

Alta^{dt} data technologies

*Innovation,
Quality & Service*



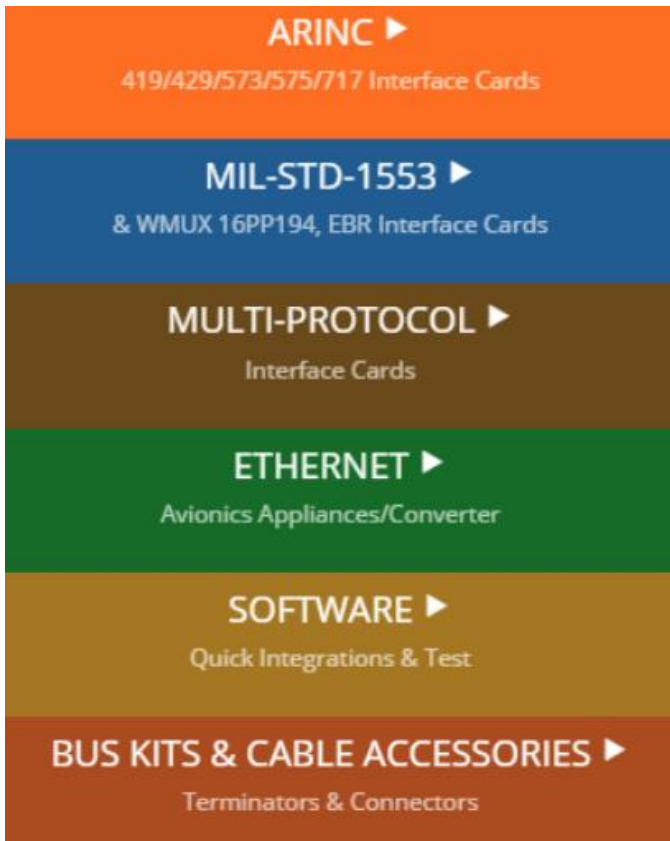
MIL-STD-1553

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

Alta 1553 and ARINC COTS Products Interface Cards and Real-Time Appliances

1553 and ARINC Interface Cards for Almost Any System



PCI, PCI Express (PCIe)
One Lane and Four Lane



PMC, XMC, cPCI,
PXI/PXIe



Mini PCI Express



PC104 PCI and
PC104 PCI Express

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
Thunderbolt Appliance – Q1 2018!!

Real-Time Ethernet Converters (ENETs) for 1553 and ARINC Systems

Commercial, Lab and Deployed Appliances

MIL-810G/461F/704F/DO-160 Test Reports



Only 200 grams
13.5 x 3.7 x 4 cm



ENETX – Multi Protocol
Full Rugged – Ready to Deploy!

ENET Models for:

