Alta Data Technologies’ cPCI-1553 interface modules (PMC on 3U or 6U Carriers) are multi-channel (1-4) 1553 cards supported by the latest software technologies. These cPCI cards are 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 (MSVS 2005/08/10 C++, C#, VB .NET) architecture. This hardware and software package provides increased system performance and reduces integration time.

The PMC-1553’s BC capability, including variable message framing/subframing with transmission scheduling provides the most advanced BC control operations. RT, Monitor, Playback and Signal Generator functions also include industry leading functions to meet the most demanding requirements.

AltaCore-1553 is guaranteed 1553B Notice II & IV compliant and all cards are manufactured to the highest IPC-Class 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.

### Key Features:
- One to Four Independent, Dual Redundant MIL-STD-1553 Channels
- 3U or 6U Passive, Active or Conduction Cooled Carriers.
- PXI Compatible – LabVIEW and RT
- 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, MIL-STD-1760,1553A and Link-16
- Commercial or Industrial Extended Temperature Parts, Conduction Cooled and Rear Panel Optional
- 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
- Avionics Level & RS-485 Discretes/Clk
  - 1760 Ext RT Addressing
- Advanced BIT Features and Dual Temperature Sensors
- Full HW Interrupt Features
- PCI 32 Bit, 33/66MHz & PCI-X
Multi-Channel (1-4)
CPCIC3/6-1553 Specifications

General
• 32-Bit PCI 33/66MHz/PCI-X Compatible
  • PCI-SIG PCI 2.1 Compliant
  • ANSI/VITA 20-2001 Compliant
• One Megabyte RAM per Channel
• 3U or 6U Carrier Configurations – PXI Compatible
• Common Data Packets (CDPs) for all BC, RT and Monitor Functions – Industry First
• MIL-STD-1553B Notice II & IV
• MIL-STD-1760, 1553A and Link-16
• Weight: 6oz/180grams 3U Passive Carrier
• Power (Estimated @ Max Bandwidth)
  • 1CH@5.5W, 2CH@6.5W, 3CH@7.5W, 4CH@8.5W
• Parts Temp (C) : -55 to +120 Storage, 0 to +70 Commercial, -40 to +85 Extended
• SCSI 3 Cable Assembly with 1553 3-Plug Stub Cables Provided. DB50 Optional for Trigger/Discrete.
• 14 Avionics, Two RS-485 Discretes and One Trig/Chan
• 1 Channel 1760 Ext RT Address Power-Up
• 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
• Multi Channel and Multi Card Playback Clock Synchronization - 100 nSec Accuracy
• 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

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
• Optional AltaView is Based on the Latest Windows MS Office User Interface Style with Ribbon-Bar
  • Full Analyzer Integration Tool
  • Multi Language Support
• Optional AltaRTVal provides full AS4111/4112 5.2 RT Validation GUI and Reports

Part Numbers
Dual Function: BC/Mon or mRT/Mon
• CPCIC3/6-1553-1D/2D/3D/4D-T
Full Function: BC, mRT and Monitor
• CPCIC3/6-1553-1F/2F/3F/4F-T
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, -A for AltaView and –B for AltaRTVal. Cables Optional.

5 Year Limited Warranty!
EU and China RoHS Compliant
Contact Alta for Special Lead Build Configurations

AltaAPI Software with ANSI C Source, .Net Managed DLLs and LabVIEW & LabVIEW-RT Provided at No Cost.

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