Alta\dt data technologies

CPCIC-A429

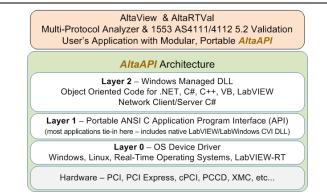## High Density ARINC Interface For CompactPCI (cPCI) Systems

SCSI-Flying Lead Cable Provided

Wave Form Signal Capture with AltaView!

Alta Data Technologies' CPCIC-A429 interface modules (PMC on 3U/6U CompactPCI Carrier) 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 CPCIC-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 2005/08/10 C++, C#, VB .NET) architecture. This hardware and software package provides increased system performance and flexibility while reducing integration time.

AltaCore is guaranteed ARINC-419/429/575/573/717 compliant and all cards are manufactured to the highest IPC-Class 3 standards and ISO 9001:2008 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...

Alta's Advanced Software Architecture

Key Features:

- ARINC-419/429/575/573/717 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
    - Rear Panel only 12 RX
  - For Shared Channels, RX Function is Always Available and TX is Software Selectable.
  - Channels Can Be Fixed on Request
- 3U or 6U Configurations. PXI Compatible
- 8-bit, 1 uSec 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
- 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 & 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
- 2 Avionics/ One RS-485 Discretes
- Advanced BIT Features and Temp Sensors
- Full HW Interrupt Features
- PCI 32 Bit, 33/66MHz & PCI-X Compatible

www.altadt.com

General

- 32-Bit PCI 33/66MHz/PCI-X Compatible
  - PCI-SIG PCI 2.1 Compliant
  - ANSI/VITA 20-2001 Compliant
- 8-bit, 1 uSec A/D Signal Capture on First Two RX Channels!
- 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
- PMC on 3U or 6U cPCI Carrier
- 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 (Front Panel). Rear Panel Options.
- Parts Temp (C) : -55 to +120 Storage, 0 to +70 Commercial, -40 to + 85 Extended
- Flying Lead Cable Provided (User Configured)
- 2 Avionics, 2 RS-485, One TTL In and Out
- Power-Up, Loop-Back and User BIT
- IRIG-B RX PAM and RX/TX PPS Time Sync
- IPC Level 3 and ISO 9001:2008 Processes

TX Features

- Simple or Detailed Frequency (Hz) Control Per Label/Word List
- ARINC-717 Frame Support
- 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
- ARINC 717 Frame Support
- 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 Encoding
  - Ideal for Test Validation

Software: *AltaAPI & AltaView*

- Multi-Layer *AltaAPI* Architecture to Support Windows and C Linux, VxWorks, LabVIEW, etc..
  - 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

CPCIC3/6-A429-4-T   (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)

CPCIC3/6-A429-8-T   (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)

CPCIC3/6-A429-16-T   (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)

CPCIC3/6-A429-30-T   (2 Mbyte RAM)
- 16 Shared RX/TX Channels – Software Selectable
- 14 RX Channels (Rear Panel Only 12 RX Channels)
- 4 RX/4TX ARINC-717 Selectable Channels
  - (Each 717 RX or TX Replaces Two 429 Channels)

Please note 3U or 6U card configurations available (3 or 6 in "3/6" part number) Options: -E for Ext Temp Parts (-40 to +85C), -C for Ext Temp, Conduction Cooled/Conformal Coated/Rear Panel, -R for Rear Panel P4 Commercial and -A for AltaView.

NOTE: On shared channels: TX lines have an extra RX load; when powered-off, RX channels can have severe voltage drain – use only dedicated RX channels for critical systems.

<u>5 Year Limited Warranty!</u>

EU and China RoHS Compliant

Contact Alta for Special Lead Build Configurations

AltaAPI Software with ANSI C Source,.Net and LabVIEW & RT provided at No Cost.

Alta Data Technologies LLC

**4901 Rockaway Blvd., Building A
Rio Rancho, NM 87124 USA
888-429-1553 (in US)
505-994-3111 (outside US)
www.altadt.com
alta.sales@altadt.com**

Alta dt
data technologies