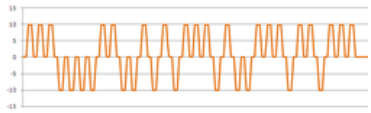
High Density ARINC Interface For **PCI** Systems

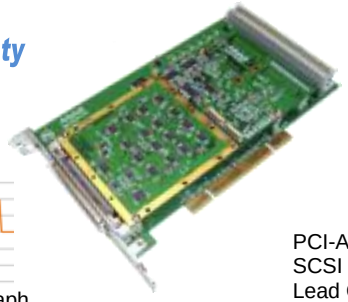
Key Features for PCI-A429:

- ARINC-419/429/575/717 Configurations:
  - 4 RX/TX Shared Channels
  - 8 RX/TX Shared Channels
  - 16 Channels: 8 RX/TX Shared – 8 RX
  - 30 Channels: 16 RX/TX Shared – 14 RX
  - For Shared Channels, RX Function is Always Available and TX is Software Selectable.
  - Channels Can Be Fixed on Request
- A/D Signal Capture on First Two RX Channels!
- Dual or Quad ARINC-717 RX/TX Selectable
  - Replaces Corresponding 429 Channels
- Fully Programmable Label/Word Encoding and Decoding
  - Word Length, Start/Sync/Stop Bits, MSB/LSB, RX/TX Bit (Baud) Rates (500-200K), Parity, Bit Encoding Types.
- Commercial, Industrial (Extended) Temp
  - Conduction Cooled, Conformal Coated, Rear Panel Configurations
- 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 Support
  - .NET 2.0 Client/Server
  - Contact Factory for Latest RTOS Support
- True HW Playback
- Industry First: 100 nsec Signal Generation
  - Bit Construction
  - Supports Advanced Validation Testing
- IRIG-B or PPS Ext Clock
- Two Avionics and One RS-485 Discretes
- Advanced BIT Features and Temp Sensors
- Full HW Interrupt Features
- PCI 32 Bit, 33/66MHz & PCI-X Compatible

5 Year Limited Warranty



Wave Form Data Shown on Excel Graph
Auto Signal Capture with AltaView!



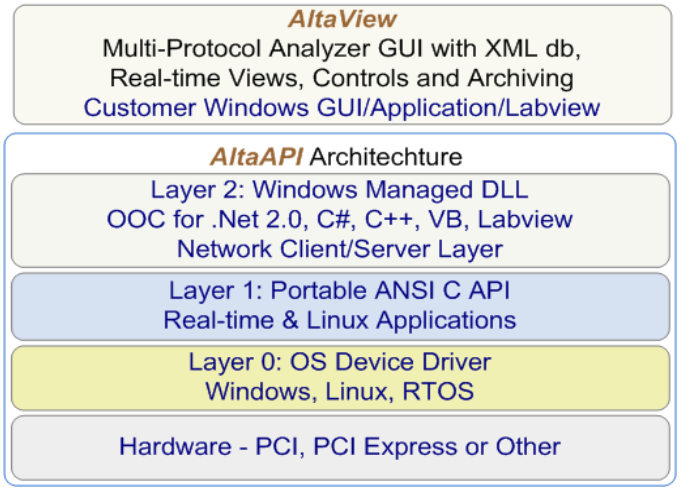
PCI-A429
SCSI to Flying Lead Cable Provided

Alta Data Technologies' PCI-A429 interface modules offer a variety of ARINC-419/429/575/573/717 channel configurations with software selectable Rx/Tx channels, baud rates, bit encoding and word configurations (Start/Sync/Stop length, Parity, bits/word, MSB/LSB). *Encode or decode almost any ARINC-429 physical layer signal.*

The PCI-A429 card 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 and Windows .NET 2.0 (MSVS 2005 C++, C#, VB .NET) architecture. This hardware and software package provides increased system performance and flexibility while reducing integration time.

The PCI-A429 Transmit (TX) capability includes both simple and complete frequency control options for each channel. TX also includes Playback and Signal Generator operations. Dual Receive (RX) functions include independent simultaneous channel level buffering and multi channel level buffering.

