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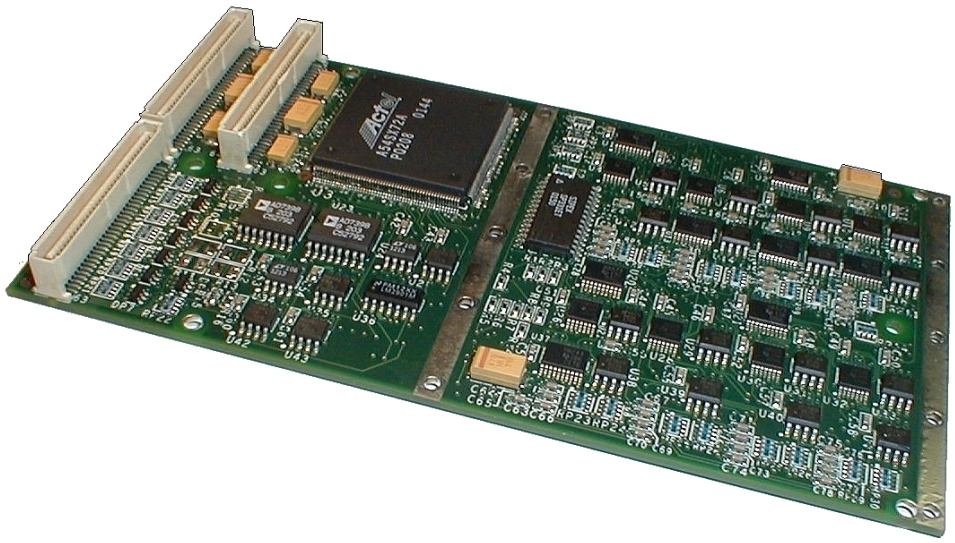
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Find the *Aitech Defense Systems M451* at our website: *Click HERE*

M451

M451 Parallel IO PMC



- ***64 Channels of TTL or 32 Channels of RS-422/485 Differential I/O***
- ***All Channels Software Configurable to be TTL or Differential Inputs or Outputs***
- ***Interrupt Capabilities Using PCI Interrupt Pins***
- ***Programmable Interrupts from External TTL or Differential Inputs (any channel, any change of state)***
- ***PCI 2.1 Interface Compliant, 32 bit @ 33 MHz PCI Bus Interface***
- ***ANSI/IEEE 1386.1-2001 (Air Cooled) or ANSI/VITA 20-2001 (Conduction Cooled) Compliant***
- ***Commercial, Rugged and Military Temperature Levels of Ruggedization***
- ***Drivers for VxWorks®***
- ***BIT (Built-in-Test) Coverage for Complete Functional Testability***

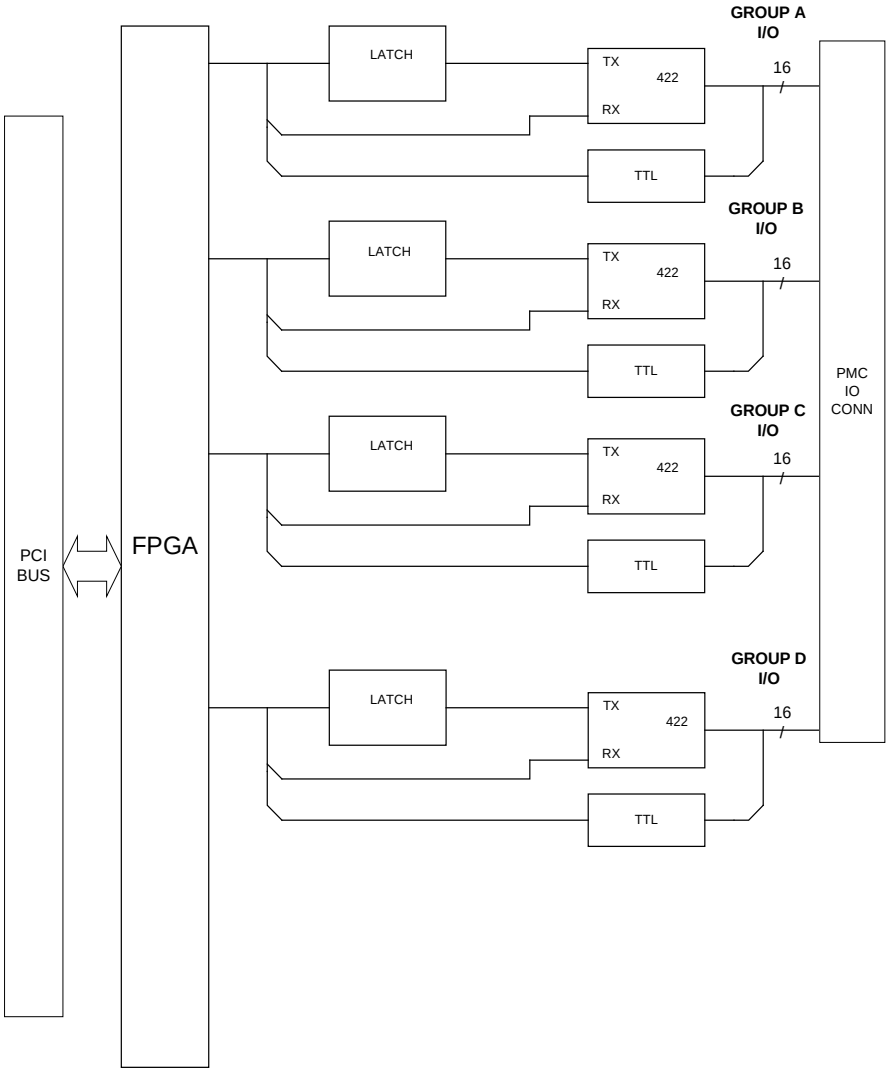
Aitech Defense Systems, Inc.
A Member of the Aitech Rugged Group
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Parallel IO PMC