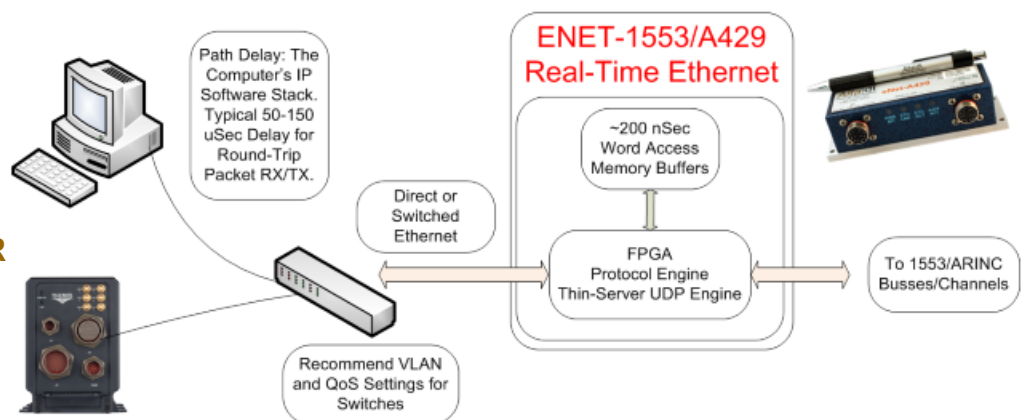
MIL-STD-1553

Enhanced Bit Rate 1553 - EBR

ARINC-429/717

Multi-Protocol

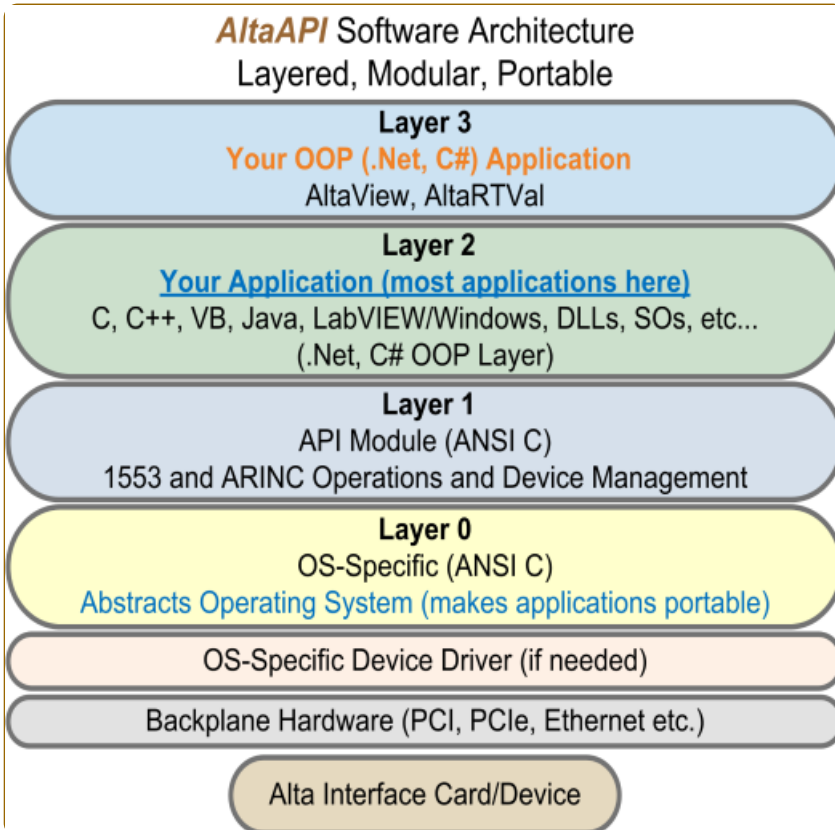
**Very Small, No Processor or OS IP Stacks – Real-Time
Interface with Almost Any Client System – UDP Sockets**



AltaAPI – Software Development Kit

Proper OSI Layered-Abstraction Model

Alta's Hardware is 2nd to None, and the **AltaAPI** SDK Simplifies Software Integration and Maintenance



- ✓ No Cost Updates
- ✓ Windows 32 & 64-Bit
XP/2003/7/8/10
- ✓ Linux x86 32 & 64-Bit
- ✓ VxWorks 5.X, 6.X, 7.X
- ✓ NI LabVIEW, RT
Veristand Support
- ✓ Small, Fast Design
- ✓ Layer 1 Source Code
- ✓ Portable to most RTOS
- ✓ 100+ Examples!
- ✓ No Maintenance Fees

