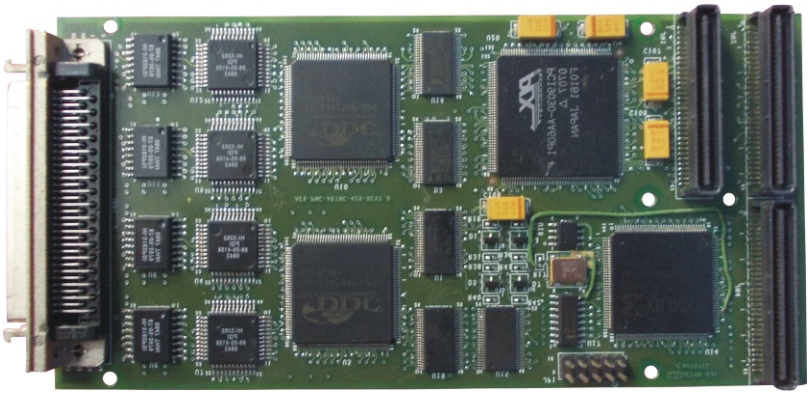
AdTEC Electronics Inc.

AT-PMC-429

ARINC-429 PMC CARD



- **PCI bus compatible**
- **Available in a combination of 2Tx / 4Rx channels per Arinc429 controller**
- **PMC Card 5V/3.3V**
- **PCI bus 32-bit, 33MHz**
- **I/O signals on a 68-pin connector**
- **Supports up to 12 Channels per card**
  - **> 4 Transmit Channels**
  - **> 8 Receive Channels**
- **Configurable for High Speed/Low Speed**
- **Programmable interrupts**
- **128 x 32 Static RAM Interface on each Arinc429 controller**
- **Each transmit channel incorporates 32 x 32 FIFO**
- **Compliant to IEEE P1386.1 specifications**
- **Software Driver support for a host of Operating Systems/Environment**

OVERVIEW

The AT-PMC-429 card provides a flexible, powerful ARINC429 avionics data bus interface card for the development and maintenance of commercial avionics. The card is designed to transmit and receive messages on up to 12 channels. Each channel is software configurable for high or low speed (12.5k or 100k bits per second) and ARINC429 protocol requirements. The ARINC data word can be decoded and sorted based on the Label and SDI bits and stored in RAM and/or FIFO's. The card is integrated with powerful software that reduces development time. All data bus functionality is supported from our advanced API (Application Programming Interface) and VIP (Virtual Instrument Panel).

HARDWARE

The AT-PMC-429 card can be configured with up to 2 ARINC429 controllers from DDC, each containing 2 Transmit and 4 Receive channels, providing a maximum of 12 channels. Each controller has a 128 x 32 bit static RAM, four 32 (words deep) x 32 (bit) Receive FIFO's and two 32 (words deep) x 32 (bit) transmit FIFO's. Look-up tables loaded into RAM enable the module's receive circuitry to filter and sort incoming data by label and destination bit as well as provide multilevel data specific interrupts or hardware triggers.

SOFTWARE

The AT-PMC-429 software includes:

> Virtual Instrument Panel
> Drivers & APIs

Virtual Instrument Panel

The AT-PMC-429 card comes with a "Virtual Instrument Panel" providing interactive control of all ARINC429 features. The control interface appears on the computer display and user manipulates these controls with a mouse or keyboard. The purpose of Virtual Instrument Panel is to help the user (mostly system integrators) to quickly setup and use the card, just like a stand-alone instrument with physical front-end knobs, controls and display without getting into programming intricacies.

Drivers & APIs

The AT-PMC-429 card comes with a powerful set of library functions to access the entire ARINC429 functionality. The drivers are designed in a modular fashion consisting of component functions and application functions. The user's test program can be developed with few calls to the driver, by using the set of Application functions provided. Driver and high-level API libraries for Windows XP, Linux, RT-Linux, VxWorks 5.5 and S 4.0 are available. Sample applications are included.

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PRODUCT SPECIFICATIONS

ARINC-429 Interface

- Supports up to 12 ARINC429 channels
  - > 4 Transmit Channels
  - > 8 Receive Channels
- 128 x 32 Static RAM interface on each ARINC controller
- Data rate is programmable to 12.5 KHZ or 100 KHZ
- Programmable Interrupts can be generated based on errors, FIFO of transmitter is empty and Receiver FIFO is full
- Filtering and sorting received data on each receiver channel
- Configurable Bit Format Control
- Built-in Fault Detection Circuitry

Transmit Interface

- Programmable 12.5/100KHz bit rate
- Two 32 (words deep) x 32 (bit) Transmit FIFO's on each ARINC429 controller
- Each transmit channels operates independently
- Programmable data transmit rate for each channel
- Transmit FIFO Status Indicators

Receive Interface

- Four 32 (words deep) x 32 (bit) Receive FIFO's on each ARINC429 controller
- Receive data rates can be programmed for channel 0 and 1 independent of channel 2 and 3 in each ARINC429 controller
- Reducing Receive Data Latency
- Filtering & Sorting of data
- Storage of data
- Parity Error Checking & Reporting
- Receive FIFO status indicator

Digital I/O

- Eight TTL level inputs
- Seven Digital outputs with high current drive

Diagnostics

- Testing of Memory Elements
- Testing Transmit/Receive functions
- Wraparound Test for each channel
- Interrupt Function Testing

Error Conditions

- Sequence Error
- Address Error
- FIFO Overflow Error
- Receive Data Parity Error
- ARINC Clock Error

Software support

- Driver and High-level API libraries for Windows XP, Linux, RT-Linux, VxWorks 5.5 and LynxOS 4.0
- A powerful 'Virtual Instrument Panel' developed to mimic the physical card features & capabilities for interactive control & monitoring
- Sample applications provided

Physical

- Standard PMC card size (149 mm x 74 mm)

Environmental

- Operating temperature: -20º C to +65º C
- Storage temperature: -40º C to +85º C

Power

- Maximum Power consumption for each ARINC controller is
  - > + 5 VDC
  - > +3.3 VDC

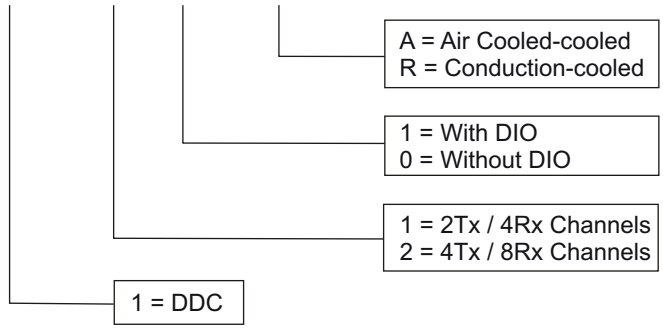
Warranty

- 1 Year limited warranty

ORDERING INFORMATION

Hardware Selection

AT-PMC-429-Controller-Channels-DIO-Ruggedization



- Contact sales for support for other Operating Systems
- Contact sales for configuration of front and rear I/O configuration
- Contact sales for environmental options

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November 2014