Alta Data Technologies’ ECD54-1553 interface module is a multi-channel (1-2), 54mm PCI ExpressCard 1553 card for notebook computers. The ECD54-1553 PCI ExpressCard 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 (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-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 or Two Independent, Dual Redundant MIL-STD-1553 Channels
- 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
- **“One Channel of 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 Discretes/Clock & Trigger
- Advanced BIT Features and Dual Temperature Sensors
- 54mm PCI ExpressCard – PCI Express 1.1
- MSI & Regular HW Interrupt Support

Alta’s Advanced Software Architecture
### Multi-Channel (1-2)
**ECD54-1553 Specifications**

#### General
- 54mm PCI ExpressCard – PCI Express 1.1
- One Megabyte RAM per Channel
- 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: 30/90 grams (without cable)
- Power Estimates at Full Bandwidth:
  - 1CH@3.5W, 2CH@4.5W
- Parts Temp (C): -55 to +120 Storage, 0 to +70 Commercial, -40 to + 85 Extended
- Optional Cable Assemblies with 1553 3-Plug Stub Cables, and DB for I/O/Triggers and IRIG/PPS.
- Two RS-485 Discrete/Clk/Trg and One Trigger Per Channel
- 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
- 8-bit, 50 nSec A/D Waveform Signal Capture with Trigger on Words or Errors - First Channel Only
  - **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
- 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
  - ECD54-1553-1D/2D
- Full Function: BC, mRT and Monitor
  - ECD54-1553-1F/2F
- Options: -E for Ext Temp Parts (-40 to +85C); -A for AltaView and –B for AltaRTVal. Optional Cables.

### 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.

**AltaView**: is Based on the Latest Windows MS Office User Interface Style with Ribbon-Bar

**AltaRTVal**: Provides full AS4111/4112 5.2 RT Validation GUI and Reports

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

---

Information in this data sheet is subject to change without notice. Alta is not responsible for errors or omissions. All trademarks are reserved by their respective owners. AltaCore, AltaAPI, AltaView and AltaRTVal are trademarks of Alta Data Technologies.