Alta data technologies

Metromatics

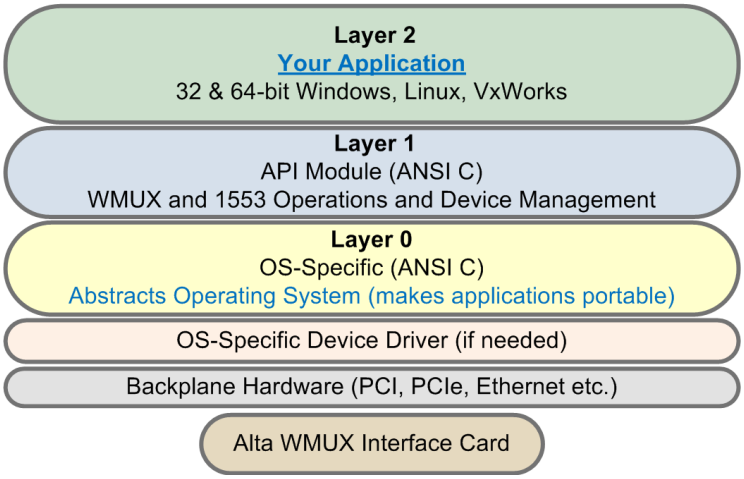
XMC-WMUX

Multi Channel WMUX Interface for XMC Carriers/SBCs

Standard WMUX Interface for Almost Every F-16 Project

Alta Data Technologies' XMC-WMUX interface module (PCI Express Mezzanine Card for Carriers and Single Board Computers) is a single or dual channel (A-B Redundant = 4 Busses per Channel) WMUX card supported by the latest software technologies. This XMC card is based on the industry's most advanced 32-bit WMUX FPGA protocol engine, ***AltaCore***™, and by a feature-rich application programming interface, ***AltaAPI***™, which is a multi-layer, highly portable ANSI C architecture. This hardware and software package provides increased system performance and reduces integration time.

AltaCore-WMUX is guaranteed 16PP194 compliant and is manufactured to the highest IPC-Level 3 standards and ISO 9001:2008 processes. The card is capable of simultaneous CIU, 16x RIU and Bus Monitor (RIU Map and Sequential Monitor). 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:

- One or Two Dual Redundant Channels (Busses), Full Duplex/Simplex WMUX A-B Interfaces. **One or Two "Wings"**
  - 4 Busses (2 RX and 2 TX) per channel
- Full Function CIU, 16x RIU/iRIU & BM
- Works on Compliant 1553 Busses
- 1M Byte of User Memory (4x SBS)
- Commercial or Industrial Extended Temperature Parts, Conduction Cooled and Rear Panel Optional
- Advanced, Portable 32-bit FPGA Design. **Highly Portable Between FPGA Manufactures to Limit Parts Obsolescence Risk!**
- Common Data Packets (CDP) for CIU, RIU and Monitor. **Easily Portable to Previous SBS Data Interfaces!**
- Advanced, Multi-layer ***AltaAPI*** Provided at No Cost with Source Code
- Windows, Linux, VxWorks
  - Contact Factory for Latest RTOS Support
- Industry First: 20ns Signal Generation
  - Bit Construction – WMUX PHY TX
  - Most Advanced Error Injection Capability in the Industry
- IRIG-B RX PAM or RX/TX PPS Ext Clock
- Avionics Level & RS-485 Discretes/Clk
- Advanced BIT Features and Dual Temperature Sensors
- Full HW Interrupt Features
  - CIU, RIU and BM Interrupt Settings
- VITA 42–Single Width XMC (2.0 Optional), **4 Lane PCI Express 2.1 Gen 2,5 GHz**

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Multi Channel
XMC-WMUX Specifications

General

- Full PP194 Compatible – 1 or 2 Channels Dual Redundant WMUX Channels or Wings (4 or 8 Busses) Selected by Lockheed as SBS Replacement! MIL-STD-1553 System Compatible
- Full Function CIU, 16x RIU/iRIU & BM.

- 4 Lane PCI Express 2.1 Gen 2, 5 GHz
- VITA 42 XMC Single Width. XMC 2.0 Optional

- 1Mbyte RAM (2x SBS WMUX Card)
- Common Data Packets (CDPs) for all CIU, RIU and Monitor Functions – Industry First
- Weight: ~6oz/180grams
- Power (Estimated @ Max Bandwidth)
  - 1CH@6.5W; 2CH@8.5W
- Temps (C) : -55 to +120 Storage, 0 to +70 Commercial, -40 to +85 Extended
- Rear or Front Panel Configurations. SCSI-3 Front Panel Connector.
- Loop-Back & User BIT, Dual Temp Sensors
- IRIG-B RX PAM and TX/RX PPS Time Sync
- IPC Class 3 and ISO 9001:2008 Processes

CIU Features

- Simple One-Shot Lists to Advanced Message Framing with 100 nSec Accuracy
- Infinite Linked CDP Data Buffers
  - 64-Bit, 20 ns Time Tags, Interrupts, Triggers
- Auto Master Reset TX on RIU Error Option
- Hardware Interrupt any Message or Buffer/CDP
- Inverted TX capability
- Full Error Injection/Detection

RIU Features

- Full Regular and Inverted Support (Inverted RX is normalized)
- Infinite Linked CDP Data Buffers
  - 64-Bit, 20 ns Time Tags, Interrupts, Triggers
- Hardware Interrupt Option for Any Buffer/CDP
- Full Error Injection/Detection

Bus Monitor

- Sequential and RT Mapped Monitoring with 64-Bit, 20 ns Time Tags, Interrupts, Triggers. Full Error Detection.

Signal Vector PHY TX (as CIU)

- Signal Vector Generation at 20 nsecs **INDUSTRY FIRST**
  - Construct WMUX/1553 Bit Signals at 20 nsecs

Software: *AltaAPI*

- Multi-Layer ***AltaAPI*** Architecture to Support Windows, Linux and VxWorks
  - Contact Factory For RTOS Platforms
  - 32 & 64-bit Windows and Linux Support
  - Easily Convert SBS Formats with Example Programs

Part Number: XMC-WMUX-1F/2F

Full Function Model: CIU, 16x RIU/iRIU & BM
One to Two Channel (1F or 2F) Configurations.

Options: -E for Ext Temp Parts (-40 to +85C), -C for Ext Temp, Conduction Cooled/Conformal Coated/Rear Panel, -R for Rear Panel P4 Commercial.

SCSI-3 to BJ77 Cable Options Sold Separately. Various Carriers Available – Contact Factory for Details.

5 Year Limited Warranty!

EU and China RoHS Compliant

Contact Alta for Special Lead Build Configurations

AltaAPI Software with ANSI C Source Provided at No Cost.

Metromatics

For further information or pricing, please contact us:

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