611P/474DM Bit Synchronizers can also be added to add high quality bit sync capability, and processing options are available.

The system comes complete with a GUI style interface that is easy to use and very powerful. The Model 2602 keeps an event log which time stamps all decisions and events for future analysis and retrieval. The system allows for virtually unlimited storage of setup configurations.

Ordering information

Order #	Description
2602-8 / 2602P-8	Best Source Selector—8 Sources—4 Outputs (P = modular chassis)
2602-16 / 2602P-16	Best Source Selector—16 Sources—8 Outputs
2602-24 / 2602P-24	Best Source Selector—24 Sources—12 Outputs
1650	Eight Stream Frame Verifier PCI Module

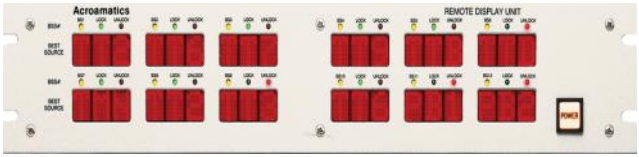
Model 2602 BSS Features and Options

The Model 2602 chassis is available in both 7u 12.25 “ high, 20” deep rackmount and 4u 7.5 “ high by 22” deep chassis configurations, and utilizes a standard Windows based system controller and CPU. All Acroamatics documentation is supplied on CD-ROM.

Options:

2602	7u, single chassis Best Source System, with integrated LCD Display and retraceable Keyboard/Trackball
2602P	4u, modular two-piece packaging, with remote mountable 7u signal I/O panel. Requires external keyboard/monitor.
2601	Remote Display Unit**.** The 2601 can monitor up to 12 output signals and each Best Source Selector model can support up to 4 Remote Display Units. The RDU is pictured below.
1650P	8 Stream Frame Synchronization Verification Module**.** The 1650P PCI-bus FSVU is used in every Acroamatics Best Source Selector model. The 8-stream capability of this card is optimized for PCM stream quality verification, rather than data processing. Up to three 1650P cards may be used within each 2602. Expansion of an 8 ir 16 stream system simply requires the addition of an 1650P**.**
Bit Syncs	Up to six channels of new Acroamatics high performance Advanced Digital Bit Synchronizers may be seamlessly added to the Model 2602 to provide an added capability to your BSS system. Call factory for more details option.

Model 2601 BSS Remote Display Unit



Ordering information

Order #	Description
2601	Remote Display for Best Source Selector
1650P	Eight Stream Frame Verifier PCI Module
1611P	Model 1611P 8 bps to 40 Mbps Advanced Digital Bit Sync
474DM	Model 474DM 8bps to 32 Mbps Digital Bit Sync Mezzanine (1 per 1611P)

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Model 2618 Frame Validation System

Is your PCM data being decrypted correctly? Does the stream you are receiving have the frame length and sync pattern you expected? Are your digital recorders operating correctly? Is your data signal noisy or clean? The Model 2618P PCM Frame Validation System will monitor as many as eight independent streams, providing a quick visual indication of the signal quality of your PCM data and verification that the received data corresponds to the expected frame characteristics.

The Model 2618P PVS is a very cost and space effective system than can receive data and clock outputs from up to 8 PCM decryptors or Bit Synchronizers, verify that the received data is a PCM stream matching the expected minor frame length and synchronization pattern expected, and display PCM frame lock status on bright front-panel mounted LED status lights indicators. An exportable Excel spreadsheet compatible log file is maintained, documenting time-stamped stream lock status. The Model 2618 also outputs each PCM stream as a randomized NRZ signal for re-transmission to downstream synchronization and processing equipment, with virtually no latency (<1 microsecond).

The 2618 can be combined with the new eight channel 4u Model 2950P Multi-Channel Bit Synchronizer System to provide the best value in high performance range Bit Sync / PCM validation, for maximum confidence prior to recording, communications, and processing of your range data!

