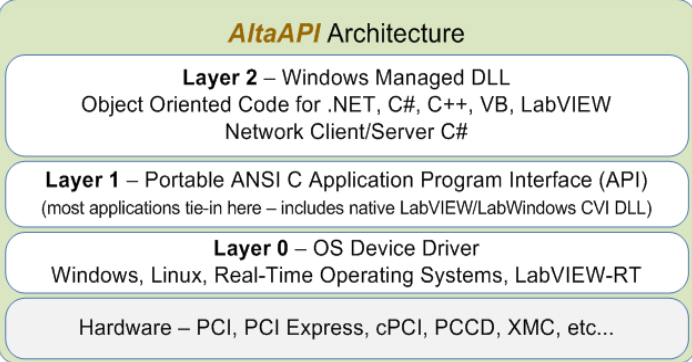# Alta dt
data technologies

MEZ-P1553

Key Features

- **1-2 Independent, Dual Redundant 1553 Channels with PCIe Interface**

- Dual Function (BC/Mon or mRT/Mon) or Full Function (BC/mRT/Mon)
- One Mbyte of Memory per Channel
- Fully Compliant to MIL-STD-1553B/C Notice II/IV,1553A and Link-16
- Commercial or Industrial Extended Temperature Parts

- BC Framing/Subframing/Aperiodic
- Common Data Packets (CDP) for BC, RT and Monitor – Complete Message Info

- True HW Playback – HW Sync Channels
- Industry First: 20ns Signal Generation
    - Bit Construction – 1553 PHY TX

- Advanced, Multi-layer *AltaAPI* Provided at No Cost with Source Code
- Windows, x86 Linux, LabVIEW & RT
- Contact Alta for RTOS Support Availability
- IRIG-B RX PAM or RX/TX PPS Ext Clock

- **Advanced BIT Features and Temperature Sensor**

- Mini-PCI Express – PCI Express 1.1
    - MSI & Legacy HW Interrupt Support

Alta Data Technologies' MEZ-P1553 provides 1-2 independent, dual redundant 1553 channels for rugged, embedded PCI Express. The MEZ-P1553 is based on the industry's most advanced 32-bit 1553 FPGA protocol engine, *AltaCore™*, and by a feature-rich application programming interface, *AltaAPI™*, which is a multi-layer ANSI C and Windows .NET architecture. **Ideal for small embedded computer systems.**

AltaCore-1553 is **guaranteed** 1553B/C Notice II & IV **compliant** and all cards are manufactured to the highest IPC-Level 3 standards and ISO 9001:2015 processes. Cards are available in dual-function (BC/Mon or multi-RT/Monitor) or full-function (BC, mRT and Mon) configurations. Playback and Signal Generation are part of BC operations. Alta is committed to a risk-free integration and will be glad to 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

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www.altadt.com

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(In US): 888-429-1553 (Outside US): 505-994-3111 Fax: 805-504-8588
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1-2 MIL-STD-1553 Channels
MEZ-P1553 Specifications

General

- Embedded PCI Express 1.1
- 1-2 Dual Redundant 1553 Channels
- One Megabyte RAM per Channel
- Common Data Packets (CDPs) for all BC, RT and Monitor Functions – Industry First
- MIL-STD-1553B/C Notice II & IV
- 1553A and Link-16
- 6 Avionics Discretes – 1760 Addressing for Channel 1
- Power Estimate at Full Bandwidth for 2 Channels is 4W
- Parts Temp (C) : -55 to +120 Storage, 0 to +70 Commercial, -40 to + 85 Extended
- 5.3"x1.03" x-y Dimensions
- Loop-Back & User BIT, Temp Sensor
- IPC Class 3 and ISO 9001:2015 Processes

BC Features

- Simple One-Shot Lists to Advanced Message Framing and Subframing
- Message Timing with 100 nSec Accuracy
- Infinite Linked CDP Data Buffers
- 64-Bit, 20 ns Time Tags, Interrupts, Triggers
- Low and High Priority Aperiodic Messages
- Multi Branching Per Message, No-Ops, Delays, Ext Trigger In/Out, Interrupts etc…
- Up to 15 Retries Per Message
- Legal and Reserved Mode Codes
- 1553A and 1553B Support
- Full Error Injection/Detection

Playback/Signal Vector PHY TX

- Real Hardware Playback from Archive Files
- Signal Vector Generation at 20 nsecs **INDUSTRY FIRST**
  - Construct 1553 Bit Signals at 20 nsecs
  - **AS4111 5.2 RT Val Protocol Capability
  - Advanced BC, RT or any 1553 PHY Signal TX

RT Features

- Infinite Linked CDP Data Buffers
  - 64-Bit, 20 ns Time Tags, Interrupts, Triggers
- Legal and Reserved Mode Codes
  - 1553A and 1553B Support
  - Full Buffering of All Mode Codes
- Full Error Injection/Detection

Monitor

- Sequential and RT Mapped Monitoring with Infinite Linked CDP Data Buffers
  - Available with All Card Models
  - 64-Bit, 20 ns Time Tags, Interrupts, Triggers
  - Full Error Detection
- 8-bit, 50 nSec A/D Waveform Signal Capture with Trigger on Words or Errors
  - *AltaView* Software is Ideal for Signal Display

Software: *AltaAPI*, *AltaView*

- Multi-Layer *AltaAPI* Architecture to Support Windows and Linux
  - Contact Factory For RTOS Platforms
  - LabVIEW & RT Support
- 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

Dual Function: BC/Mon or mRT (Multi RT)/Mon

- **MEZ-P1553-1/2D**

Full Function: BC, mRT (Multi RT) and Monitor

- **MEZ-P1553-1/2F**

Channel Count Digit: "1" or "2" Above

Options: -E for Ext Temp Parts (-40 to +85C); -A for AltaView; -I 1553 TX Inhibit, -N NVRAM Write Disable, -F Conformal Coating. Options Example (alpha order): **MPCIE-1553-2F-AEFIN**

5 Year Limited Warranty!

RoHS Compliant
Contact Alta for Special Lead Build Configurations

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