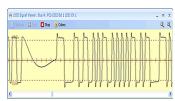


# **MPCIE-1553**

# Single-Channel 1553 Interface for Mini-PCI Express Systems





A/D 1553 Signal Capture Built-In!

Alta Data Technologies' MPCIE-1553 interface module is a single-channel Full Mini-PCI Express Type 2 1553 interface card. The MPCIE-1553 is based on the industry's most advanced 32-bit 1553 FPGA protocol engine, *AltaCore*<sup>TM</sup>, and by a feature-rich application programming interface, *AltaAPI*<sup>TM</sup>, which is a multi-layer ANSI C and Windows .NET (MSVS 2005/08/10 C++, C#, VB .NET) architecture. This package provides increased system performance and reduces integration time.

AltaCore-1553 is guaranteed 1553B Notice II & IV compliant and all cards are manufactured to the highest IPC-Level 3 standards and ISO 9001:2008 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

### **Key Features:**

- One Dual Redundant MIL-STD-1553 Channel
- 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 Notice II/IV,1553A and Link-16
- Commercial or Industrial Extended Temperature Parts
- \*\* A/D Signal Capture View 1553
   Waveforms with AltaView!\*\*
  - 8-bit, 50 nSec A/D for Voltage Measurements
- Advanced 32-bit BC, RT and Monitor FPGA Design – Full 32 bit Memory.
- BC Framing/Subframing/Aperiodic
- Common Data Packets (CDP) for BC, RT and Monitor – Complete Message Info
- 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 HW Sync Channels
- Industry First: 20ns Signal Generation
  - Bit Construction 1553 PHY TX
  - Supports RT Validation Testing
- IRIG-B RX PAM or RX/TX PPS Ext Clock
- RS-485 Discrete/Clock & Trigger
- Advanced BIT Features and Dual Temperature Sensors
- Mini-PCI Express PCI Express 1.1
  - MSI & Regular HW Interrupt Support
- Full-Mini PCI Express Type F2 Card

# Single-Channel MPCIE-1553 Specifications

#### General

- Mini-PCI Express PCI Express 1.1
- Full-Mini PCI Express Type F2 Card
- One Megabyte RAM
- Common Data Packets (CDPs) for all BC, RT and Monitor Functions – Industry First
- MIL-STD-1553B Notice II & IV
  - 1553A and Link-16
- Power Estimates at Full Bandwidth:
  - Estimated @1.5W
- Parts Temp (C): -55 to +120 Storage, 0 to +70 Commercial, -40 to +85 Extended
- One RS-485 Discrete/Clk/Trg and One Trigger
- Loop-Back & User BIT, Dual Temp Sensors
- IRIG-B RX PAM and TX/RX PPS Time Sync
- IPC Class 3 and ISO 9001:2008 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, AltaRTVal

- Multi-Layer AltaAPI Architecture to Support Windows (.Net 2.0) and ANSI C Linux, VxWorks, Integrity, etc...
  - Contact Factory For RTOS Platforms
  - LabVIEW & RT Support
  - · Provided at No Cost with Card
- Optional AltaView is Based on the Latest Windows MS Office User Interface Style with Ribbon-Bar
  - Full Analyzer Integration Tool
  - Multi Language Support
- AltaRTVal provides full AS4111/4112 5.2 RT
   Validation GUI and Reports (on two channel cards –
   not MPCIE)

#### **Part Numbers**

Dual Function: BC/Mon or mRT/Mon

MPCIE-1553-1D

Full Function: BC, mRT and Monitor

MPCIE-1553-1F

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

-A for AltaView

# **5 Year Limited Warranty!**

EU and China RoHS Compliant

Contact Alta for Special Lead Build Configurations

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