Ordering information

Order #	Description
2618P	Eight Channel 32 Mbps Frame Verification System
2650P/2618P	Advanced Digital 8 Channel Multi-Stream Bit Synchronizer/PCM Validation



Model 2680P AGC Data Logging System

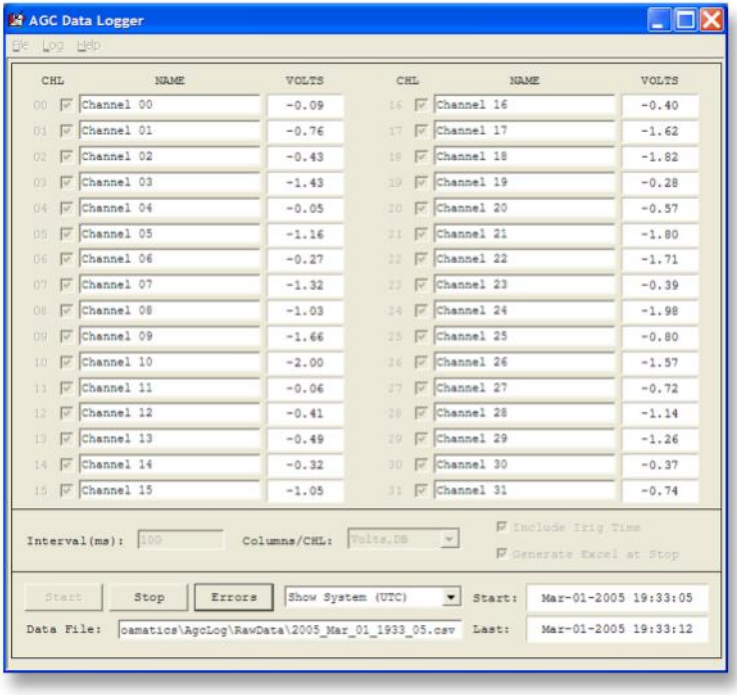
The Model 2680P AGC Data Logger is a stand-alone system configured to monitor the analog AGC outputs from thirty-two telemetry receivers. The hardware is composed of off-the-shelf items. The system is controlled by a 1U rack mounted PC with a 1U Keyboard/Monitor. The PC includes an 500GB Hard Disk drive (non-removable), a CD\DVD R/W drive for creating permanent archives of mission results, and integrated video and 10/100/1000 Ethernet. The AGC voltages are sampled using a National Instruments DAQ card, which includes a multi-channel programmable A to D. The A to D has 16-bit converters with a composite sampling rate of 100K Samples/Sec and input voltage range of ±10V.

The system also includes 2 National Instruments BNC-2090 rack mountable interface panels, and interconnecting cables necessary to connect to the DAQ card. The system can fit into as little as 2U of rack space, and provides inputs for 32 channels. IRIG Time stamping is also available as an option.

The option for adding time code annotation is provided for with the addition of the Model 1626P to the system.

Ordering information

Order #	Description
2680P	AGC Recorder System, 1U Rack Mount w/32 Channels
2680P-T	Base 2680 system with addition of 1626P IRIG Time interface

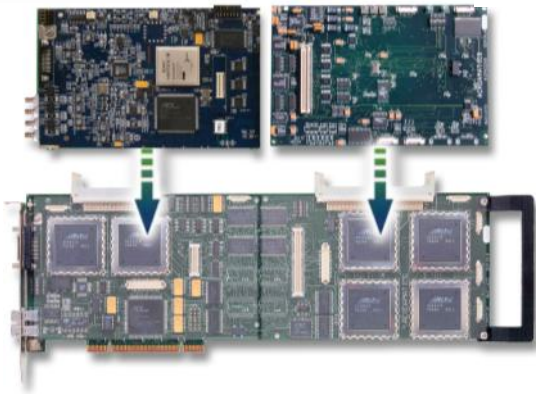


System Software

Model 2618P system software includes Microsoft Excel and a custom GUI that allows a user to set up a sampling regimen and operate the system. The GUI can set up sampling tasks for up to 32 channels at a programmable rate of up to 10 scans per second. Each scan produces a log entry annotated by time read from the PC's system clock.

