# Alta dt
## data technologies

**1-10 1553 Channels!
Highest Channel
Density in the Industry!**

Alta Data Technologies' XMC-1553 interface module is a high density 1553 interface configurable with 1-10 1553 channels. The XMC-1553 card is based on the industry's most advanced 32-bit FPGA protocol engine, *AltaCore*™, and by a feature-rich application programming interface, *AltaAPI*™, which is a multi-layer ANSI C and Windows .NET (MSVS 2005/08/10/15 C++, C#, VB .NET) architecture. This hardware and software package provides increased system performance and reduces integration time.

*AltaCore-1553* is guaranteed 1553B Notice II & IV and ARINC compliant and all cards are manufactured to the highest IPC-610 Class 3 standards and ISO 9001:2008 processes. Cards are available in 1553 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 and Waveform Capture is for Monitor only operation. 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:

- **1-10 Independent, Dual Redundant MIL-STD-1553 Channels**

- Each Channel is Independent to Allow Multiple Applications (one per channel).
- Dual Function 1553 (BC/BM or mRT/BM) or Full Function (BC/mRT/BM)
- One Mbyte RAM per 1553 Channel
- Signal Capture on Channel One! Industry First!
- Ideal for SBCs or Carriers for VPX, VME, PCIe, Rackmount, cPCI or PXI

- Commercial or Industrial (Extended) Temperature and Conduction Cooled
- Front or Rear Panel (XMC P6) Configurations
- Regular or Rugged XMC 2.0 Connectors Available

- *AltaAPI* Windows, Linux, RTOS, LabVIEW & RT
  - .NET Managed DLLs
- Contact Factory for Latest RTOS Support
- Full Hardware Interrupt Features

- IRIG-B RX PAM or RX/TX PPS Ext Clock
- 8 Avionics/ RS-485 Discretes/Triggers
- Ext RT Address for 1760 support on Channel One

- **Advanced BIT Features and Dual Temperature Sensors**

- VITA 42–Single Width XMC (2.0 Optional), **4 Lane PCI Express 2.1 Gen 2,5 GHz**

## www.altadt.com

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Page 1/2

# High Density, Multi-Protocol Avionics
# **XMC-1553** Specifications

## General

- **1-10 MIL-STD-1553B Notice II & IV Channels**
- 4 Lane PCI Express 2.1 Gen 2, 5 GHz
- VITA 42 XMC Single Width.  XMC 2.0 Optional
- **Loop-Back & User BIT, Dual Temp Sensors**
- Optional Rear Panel XMC P6 Connector
- Dual and Full Function 1553 Channels
- Weight:  8-10oz
- 3.3V Power (Estimated @ Max Bandwidth) 8-13W with max channels.  Estimate 0.8W Per Channel.  These numbers are subject to change with Alta factory testing.
- Parts Temp (C) : -55 to +120 Storage, 0 to +70 Commercial, -40 to + 85 Extended
- 8 Avionics, 2 RS-485 Discretes, Triggers
- IRIG-B RX PAM, TTL/RS-485 PPS Time Sync
- IPC Class 3 and ISO 9001:2015 Processes

## BC Features

- Variable Framing and Subframing
- Schedule Message Timing in Frames or Intermessage/Label Gap Spacing
- Low and High Priority Aperiodic Scheduling
- Infinite Linked Data Buffers
- Interrupts, No-Ops, Ext Trigger
- 1553 Legal and Reserved Mode Codes
  - 1553A and 1553B Support
- 64-Bit, 20 ns Time Tags
- Full Error Injection/Detection

## 1553 RT Features (Multi RT – mRT)

- Infinite Linked Data Buffers
- Legal and Reserved Mode Codes
  - 1553A and 1553B Support
  - Full Buffering of All Mode Codes
- 64-Bit, 20 ns Time Tags
- Full Error Injection/Detection

## Playback/Signal Vector (BC)

- Real Hardware Playback from Archive Files
- Signal Vector Generation at 20 ηsecs **INDUSTRY FIRST**

## 1553 Monitor (Mon or BM)

- 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*

- Multi-Layer *AltaAPI* Architecture to Support Windows, .NET and ANSI C Linux, VxWorks, GHS Integrity, etc…
  - **Contact Factory For RTOS Platforms**
  - LabVIEW & RT No Cost
- Optional *AltaView* is Based on the Latest Windows MS Office User Interface Style with Ribbon-Bar
  - Full Analyzer Integration Tool
  - Multi Language Support

## Part Numbers

**Example**: XMC-1553-**6F**-T

Change the **color number-letter** for **channel count** and Dual (**D**) or Full (**F**) Function Operations.

**1553 Dual Function**　　= BC/BM or Multi RT(mRT)/BM
**1553 Full Function**　　= BC/mRT and BM
　　　　　　All functions are software selectable.

Options (number and alpha order):  -E for Ext Temp Parts (-40 to +85C), -F for Conformal Coating, -C for Ext Temp, Conduction Cooled/Conformal Coated/Rear Panel, -6 for P6 XMC Rear Panel, -A for AltaView, -W for XMC 2.0 Connectors, -N for NVRAM Write Protect.
Example:  XMC-1553-5F-6ACNW

### 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.

## Alta Data Technologies LLC

## Metromatics

For further information or pricing, please contact Metromatics

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