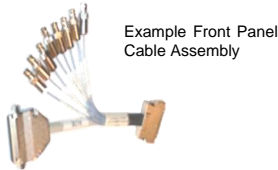


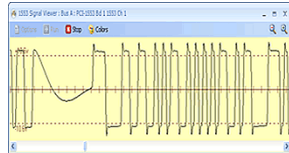


XMC-MAS

Multi-Channel, Multi-Protocol XMC Card 1553, ARINC & Serial Interfaces



Example Front Panel
Cable Assembly



A/D Signal Capture on First 1553
Channel & First Two ARINC RX

- 1-2 Independent, Dual Redundant MIL-STD-1553 Channels. Supports 1553 A-C Revisions. Dual or Full Function Operations
- 8 ARINC-429 Channels: 4 RX/TX and 4 RX ARINC-717 Support (Replaces 429 Lines)
- 4 **Asynchronous** UART 16550 RS-232/422/485 Channels. Up to 3 Mbps. FIFO Interface.
- Commercial or Extended Temp (-40 to +85C Industrial Grade Parts)
- Front Panel or P4/P6 Rear Panel, Conduction Cooled
- Windows, Linux, RTOS Driver Support Included
- Advanced SDK with 100s of Example Programs

AltaCore-1553 is guaranteed 1553A-C Notice II & IV and ARINC compliant and all cards are manufactured to the highest IPC-610 Class 3 standards and ISO 9001:2015 processes. 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:

- **1-2 Independent, Dual Redundant MIL-STD-1553 Channels**
- Dual Function 1553 (BC/Mon or mRT/Mon) or Full Function (BC/mRT/Mon)
- One Mbyte RAM per 1553 Channel
- **ARINC – 8 Channels Total:**
 - 4 Shared TX/RX & 4 Dedicated RX
 - One Mbyte of RAM for all Channels
- ****Capture 1553 & ARINC Waveforms****
 - First 1553 Channel & First Two ARINC RX Channels
 - 8-bit, 50 nSec for 1553 – 1 uSec for ARINC A/D for Voltage Measurements
- Channels May be Factory Configured to fix ARINC RX/TX or Monitor Only 1553.
- **4 Async RS-232/422/485 Channels**
Up to 3 Mbps, FIFO Interface
16550 UART Operations
- Commercial, Industrial (Extended) Temperature and Conduction Cooled
- Front or Rear Panel (P4/P6) I/O and XMC 2.0 Connectors Available
- Advanced BC & ARINC TX Frequency Controls: 1553 Framing/Subframing;
- RT/ARINC RX Full Buffering with 64-bit 20 nSec Time Tags
- Advanced, Multi-layer SDK **AltaAPI** Provided at No Cost with Source Code
- True HW Playback (BC or TX)
- **6 Avionics & 1 RS-485 Discretes**
- IRIG-B RX PAM or RX/TX PPS Ext Clock
- Advanced BIT Features and Dual Temperature Sensors
- Full HW Interrupt Features
- VITA 42 – Single Width XMC
4 Lane PCI Express Host Interface
 - PCI Express1.1

Multi-Channel, Multi-Protocol Avionics XMC-MAS Specifications

General

- **1-2 MIL-STD-1553A-C Notice II & IV Channels**
- **4 Shared RX/TX & 4 RX ARINC Channels**
- **4 RS-232/422/485 Async, 16-Byte FIFO, UART 16550 Channels. 3Mbit Max/Channel.**
- 4 Lane PCI Express 1.1 Compatible
- VITA 42 XMC Single Width
- Optional Rear Panel P4 or P6 Connector
- Optional XMC 2.0 Connectors
- Dual and Full Function 1553 Channels
- Weight: 3.5oz/100grams w/ Front Panel
- Power (Estimated @ Max Bandwidth) 8W
- Parts Temp (C): -55 to +120 Storage, 0 to +70 Commercial, -40 to + 85 Industrial Extended
- 6 Avionics, 1 RS-485 Discretes
- Loop-Back & User BIT, Dual Temp Sensors
- IRIG-B RX PAM, TTL/RS-485 PPS Time Sync
- IPC Class 3 and ISO 9001:2015 Processes

BC & ARINC TX Features

- Variable Framing and Subframing
- Schedule Message Timing in Frames_or Intermessage/Label Gap Spacing
- Low and High Priority Aperiodic Scheduling
- ARINC TX Has Complete Frequency Control Per Channel – No Framing/SubFraming
- 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

- 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

ARINC RX Features – 3 RX Modes

- Channel Level Label/Word Tables
- Multi-Channel Data Tables for All Channels
- Channel Level Current Value Tables
- ARINC 717 Frame Support
- 64-Bit, 20 nsec Time Tags
- Full Error Detection

Playback/Signal Vector (BC or TX)

- Real Hardware Playback from Archive Files.
- Signal Vector Generation at 20/1000 (1553/ARINC) nsecs ****INDUSTRY FIRST****

1553 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 1553 and 1 uSec A/D Waveform Signal Capture. 1st Channel 1553 and First 2 RX of ARINC [AltaView](#) Software is Ideal for Signal Display

Software: [AltaAPI](#), [AltaView](#), [AltaRTVal](#)

- Multi-Layer [AltaAPI](#) Architecture to Support Windows, .NET and ANSI C Linux, VxWorks, 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
- Optional [AltaRTVal](#) provides full AS4111/4112 5.2 RT Validation GUI and Reports

Part Numbers

Add Suffix **#D** or **#F** for 1553 Dual or Full Function Channel Count (#). Add **"8"** for ARINC (0 for no ARINC).

Example: XMC-MAS-2F8-T

Async Serial Channels are Always Present

Options: -E for Ext Temp Parts (-40 to +85C), -C for Ext Temp, Conduction Cooled/Conformal Coated/Rear Panel, -R for P4 PMC Rear Panel (add -6 for P6 XMC Rear Panel), -W XMC 2.0 Connectors, -A for AltaView and -B for AltaRTVal.

Example: XMC-MAS-2F8-6AEIR, XMC-MAS-2F0-6CW

NOTE: On shared ARINC channels: TX lines have an extra RX load; when powered-off, RX channels can have severe voltage drain – use only dedicated RX channels for critical systems.

[5 Year Limited Warranty!](#)

[EU and China RoHS/REACH Compliant](#)

Contact Alta for Special Lead Build Configurations

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