In addition, if the system has the optional internal 1626P or network access to an Acroamatics TDP containing an 470M IRIG Time Translator/ Generator card, 1626P, or 503V (legacy card), you can add IRIG time annotation. The GUI acquires log entries directly to an ASCII comma separated text file. A post-acquisition dialog allows the transfer of the log entries from the CSV file to an Excel file, with capability to select a time windowed subset. The resulting .XLS file can be written on the CD for distribution to range customers or accessed over the network as a remote file.

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Model 1602P PCI “all-in-one” PCM Frame Sync/Decom

The Model 1602P is a stored program PCM frame synchronizer and format decommutator (real-time card level “software decommutation”) , which doubles as the hub of a modular high performance single card real-time telemetry processing solution. The 1602P is capable of real-time decommutation of the most complex, concatenated, conditionally switched high rate PCM format structures -including packetized CCSDS- at rates to 32 MHz. The Model 1602P provides six sub-frame decommutators, each with dual instruction memories, to handle complex data structures such as asynchronous embedded formats. As a single board telemetry processing solution the 1602P provides users a choice of range quality PCM Bit Synchronizer and Time Code / PCM Format Simulator mezzanine modules, and includes the excellent Acroamatics Telemetry Software Suite.

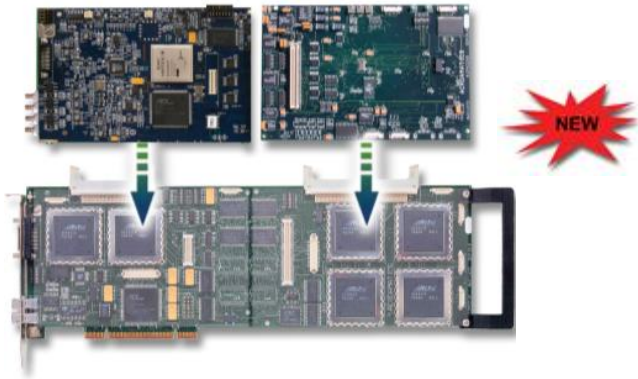
Companion Mezzanine Modules:

474DM Tunable 8 Hz to 40 MHz Advanced Digital Bit Sync performance capabilities, delivering stunning performance in a compact footprint. Options include Viterbi and built-in FSB/BERT.

470M The 470M Time Code Generator/Translator and programmable PCM Format Simulator/Serial PCM Output card combines time code translation, generation, and PCM format simulation .

Ordering information

Order #	Description
1602P	PCI PCM Frame Synchronizer Decom
1602P/474DM	PCI PCM Frame Synchronizer Decom w/ Bit Synchronizer
1602P/470M	PCI PCM Frame Synchronizer Decom w/ Time & Prog PCM Sim
1602P/470M/474D	PCI PCM Frame Synchronizer Decom w/ Time/Sim & Bit Sync



Model 1612P 40 Mbps PCI PCM Frame Sync/Decom

The Model 1612P is a newly introduced state-of-the-art Advanced Single Card PCM stored program Frame Sync / Decom solution. The new Model 1612P uses advanced onboard micro-coded “soft decom” processing techniques to deliver improved signal processing power, functional utility, and speed while remaining 100% compatible with all existing Acroamatics PCI TDP systems, as a “drop-in” plug-n-play upgrade current Model 1602P decom outfitted systems.

Like the model 1602P, the new 1612P serves dual duty - both as the hub of a modular single card TM solution or with other 1612P modules in a PCI TDP system to accommodate integrated processing of eight plus independent high rate telemetry streams. The 1612P is capable of real-time decommutation of the most complex, concatenated, conditionally switched high rate PCM format structures -including packetized stream formats such as CCSDS- at rates to **40 Mbps**.

New features include 1 bps to 40 Mbps rate range, built-in PCM simulator, internal 8 channel 12-bit DAC, and internal low-latency CVSD voice processor / audio output. The 1612P supports enhanced dual DMA operation, configurations beyond 8 streams, and increased processing speed, while requiring less power and delivery enhanced life-cycle performance.

