Innovation, Quality & Service

MIL-STD-1553
ARINC-429/717

Interface Cards & Real-Time Ethernet Converters

www.altadt.com
1-888-429-1553
Alta Data Technologies – Company Overview

Founded in 2007, Alta is the Market Leader in Innovation and Quality of MIL-STD-1553 & ARINC COTS Interface Cards & Real-Time Converter Appliances

100+ Years Combined Experience, 32,500+ Items Shipped and $90M+ Sales Across 100s of Aerospace and MIL Programs

Quality at Every Phase of Alta Operations

- 5 Year Limited Warranty – Industry Leading!
- ISO 9001:2015 Certified
- ANSI ESD S.20.20 Certified
- IPC-A-610 Class 3 & J-STD-001
- Advanced JTAG Boundary Scan
- Only Tier One/OEM Parts Suppliers
- FPGA Based Designs to Reduce Parts Obsolescence Risks
- US Owned and Operated

Guaranteed Compliant - No Risk Avionics Integration
1553 and ARINC Interface Cards for Almost Any System

PCI Express, PCI: Standard and Low Profile
VPX, VME, Compact PCI/PXI, Embedded Convection and Conduction Cooled
Mini PCI Express – Com Express
Small Form Factor Embedded
PC104-Plus, Express, PC104E
PCMCIA/PCCARD/ExpressCard 54
Multi Protocol 1553 & ARINC Devices

Real-Time Ethernet Converters (ENETs) for 1553 and ARINC Systems
Commercial, Lab and Deployed Appliances
MIL-810G/461F/704F/DO-160 Test Reports

Very Small, No Processor or OS IP Stacks – Real-Time Interface with Almost Any Client System – UDP Sockets

ENET Models for:
MIL-STD-1553
Enhanced Bit Rate 1553 - EBR
ARINC-429/717
Multi-Protocol
AltaAPI – Software Development Kit
Proper OSI Layered-Abstraction Model

Alta’s Hardware is 2\textsuperscript{nd} to None, and the AltaAPI SDK Simplifies Software Integration and Maintenance

What Makes AltaAPI Different Than All Other 1553 and ARINC SDKs?

The OSI Layered Model Provides Maximum Portability
The same executable program can run on any alike Alta channel or device

Abstraction: The Layer 0 and Layer 1 Simplify and Protect Memory Objects
AltaAPI abstracts low-level hardware pointers and registers for safer code
AltaAPI provides memory management and object boundary protection

Excellent Documentation and Example Program Templates
Significant Reduction in Development Time and Future Maintenance

/* Single Function Call for 1553 Bus Monitor or ARINC RX! */
status = ADT_L1_1553 BM_ReadNewMsgs(DEVID, 1000, &numMsgs, bmMessages);
AltaView – The Industry’s Most Advanced Windows Analyzer Software for 1553 and ARINC

- Auto Frequency, Loading, Activity Analysis and Data Displays
- Modern C#, XML Interface
- Archiving and Playback
- Signal Capture!!
- ASCII & CSV Conversion and EU Processing!
- No Seat License Load on any Machine
- No Annual License Fees

Free Updates
XP/2003/7/8/10
32 & 64 Bit
Run on Any Enabled Alta Product

AltaRTVal Software Provides Automated MIL-STD-1553 Protocol Validation for Remote Terminals Per the SAE AS4111/4112 Standard

- Test RTs to Industry Standard Protocol Tests
- Generates Test Records
- Detailed Failure Analysis
- Online Reference to MIL-HDBK-1553A
- Easy to Setup & Execute Nearly 100% Automatic
- Requires Two Channel Full Function 1553 Card
MIL-STD-1553 Products

**Alta 1553 Advantages**

- Wide Selection of COTS Interface Cards and Real-Time Appliances
- Packetizing Engine – Only 3rd Gen Design Common Data Packet (CDP) Architecture
- Portable FPGA **AltaCore** Design – Reduced Parts Obsolescence Risk
- Independent Channels – Separate Application Threads Per Channel
- Full SAE RT Protocol Validation – **No Risk** Most Advanced Error Detection and Injection Available
- Layered, Modular and Portable **AltaAPI** – **Simplified Integration**
- Lab, Rugged and Conduction Cooled Configurations
- Highly Accurate/Flexible BC Controls
- IRIG/PPS, External Clock Controls
- Signal Capture and Generator Standard

**Advanced Software**

**The Alta Difference**

- **AltaAPI** – SDK for all Products Drivers, 100+ Example Templates NI LabVIEW/TestBench/Windows™
- **AltaView** Windows Bus Analyzer Many Free Features for All Customers
- **AltaRTVal** – RT Protocol Validation
## 1553 COTS Product Listing