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

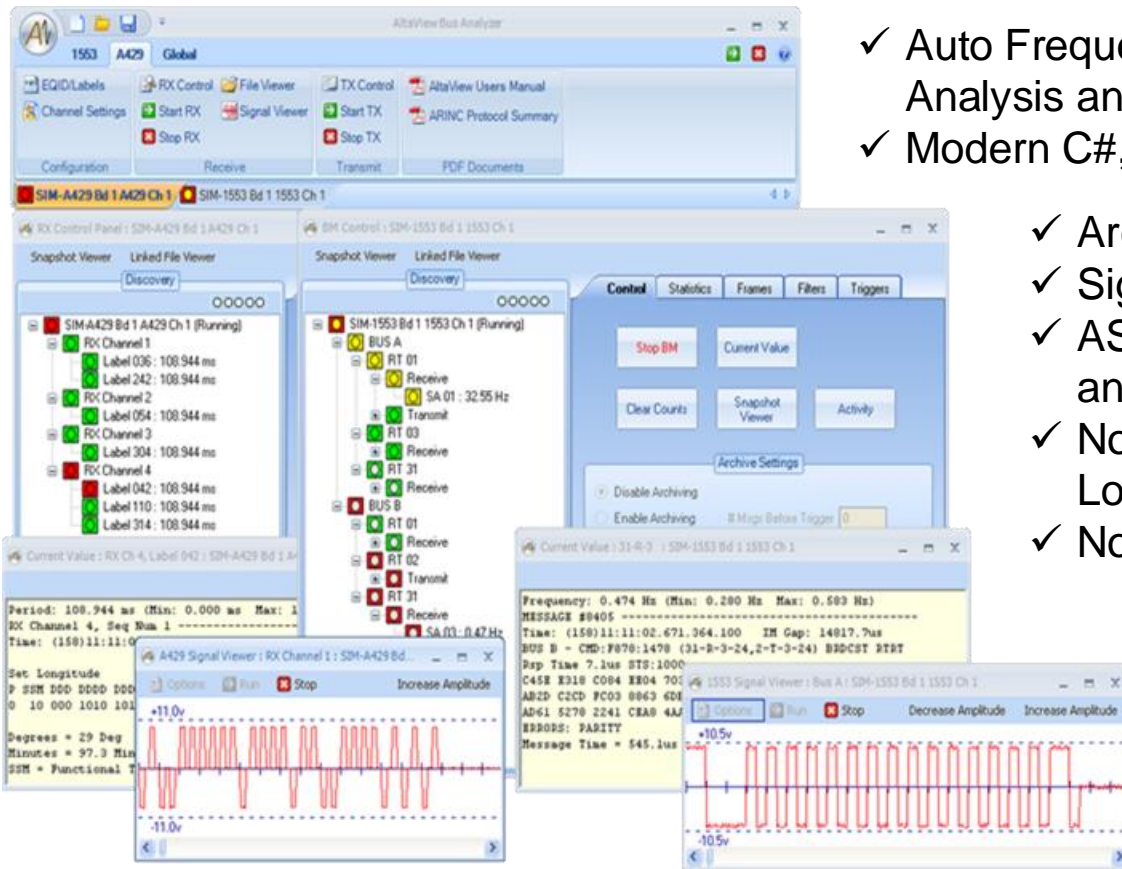
Excellent Documentation and Example Program Templates

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

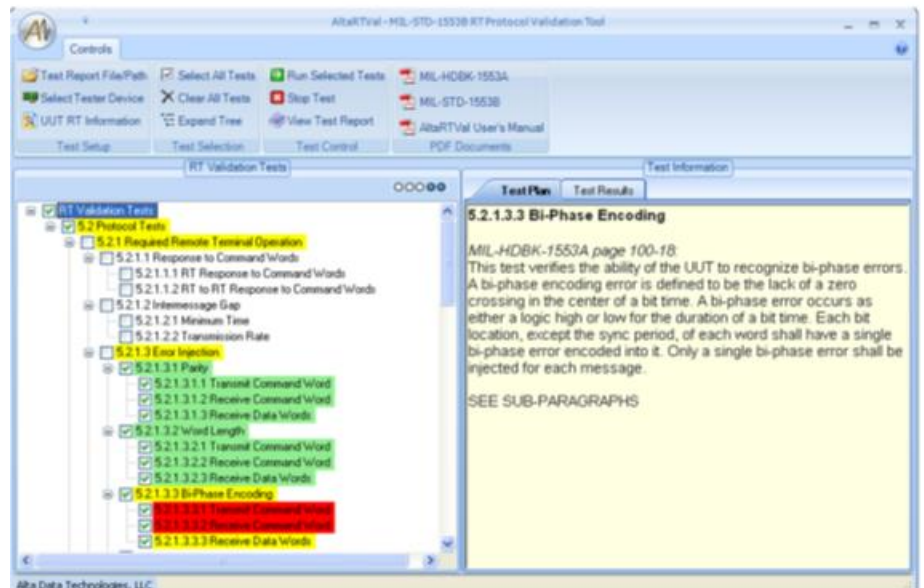


- ✓ Auto Frequency, Loading, Activity Analysis and Data Displays
- ✓ Modern C#, XML Interface
- ✓ Archiving and Playback
- ✓ Signal Capture!!
- ✓ ASCII & CSV Conversion and EU Processing!
- ✓ No Seat License Load on any Machine
- ✓ No Annual License Fees