Ordering information

Order #	Description
1612P	PCI PCM Frame Synchronizer Decom
1612P/474DM	PCI PCM Frame Synchronizer Decom w/ Bit Synchronizer
1612P/470M	PCI PCM Frame Synchronizer Decom w/ Time & Prog PCM Sim
1612P/470M/474D	PCI PCM Frame Synchronizer Decom w/ Time/Sim & Bit Sync



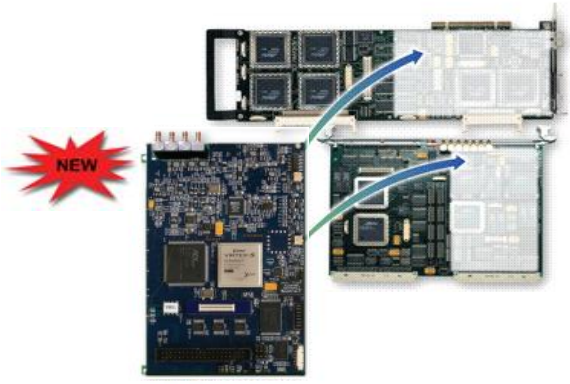
Model 470M IRIG Time Code/Format Simulator Mezzanine

The Model 470M is a mezzanine card that converts amplitude modulated IRIG time code signals to a digital representation for downstream analysis. Combines time code translation and generation IRIG A, B and G), as well as PCM format simulation on a single plug-on mezzanine module. The card also generates an amplitude modulated serial IRIG A, B, or G output for use by external equipment, and a slow code output for annotating strip charts. The Model 470P mezzanine can be attached to the 1602P and new 1612P PCI Frame Synchronizer\Decom, as an integrated element of a PCI single card or multi-stream high performance telemetry processing solution.

All Acroamatics documentation is supplied on CD-ROM.

Ordering information

Order #	Description
470M	IRIG Time Code/Format Simulator Mezzanine



Model 474DM Digital Bit Synchronizer Mezzanine

The 474DM PCM Bit Synchronizer is a newly introduced state-of-the-art Advanced Digital Bit Synchronizer featuring tunable data rates from 8 Hz to 40 MHz for ALL PCM codes. The new Model 474DM serves as a high performance/ range quality bit sync daughter module for use within Acroamatics single card TM processing and TDP system solutions.

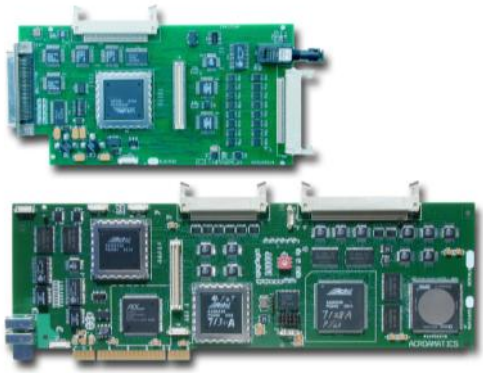
The Model 474DM synchronizes to and recovers data from PCM input signals. The card contains selectable input sources, AGC and DC restoration circuitry, and programmable band pass filtering for optimum data recovery. Sophisticated PLL (phase-locked loop) circuitry synchronizes a clock to the incoming signal to extract digital data from the PCM input. This circuitry produces NRZ-L data and clock outputs for use by a PCM format decommutator or similar equipment. It also provides encoded PCM output for analog tape recording.

The unit accepts all IRIG standard PCM input codes and has a bit error performance within 0.25-0.50 dB of theoretical. The Model 474DM can be attached to the Acroamatics Model 1602P, new1612P, 1611P, and 1626P telemetry processing and special purpose TM processing cards. The 474DM was developed expressly to deliver single slot, range quality high performance PCM acquisition and processing solutions in a minimum of space with best value in class budget performance.