The M451 Parallel Data card is a singlewide conduction-cooled PCI mezzanine card (PMC) with a 33 MHz 32-bit PCI interface. It provides up to 32 differential bi-directional I/O channels and up to 64 TTL I/O channels.

BIT stimulus and wrap-around monitoring is provided for each interface circuit.

The M451 is available in either commercial, rugged or military temperature ruggedization levels.



M451 Block Diagram

Features

Architecture

The Parallel Data PMC Card is a 32-bit PCI target that controls a variety of I/O functions via registers in its assigned PCI memory space. The board does not use PCI I/O space. The PCI bus interface and control functions are implemented in an Actel FPGA device.

Hardware resources are divided into four functional groups, as follows:

- Group A – 16 TTL I/O channels or eight RS-422/485 differential channels.
- Group B – 16 TTL I/O channels or eight RS-422/485 differential channels.
- Group C – 16 TTL I/O channels or eight RS-422/485 differential channels.
- Group D – 16 TTL I/O channels or eight RS422/485 differential channels.

TTL and RS-485 I/O Channels

Each group of four pins can be software configured for discrete TTL or RS-422/485 I/O. Each TTL channel can be set as input, output, or both. Each RS-422/485 differential channel can be set as input, output, or both. All outputs can be read back as inputs for the Built-In test.

Interrupt Controller

The Parallel Data PMC Card has a software programmable interrupt controller that can be configured to provide PCI interrupts based on the on a high or low transition on any of the TTL or Differential I/O channels.

Test and Diagnostics Features

- Full Functional testability using internal BIT stimulus (for stand alone operation only), read-back of all digital outputs
- BIT software provided for loading on the host processor platform
- WARNING: Running BIT software will change states of the outputs. Do not run BIT software when card is installed in the system.

Software Drivers

The M451 PMC is delivered with a complete set of VxWorks® drivers and BIT. These can be integrated into the carrier (host) VxWorks® platform.

Mechanical Features

The M451 PMC is available in two mechanical formats:

- Air-cooled per IEEE 1386-2001 for installation on top commercial and rugged air-cooled carrier boards.
- Conduction cooled per ANSI/VITA20-2001 for installation on top IEEE 1101.2 conduction-cooled carrier boards.

All M451 I/O signals are routed to the PMC P4 I/O connector.

Dimensions

- Air-cooled: per IEEE 1386-2001
- Conduction cooled: per ANSI/VITA 20-2001

Power Requirements

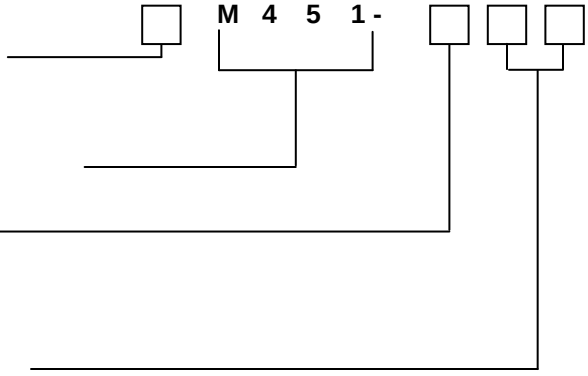
Total power consumption (maximum): 5W

+5V	(± 5%)	0.62A
+12V	(± 10%)	0.16A

Environmental Features

Please, refer to the Aitech ruggedization datasheet.

Ordering Information



Ruggedization Level
1. = Commercial
2. = Industrial
4. = Military

Aitech Item Number

Cooling
A = Air
R = Conduction

Configuration Number
To be assigned by Aitech

Example: 4M451-A00

For more information about the M451 or any Aitech product, please contact Aitech Defense Systems sales department at (888) Aitech-8 (248-3248).

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