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

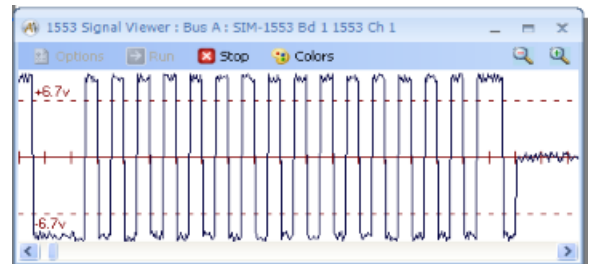
- ✓ Test RTs to Industry Standard Protocol Tests
- ✓ Generates Test Records
- ✓ Detailed Failure Analysis
- ✓ Online Reference to MIL-HDBK-1553A
- ✓ Easy to Setup & Execute Nearly 100% Automatic
- ✓ Requires Two Channel Full Function 1553 Card



MIL-STD-1553 Products

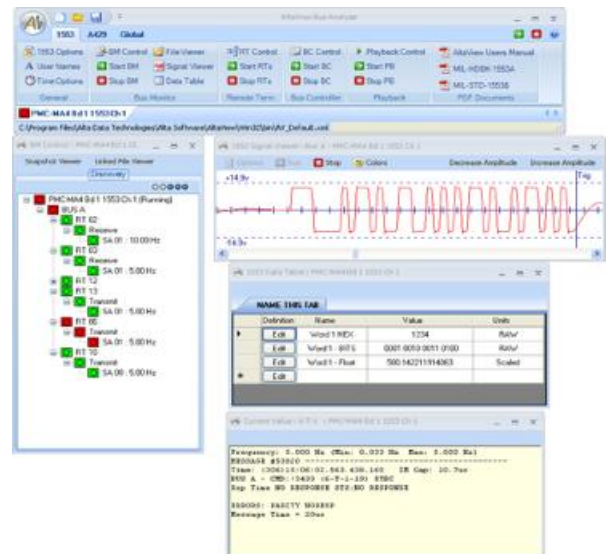
Alta 1553 Advantages

- ✓ 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

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

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

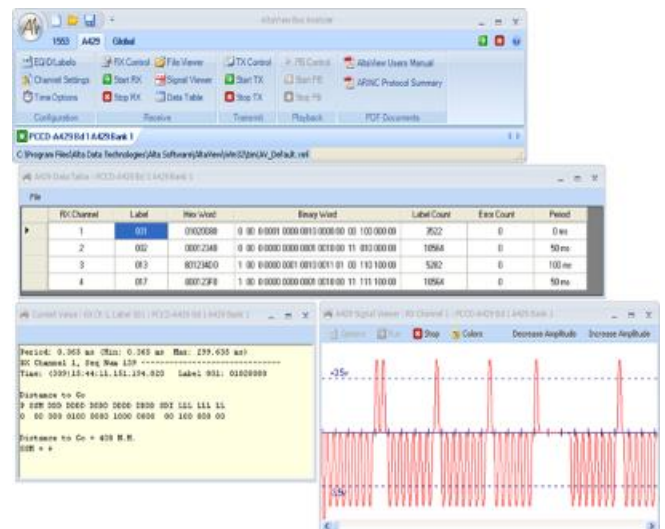
Alta ARINC Advantages

- ✓ 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



ARINC COTS Product Listing

Interface	Model Name	Channels	AV Disc	Diff Disc
PCI	PCI-A429	4-30	8	2
PCI Express – 4 Lane (Standard – Most Popular)	PCIE4L-A429	4-30	8	2
PCI Express – 1 Lane (Half-Height – Ideal for 1U)	PCIE1L-A429	4-8	8	2
PMC	PMC-A429	4-30	0	1
PMC – 1553 & 429	PMC-MA4	1-5/8	6	1
XMC	XMC-A429	4-30	0	1
XMC – 1553 & 429	XMC-MA4	1-5/8	6	1
PCMCIA/PCCARD	PCCD-A429	4-8	2	2
ExpressCard 54mm	ECD54-A429	4-8	2	2
cPCI/PXI	CPCIC-A429	4-30	0	1
PC104-Plus	PC104P-A429	4-24	6	1
PC104-Express	PC104E-MA4	1-4/8	8	1
Mini PCI Express	MPCIE-A429	6	8	0
Ethernet	ENET-A429/P	4-8	2	2
Ethernet – 1553 & 429	ENET-MA4	1-2/8	2	0
Ethernet – Flight Qual	ENETX-MA4	1-2/4	7	1

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. Flying Lead Cables Provided with Most Cards. See Hardware Manuals for Details.