Ordering information

Order #	Description
474DM	PCM Bit Synchronizer Mezzanine
474DM-VT	Viterbi Option
474DM-FSB	Frame Verification/Bit Error Rate Tester
474DM-FSB-VT	Frame Verification/Bit Error Rate Tester and Viterbi

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Model 1605P Data Distribution Programmable Data Stream Processor Reconstructor\Serializer

The Model 1605P allows merging of decommutated PCM stream from up to eight 1602P or new 1612P Frame Sync/Decom processing modules with IRIG time, HOTLink input, and external messages. The 1605P serves as the hub of all multi-stream/real-time Acroamatics Telemetry Processing System solutions, providing deterministic processing, time coherent merging, and EU conversion/derived processing of data from one to eight decoms. The 1605P also can accept input of network fed data, discretes, aircraft buss, GPS, and high speed analog input data. The 1605P distributes ID-tagged data and provides real-time in-line processing of stream data using an on-board SHARC® DSP embedded processors, as well as broadcasting real-time DAC Multiplexer data via direct fiber or copper . The 1605P also supports reconstruction of archived data into the original data stream format, supporting playback of recordings made in real-time either via serial “playback” or post-test processing.

Options For up to date detailed specifications contact us at sales.acroamatics.com

Model 482M Model 482M D to A Converter Mezzanine (*see detailed description in Model 482 module section on page 30*)

Ordering information

Order #	Description
1605P	PCI Data Distribution\Data Stream Processor w/ Hot link
1605P-2	PCI Data Distribution\Data Stream Processor w/ Fiber Optic
1605P/482M	Combine 482M options with 1605P (see page 30 for 482M options)

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Model 1611P 40MHz Digital Bit Synchronizer

The Model 1611P is a state-of-the-art Digital Bit Synchronizer featuring tunable data rates from 8 Hz to 40 MHz in all IRIG Standard PCM codes. The Model 1611P features an advanced digital design that yields performance superior to current analog and “box-level” designs. The bit error performance is within 0.25-0.50 dB of theoretical, with 0.25 to 0.5 dB typical. The Model 1611P is a “drop-in” replacement for the Model 1601P and is compatible with our standard bit synchronizer software. Interface cable and user manuals are included. Model 1611P related products include the new Model 2650P multi-channel bit sync and 474DM mezzanine. Options for the Model 1611P are Viterbi Encoder/Decoder (option VT) and Frame Sync/BERT (option FSB).

Model 1611P Features

- FIR Data Filtering
- Digital Phase Locked Loop with NCO Clock reconstruction
- Digital Amplitude and Offset Control Loops

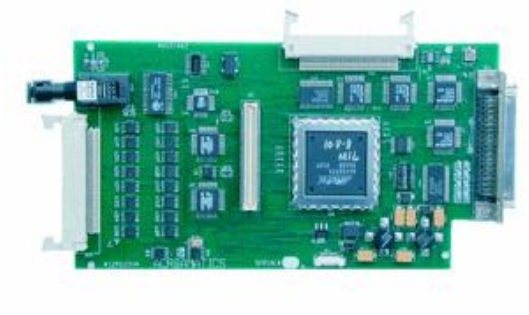
Model 1611P Advantages

- Smaller Part Count Means More Reliability
- Better Stability - Minimum Calibration and No Temperature Drift
- Upgradeability - Reprogrammable FPGA
- Customization - Digital Filters and Control Loops are implemented in Software/Firmware Allowing Customization to meet special requirements

Ordering information

Order #	Description
1611P	Single 40MHz Bit Synchronizer
1611P-VT	Single 40 MHz Bit Synchronizer w/Viterbi Encoder/Decoder
1611P-FSB	Single 40 MHz Bit Synchronizer w/Frame Sync/BERT
1611P-FSB-VT	Single 40 MHz Bit Synchronizer w/Frame Sync/BERT & Viterbi
Option	472M or 474DM Mezzanine Bit Synchronizer

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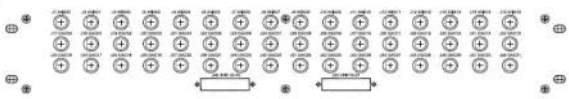
Model 482M D to A Converters

