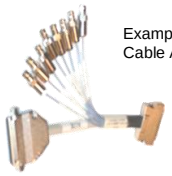
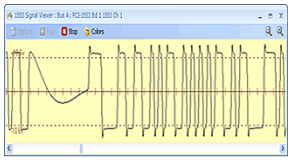
Alta dt
data technologies

XMC-MAS

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



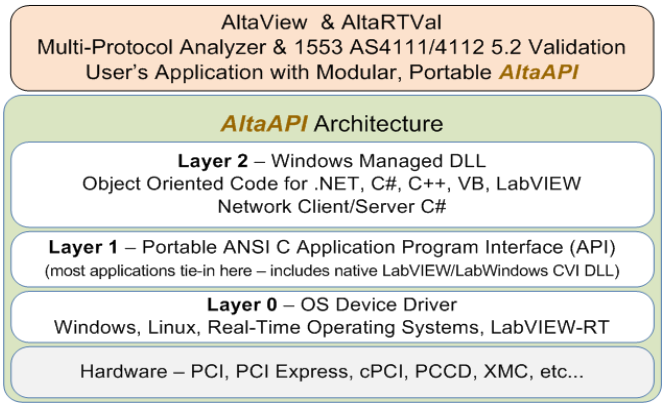
Example Front Panel Cable Assembly



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.



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

www.altadt.com

4901 Rockaway Blvd., Building A Rio Rancho, NM 87124 USA
(In US): 888-429-1553 (Outside US): 505-994-3111 Fax: 805-504-8588

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

Standard Options: AltaView, AltaRTVal, Rugged or Ext Temp, Rear Panel (P4, P6), XMC 2.0 Connectors, Conformal Coating, cPCI and cPCIe carriers, Transmit Inhibit (Monitor Only), Flash Disable (Security). Please contact the factory for part number configurations for options.

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

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

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