AltaCore is guaranteed ARINC-419/429/575/573/717 compliant and all cards are manufactured to the highest IPC-Level 3 standards and certified AS9100 processes. Alta is committed to provide each customer with a risk free integration and will help with any level of your system development.



*Interface Cards are Provided with the Advanced **AltaAPI** for ANSI C/Linux/RTOS and .NET 2.0. Optional **AltaView** Analyzer*

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Multi-Channel (4-30) ***AltaCore-***ARINC
PCI-A429 Specifications

General

- 32-Bit PCI 33/66MHz/PCI-X Compatible
  - PCI-SIG PCI 2.1 Compliant
  - ANSI/VITA 20-2001 Compliant
- A/D Signal Capture on First Two RX Channels!!
- 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)
  - Bit Types, Length, Start/Stop and Parity Settings (most advanced in industry)
- One Megabyte Per 16 Channel Bank
- Weight: 4oz/120grams
- Power (Estimated @ Max Bandwidth)
  - 4CH@4.5W, 8CH@5.0W, 16CH@6.0W, 30CH@7.0W
- Parts Temp (C) : -55 to +120 Storage, 0 to +70 Commercial; -40 to +85 Industrial Extended
- SCSI 3 Connector with “Flying Leads” 36” Cable Provided.
- 2 Avionics Triggers (one in/one out) and One RS-485 Discrete
  - Shared Triggers and Discretes between channels
- Power-Up, Loop-Back and User BIT
- IRIG-B PAM and PPS Time Sync Input
- IPC Level 3 and AS9100 Manufacturing

TX Features

- Simple or Detailed Frequency (Hz) Control Per Label/Word List
- ARINC-717 Frame Support
- Interrupts, External Trigger
- Full Error Injection

Playback/Signal Generator (TX)

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

RX Features – Dual Buffering Modes

- Channel Level Label/Word Tables
- Multi Channel Data Tables for All Channels
- ARINC 717 Frame Support
- 64-Bit, 20 nsec Time Tags
- Full Error Detection

AltaAPI, AltaView Software

- Multi-Layer ***AltaAPI*** Architecture to Support Windows (.Net 2.0) and ANSI C Linux, VxWorks
  - Contact Factory For RTOS Platforms
- Optional ***AltaView*** is Based on the Latest Windows MS Office 2007 User Interface Style with Ribbon-Bar
  - Full Analyzer Integration Tool
  - Multi Language Support

Part Numbers (1/2 Size PCI Card)

PCI-A429-4 (1 Mbyte RAM)
- 4 Shared RX/TX Channels – Software Selectable
- 2 RX/2TX ARINC-717 Selectable Channels
  - (Each 717 RX or TX Replaces Two 429 Channels)

PCI-A429-8 (1 Mbyte RAM)
- 8 Shared RX/TX Channels – Software Selectable
- 2 RX/2TX ARINC-717 Selectable Channels
  - (Each 717 RX or TX Replaces Two 429 Channels)

PCI-A429-16 (1 Mbyte RAM)
- 8 Shared RX/TX Channels – Software Selectable
- 8 RX Channels
- 2 RX/2TX ARINC-717 Selectable Channels
  - (Each 717 RX or TX Replaces Two 429 Channels)

PCI-A429-30 (2 Mbyte RAM)
- 16 Shared RX/TX Channels – Software Selectable
- 14 RX Channels
- 4 RX/4TX ARINC-717 Selectable Channels
  - (Each 717 RX or TX Replaces Two 429 Channels)

NOTE: For Shared Channels, RX Function is Always Available and TX is Software Selectable. One RX Electrical Load on Each TX Channel.

-E for Ext Temp Parts (-40 to +85C)

5 Year Limited Warranty!

EU and China RoHS Compliant

Contact Alta for Special Lead Build Configurations

AltaAPI Software with ANSI C Source and .Net 2.0 DLL with Client/Server provided at No Cost.

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