Model 482M is a mezzanine card companion option for the Model 1605P. Four configurations of Model 482M are available. Model 482M-0-8-16-0 provides a total of 8 channels of 12-bit D-to-A output. Model 482M-16-32-32-0 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 400 KHz sample rate. Model 482M-0-32-32-0 provides a total of 32 channels of 12-bit D to A output without A-to-D input. A Model 1605P card when equipped with a Model 482M-0-8-16-0 mezzanine requires only one standard PCI bus slot and chassis I/O opening; when equipped with a Model 482M-0-32-32-0 mezzanine an additional chassis I/O opening is required; when equipped with a Model 482M-16-32-32-0 mezzanine an additional two chassis I/O openings (three total) are required for connectors. All Acroamatics documentation is supplied on CD-ROM.

Optional

Model 5200 DAC expansion unit

Rack-mountable I/O unit provides full connection I/O via BNC and D-SUB connections.



Ordering information

Order #	Description
482M-0-0-0-1	Fiber Optic HOTLink Bus Driver Only
482M-0-32-32-0	32 D to A, 32 Discrete Lines
482M-0-8-16-0	8 D-to-A, 16 Discrete Lines
482M-16-32-32-0	16 A to D, 32 D to A, 32 Discrete Lines
5200	DAC Expansion Unit

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Model 1626P Multi-Channel Frame Synchronizer

The Model 1626P MCFS (PCI Multi-Channel Frame Synchronizer) card contains 1 to 4 PCM Decommutators, optimized for PCM stream quality verification, recording, PCM Simulation, CVSD Voice, and IRIG time correlated PCM data decommutation and processing on signals of up to 64Mbps in rate. Each decommutator contains a powerful minor frame synchronizer with a 64 bit pattern correlator. The correlator provides programmable pattern, mask, and error tolerance thresholds.

All frame synchronization, decommutation and related onboard processing tasks provided by the Model 1626P are accomplished on card resident real -time embedded processing engines, which are software programmable to support a wide variety of PCM processing, simulation, and TM system housekeeping tasks—all with minimal reliance on host Windows OS processes and CPU based processing functions. The Model 1626P provides users true deterministic, microsecond processing correlation in a very cost and space effective package.

The Model 1626P also accepts the new Model 474DM Advanced Digital Bit Sync Mezzanine card to provide a single PCI slot (3/4 length) integrated Bit Sync/Frame Sync Decom solution to support range PCM bit sync/ processing of streams from 8 bps to 32Mbps in rate.

Ordering information

Order #	Description
1626P-1 (C)	1 Channel Frame Synchronizer, IRIG A/B/G, PCM Sim (CVSD optional)
1626P-2 (C)	2 Channel Frame Synchronizer, IRIG A/B/G, PCM Sim (CVSD optional)
1626P-3 (C)	3 Channel Frame Synchronizer, IRIG A/B/G, PCM Sim (CVSD optional)
1626P-4 (C)	4 Channel Frame Synchronizer, IRIG A/B/G, PCM Sim (CVSD optional)

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Model 750IP Dual Channel PCM Frame Sync / Simulator

The Model 750IP Dual Channel PCM Module card is a compact "IP" (Industry Pack) module which builds on the compact, powerful, and modular PGA design of the model 1626P. The 750IP is designed with a very small foot print (3.89" x 1.81") and complies with a broad array of industry standard carriers offered in that format (PCI-104, VME, PCI, cPCI) making the 750IP an ideal choice where low cost, versatility, compact size, and high performance are desired.

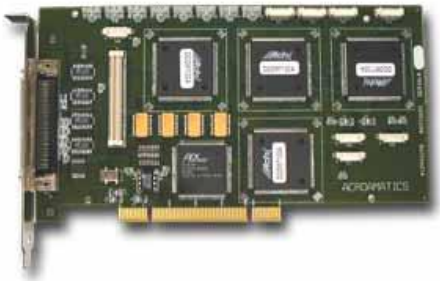
The 750IP-1 Dual Channel PCM Module is available to support a variety of applications, including programmable PCM Simulator, PCM Frame Sync/ Decom, and custom application PCM processing and encoding applications. The 750IP PCM Simulator provides dual PCM simulation channels with all the capabilities of our Model 470M simulator, plus the ability to run at bit rates up to 64MHz with NRZ data.