<table>
<thead>
<tr>
<th>Interface</th>
<th>Model Name</th>
<th>Channels</th>
<th>AV Disc</th>
<th>Diff Disc</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCI</td>
<td>PCI-1553</td>
<td>1-4</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td>PCI Express – 4 Lane</td>
<td>PCIE4L-1553</td>
<td>1-4</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td>(Standard – Most Popular)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCI Express – 1 Lane</td>
<td>PCIE1L-1553</td>
<td>1-2</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>(Half-Height – Ideal for 1U)</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PMC – 1553 &amp; WMUX</td>
<td>PMC-1553/WMUX</td>
<td>1-4</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td>PMC – 1553 &amp; 429</td>
<td>PMC-MA4</td>
<td>1-5/8</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>XMC – 1553</td>
<td>XMC-1553</td>
<td>1-10</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td>XMC – 1553 &amp; 429</td>
<td>XMC-MA4</td>
<td>1-5/8</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>PCMCIA/PCCARD</td>
<td>PCCD-1553</td>
<td>1-2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>ExpressCard 54mm</td>
<td>ECD54-1553</td>
<td>1-2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>cPCI/PXI</td>
<td>CPCIC-1553</td>
<td>1-5</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td>PC104-Plus/Express</td>
<td>PC104P/E-MA4</td>
<td>1-4/8</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>Mini PCI Express</td>
<td>MPCIE/2-1553</td>
<td>1-2</td>
<td>0/2</td>
<td>2/1</td>
</tr>
<tr>
<td>Ethernet</td>
<td>ENET2-1553</td>
<td>1-2</td>
<td>6</td>
<td>2</td>
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<tr>
<td>Ethernet</td>
<td>ENET-1553-EBR</td>
<td>8</td>
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<tr>
<td>Ethernet – 1553 &amp; 429</td>
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<tr>
<td>Ethernet – Flight Qual</td>
<td>ENETX-MA4</td>
<td>1-2/4</td>
<td>7</td>
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</tr>
</tbody>
</table>

Model Names in **GOLD** are **1553/ARINC** Combo, Multi-Protocol Models

Models Include Triggers, IRIG-B RX, Clock PPS, AV (SE) or Diff (DE) Discretes. Various 1553 Jack Cable Assemblies Available. See Hardware Manuals for Details.

### AltaCore-1553 Protocol Engine – Most Advanced in The Industry

**1553 Configurations**

- Bus Controller (BC), Multi-RT (mRT), Bus Monitor (BM)
- Channel = Dual Redundant A/B Bus Pair
- **Dual Function** = BC & BM or mRT & BM
- **Full Function** = BC, mRT & BM
ARINC Products

Alta ARINC Advantages

- One of the Widest Selections of COTS Interface Cards and Real-Time Ethernet Converters
- Shared and Dedicated, Independent RX/TX Channels. 4-30 Channel Configurations.
- Portable FPGA AltaCore Design – Reduced Parts Obsolescence Risk
- Most Advanced Error Detection and Injection Available
  Parametrics Variable Voltage on ENET-A429P
- Layered, Modular and Portable AltaAPI – Simplified Integration
- Lab, Rugged and Conduction Cooled Configurations
- Highly Accurate TX Scheduling
- 3 Simultaneous RX Options per Channel!
- IRIG/PPS, External Clock Controls
- Signal Capture & Generator Standard!

Advanced Software

The Alta Difference

- AltaAPI – Most Advanced Development Kit Included
  Drivers, 100+ Example Templates
  NI LabVIEW™ Support
- AltaView Windows Analyzer
- AltaRTVal – RT Protocol Validation
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<td>8</td>
<td>2</td>
</tr>
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<td>PCIE4L-A429</td>
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<td>4-30</td>
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<td>PCMCIA/PCCARD ExpressCard 54mm</td>
<td>PCCD-A429</td>
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<tr>
<td></td>
<td>ECD54-A429</td>
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<tr>
<td>PC104-Plus</td>
<td>PC104P-A429</td>
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<td>PC104-Express</td>
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<td>Mini PCI Express</td>
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<tr>
<td>Ethernet</td>
<td>ENET-A429/P</td>
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<td>2</td>
<td>2</td>
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**AltaCore-ARINC** Protocol Engine – Most Advanced in The Industry
Product Focus
Real-Time 1553/EBR/429 Ethernet Converters

Alta’s ENET-MA4 Provides Real-Time Ethernet Connectivity to Multiple MIL-STD-1553 Busses & ARINC-429 Channels
Incredibly Small, Rugged Ethernet Appliance for Multi Protocol Applications

ENET Dedicated and Combo Models for:
1-2 Channels 1553
4-8 Channels ARINC
8 Channels 1553-EBR
ENETX Deployable
MIL-704F/461F/810G/DO160

Alta Real-Time Ethernet Advantages
- No Processor or Operating System (OS) IP Stacks!
  Real-Time UDP FPGA Engine
- Control Mode for All Operations – AND Auto Bridge 1553/429 » Ethernet Mode
- Nearly 100x Faster Than Polling USB!
- Works with Almost Any OS – Control From Your DO178 Certified OS!
Alta Advantages

- One of the Widest Selections of COTS 1553 and ARINC Interface Cards and Real-Time Ethernet Converters
- Packetizing Engine – Only 3rd Gen Design Common Data Packet (CDP) Architecture
- Portable FPGA AltaCore Design – Reduced Parts Obsolescence Risk
- Independent Channels – Alta Unique!
- Customer Service 2nd to None – Let us Help You!
- Advanced Development Software Windows Analyzer and Protocol Validation
- 5 Year Warranty – Best In The Industry

Bus Kits and Cable Accessories Simplify Integration
(Most Alta Cards Includes 1553 Cables or ARINC Flying Lead Cables)
Industry Leader in
MIL-STD-1553 & ARINC
COTS Products

✓ The Industry’s Most Advanced Protocol Engines and Software
✓ 5 Year Limited Warranty
✓ Expert Technical Sales and Support

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