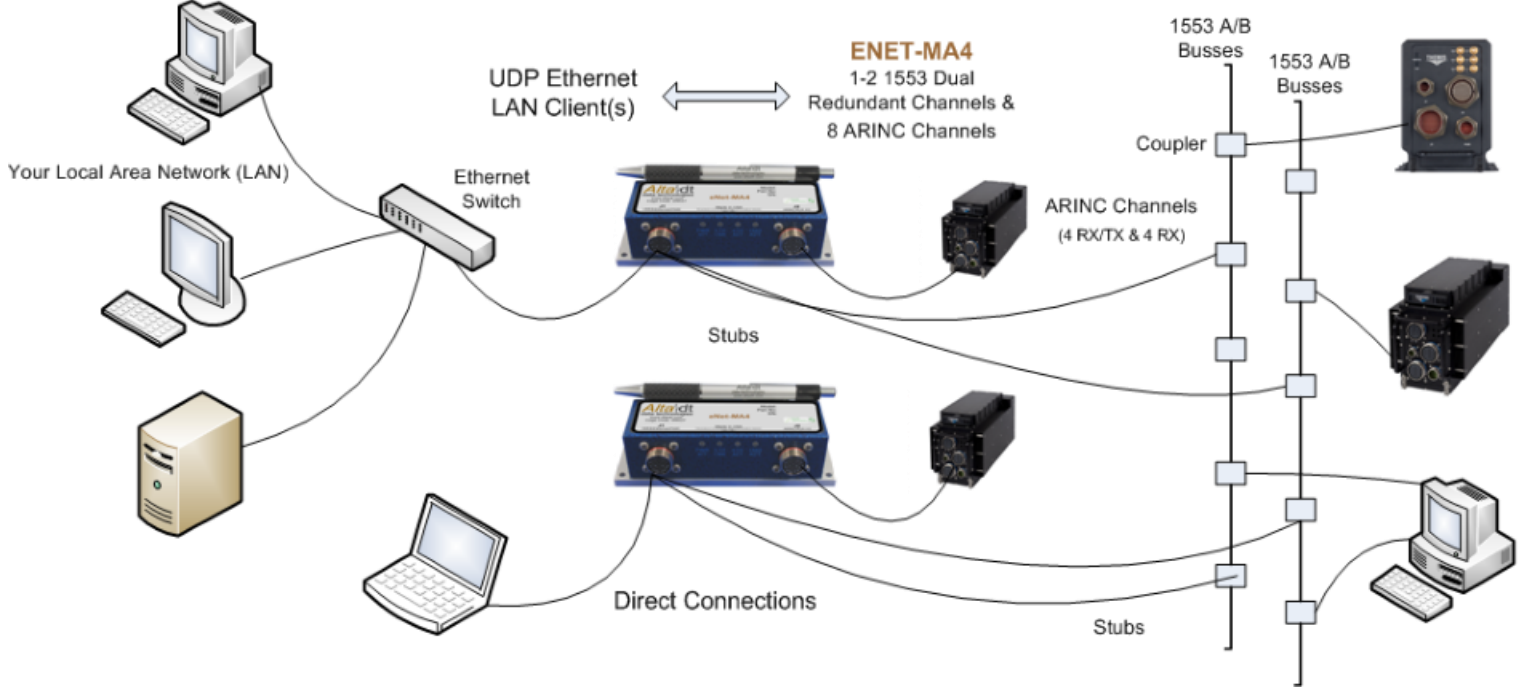
AltaCore-ARINC Protocol Engine – Most Advanced in The Industry



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



Actual Size
 ENETX Slightly Larger

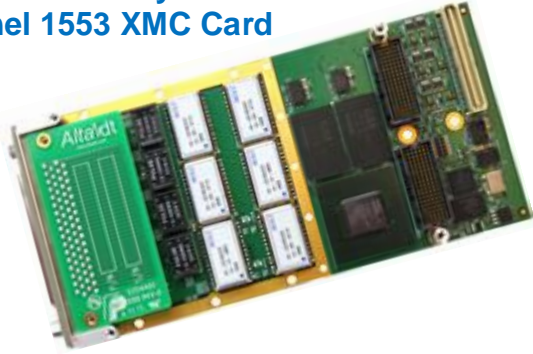
Alta Real-Time Ethernet Advantages

- 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 Products

Innovation, Quality and Service

Highest Density 1-10
Channel 1553 XMC Card



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)



Bus Kits
Cables
Couplers
Terminators



**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

**Sales Offices:
New York, Florida, Colorado and California**

Alta  **dt**
data technologies

Headquarters/Factory:

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