750IP-2 Frame Sync/Decom is patterned after the Model 1626P Multi-Channel Frame Sync, with similar specification and functional capabilities, but in a discrete dual channel Frame Sync only daughter card configuration.

Custom configuration options are available, and quoted on a requirement-by -requirement basis.

Ordering information

Order #	Description
750IP-1	2 Channel Programmable PCM Simulator
750IP-2	2 channel PCM Frame Sync / Decom
750IP-C	Custom Application



Model 1650P 32Mbps 8 channel PCM Frame Verifier

The 1650P is an ideal tool to aid those who desire to add the ability to quickly and simply validate and log decrypted range PCM stream decom frame lock status and stats to a host PC. The Model PCI 1650 FSVU (Frame Synchronization Verification Unit) contains eight PCM Decommutators designed for PCM stream quality verification rather than data processing. Each decommutator contains a minor frame synchronizer with a 64 bit pattern correlator, a 16 bit counter that counts the number of bits per frame, and a programmable synchronizer strategy providing Search, Verify, and Lock states. Programmable watchdog timers return its decommutator to Search if the input clock is lost. Status of each of the eight decommutators is provided over the PCI bus to determine the quality of the input data by channel, enabling applications capable of reporting decom status in real-time to easily log individual channel status and statistics to disk.

The 1650P module can provide integrators and OEM instrument manufacturers a simple and cost-effective method of adding multi-channel PCM frame validation without the cost or complexity of a full-blown PCM processing system. As an addition to an existing product—such as the new 2950P multi-channel bit sync unit—the 1650P can add an entirely new dimension of functional capability at a modest cost.

All Acroamatics documentation is supplied on CD-ROM.

Ordering information

Order #	Description
1650P	FSVU PCI Module, 8 ch RS-422 NRX clk/data
1650P / 1626P	FSVU 8 channel PCI Module with IRIG time tag and PCM simulator

Legacy Product Availability

Acroamatics is pleased to continue to support customers with legacy products and systems. Many of these have become industry standards, and we recognize their importance to our customers. We will continue to support these products as required, and will deliver new units so long as parts availability makes it possible. Legacy card products include our Model 501V VME Bit Synchronizer and the 1501V Frame Sync/Decom. VME TDP system products such as the 2220V TDP and 2430V Bit Synchronizer are also in that category.

The Model 2430V Bit Synchronizer consists of a 3.5" rack mountable chassis containing an Acroamatics designed processor card and up to two Acroamatics 1501V VME Bit Synchronizer Cards. Bit Sync set up information may be entered via the front panel keypad, Ethernet or the RS-232 port. The front panel of the 2430V has an electro-luminescent display which when not used for setup serves as the status display for the 1501V Bit Sync cards. The 2430V can still be ordered today. See the ordering information, below, for further information.

Many legacy system products, however, can be replaced with a modern drop-in implementation. For example, the Model 2430D provides identical I/O connections to the 2430V, provides full remote software compatibility, and offers enhanced performance and front panel operation along with a useful life of 10+ years.

Call today to inquire about legacy product availability, or about replacing or upgrading your legacy Acroamatics TDP or range processing system with added performance options and compatible processing modules and

2430V Compatible Model 2430D Ordering information

Order #	Description
2430D	Single 40 MHz PCM Bit Synchronizer
2430D-FSB	Single 40 MHz PCM Bit Synchronizer w/ Frame Sync BERT
2430D-VT-FSB	Single 40 MHz PCM Bit Synchronizer w/ Viterbi & Frame Sync BERT
2430D-VT	Single 40 MHz PCM Bit Synchronizer w/ Viterbi
2430D-PP	Dual 40 MHz PCM Bit Synchronizer
2430D-PP-FSB	Dual 40 MHz PCM Bit Synchronizer w/ Frame Sync BERT
2430D-PP-VT-FSB	Dual 40 MHz PCM Bit Synchronizer w/ Viterbi & Frame Sync BERT
2430D-PP-VT	Dual 40 MHz PCM Bit Synchronizer w/ Viterbi

