Alta dt
data technologies

Amazing 16-48 Shared RX/TX Channels! Highest Channel Count in the Industry. PMC, PCI, PCIe, cPCI/cPCIe, PXI/PXIe Systems

Alta Data Technologies' PMC-A429HD interface card offers an unparalled 32 or 48 channels of ARINC-429 on a single-width, front panel PMC module. The PMC card can be used in almost any PCI based backplane system, and can *encode or decode almost any ARINC-429 physical layer signal.*

The card design is based on the industry's most advanced 32-bit ARINC FPGA protocol engine, *AltaCore*™, and a feature-rich application programming interface, *AltaAPI*™, which is a multi-layer ANSI C, Windows,.NET, Linux (MSVS C++, C#, VB .NET, LabVIEW, RTOS) architecture. This hardware and software package provides increased system performance and flexibility while reducing integration time.

The PMC-A429HD Transmit (TX) capability includes both simple and complete frequency control options for each channel and Playback and Signal Generator modes. Three Receive (RX) functions including channel and multi channel levels.

AltaCore is guaranteed ARINC-419/429/575/573 compliant and all cards are manufactured to the highest IPC Class 3 standards and ISO certified processes. Alta is committed to provide each customer with a risk free integration and will help with any level of your system development.

AltaView & AltaRTVal
Multi-Protocol Analyzer & 1553 AS4111/4112 5.2 Validation
User's Application with Modular, Portable *AltaAPI*

AltaAPI Architecture

Layer 2 – Windows Managed DLL
Object Oriented Code for .NET, C#, C++, VB, LabVIEW
Network Client/Server C#

Layer 1 – Portable ANSI C Application Program Interface (API)
(most applications tie-in here – includes native LabVIEW/LabWindows CVI DLL)

Layer 0 – OS Device Driver
Windows, Linux, Real-Time Operating Systems, LabVIEW-RT

Hardware – PCI, PCI Express, cPCI, PCCD, XMC, etc...

Key Features

- ARINC-419/429/575 Configurations:
  - **16 Shared Rx/TX Channels, or**
  - **32 Shared RX/TX Channels, or**
  - **48 Shared RX/TX Channels**

  - For All Channels, RX Function is Always Available and TX is Software Selectable.
  - Channels Can Be Fixed on Request

- Fully Programmable Label/Word Encoding and Decoding
- Commercial or Industrial (Extended) Temp
  - Front Panel 100-pin Honda Connector Only
- Ideal for VPX, cPCI/cPCIe, PXI/PXIe, etc.

- One Mbyte of Memory per 16 Channel Bank for RX/TX Buffering
- Channel Independent TX Label/Word Frequency Control
- Dual RX Buffering at Channel and Multi-Channel Level with 64-bit, 20 nsec Time Tags

- Advanced, Multi-layer *AltaAPI* Provided at No Cost with Source Code
- Windows, Linux, RTOS, LabVIEW & RT
  - .NET Managed DLLs
  - Contact Factory for Latest RTOS Support
- True HW Playback

- Industry First: 1 uSec Signal Generation
  - Bit Construction
  - Supports Advanced Validation Testing
- IRIG-B RX PAM or RX/TX PPS Ext Clock
- One Avionics Discrete/Shared Trigger, TTL & IRIG RX Clock

- Advanced BIT Features and Temp Sensors
- Full HW Interrupt Features

- PCI 32 Bit, 33/66MHz & PCI-X Compatible

www.altadt.com

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High Channel Density (16-48 Channels)
PMC-A429HD ARINC-429 Specifications

General

- 32-Bit PCI 33/66MHz/PCI-X Compatible
  - PCI-SIG PCI 2.1 Compliant
  - ANSI/VITA 20-2001 Compliant
- Encode or decode almost any ARINC-429 physical layer signal.
- Full Word/Label Encoding/Decoding
  - Bit Rates 500 to 200K (12.5, 50K & 100K Compliant)
- One Megabyte Per 16 Channel Bank
- Weight: 8oz/240grams
- Power (Estimated @ Max Bandwidth)
  - 32CH@8W
    48CH@10W
- Parts Temp (C) : -55 to +120 Storage, 0 to +70 Commercial; -40 to +85 Industrial Extended
- Honda, 100-Pin Connector
- One Avionics Triggers (one in/one out)
  - Shared Trigger
- Advanced BIT, Loop-Back and Dual Temp Sensors
- IRIG-B RX PAM and RX/TX LV-TTL PPS Time Sync
- IPC Level 3 and ISO Certified Processes

TX Features

- Simple or Detailed Frequency (Hz) Control Per Label/Word List
- Interrupts, External Trigger
- Full Error Injection

RX Features – Three Buffering Modes

- Channel Level Label/Word Tables
- Channel Level Current Value Tables
- Multi-Channel Data Tables for All Channels
- 64-Bit, 20 nsec Time Tags
- Interrupts, External Trigger
- Full Error Detection

Playback/Signal Generator (TX)

- Real Hardware Playback from Archive Files
- H/W Playback Timing to 10 usec.
- Signal Vector Generation at 1 uSec **INDUSTRY FIRST**
  - Construct Bit Signals at 100 nsecs
  - Ideal for Test Validation

Software: *AltaAPI, AltaView* Software

- Multi-Layer *AltaAPI* Architecture to Support Windows & .NET, ANSI C, Linux, VxWorks, etc..
  - No Cost LabVIEW and RT Support
  - Contact Factory for Latest RTOS Platforms

- Optional *AltaView* is Based on the Latest Windows MS Office User Interface Style with Ribbon-Bar
  - Full Analyzer Integration Tool
  - Multi Language Support

Part Numbers (front panel only):

PMC-A429HD-16
- 16 Shared RX/TX Channels

PMC-A429HD-32
- 32 Shared RX/TX Channels

PMC-A429HD-48
- 48 Shared RX/TX Channels

NOTE: For Shared Channels, RX Function is Always Available and TX is Software Selectable. One RX Electrical Load on Each TX Channel. When powered-off, shared TX will load respective RX.

Options: -A AltaView, -E Ext Temp Parts, -F Conformal Coating, -I TX Inhibit (BM only), -N NVRAM Disable, -X cPCIe/PXIe. **(Example: PMC-A429HD-48-AEX).**

5 Year Limited Warranty!

EU and China RoHS Compliant
Contact Alta for Special Lead Build Configurations

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