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The Acroamatics Warranty

Warranty Period: Acroamatics provides a one-year hardware and software warranty period with our products. Our warranty policy is:

Acroamatics, Inc. warrants all equipment manufactured by it to be free from defects in design, materials, and workmanship for a period of twelve months from the date of acceptance by the Customer. Acroamatics, Inc. will repair without charge all parts of said products that are returned to the factory within the warranty period, provided that the equipment is returned prepaid to the factory within twelve months after the date of acceptance, or that the defect is reported, in writing, within twelve months after the date of acceptance, and provided that inspection by Acroamatics, Inc. discloses that the defects are as above specified. Equipment found to be defective will, at Acroamatics, Inc.'s option, be replaced or repaired, and returned via surface transportation, prepaid. With the exception of the twelve-month warranty set forth above, Acroamatics, Inc. makes no express warranties, no warranties of merchantability, and no warranties that extend beyond the description on the face hereof. In no event will Acroamatics, Inc. be liable for consequential damages of any kind. For products sold to the United States Government, under procurements governed by the Federal Acquisition Regulations (FAR), any part of this PRODUCT WARRANTY that conflicts with an applicable FAR clause, incorporated actually or by reference in the purchase contract, shall be supplanted by the FAR clause.

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Customer Service

Acroamatics is known as a full service company with direct access to design engineers and expert telemetry engineers. We pride ourselves on our ability to quickly and expertly handle support needs from our customers. Our team of professionals has been working in the telemetry field for almost 40 years and take pride in the fact that we are constantly in touch with our clients.

In-warranty phone/email support:
Acroamatics provides full phone and email support during the warranty period as part of our standard offering at no charge to the customer. Acroamatics reserves the right to charge the client if such support involves complex system design, implementation, installation, education and/or other support needs at our discretion.

In-warranty repair not covered by warranty:
If the equipment has been damaged and/or modified during the warranty period, then Acroamatics reserves the right to charge the customer a minimum fee.

Out of warranty phone/email support:
Acroamatics will do our best to continue to support customer support for products after the original warranty period has expired, but reserves the right to charge for such support on a case by case basis.

Out of warranty repair:
In the case of hardware failure, we can either provide you with a spare unit at standard pricing or repair of the faulty unit at our facility. In the case of software support, upgrades or enhancements, we offer upgrades to existing systems. We also offer extended warranty programs.

Warranty on repairs:
Acroamatics warranties all repairs for a period of 90 days

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Other Services

Education and Training Courses

Acroamatics will provide in-depth training for installation, use and configuration of any of our products either at our headquarters in Santa Boarbara, California or at the client's location of choice. Our courses can also be custom tailored to your specific requirements as needed.

Courses Offered

- Installation, Operation and Understanding of Acroamatics Telemetry Data Processing Equipment.
- TDP Software Development/Operation, Bit Synchronizer Operation & Best Source Selector Operation

Installation and Consulting

Our team of expert engineers is available for on-site support, installation and consultation. We usually work with our clients to determine the scope of the project and then provide them with a quotation on a case-by-case basis. Our fees for this type of work are determined by evaluating what type of engineering resource is required, what hardware is needed to perform the task and the timeframe desired. Please call our headquarters for further information.

Integration, Systems Design, Management and Implementation

Acroamatics also provides full ground station integration and implementation services. We have the capability of becoming your prime or sub-prime contractor for projects involving a full range of ground station telemetry products. Our company has key relationships with vendors supplying antennas, receivers, racks, encoders, decoders and other comparable equipment. If your project requires an expert partner who can provide you with a complete solution, please call us and we will work with you to find a solution that fits your requirements.

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