



- **PCI bus compatible**
- **Available in a combination of 2Tx/4Rx channels per Arinc429 controller**
- **PMCCard 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**
- **128x32 Static RAM Interface on each Arinc429 controller**
- **Each transmit channel incorporates 32x32 FIFO**
- **Compliant to IEEE 1386.1 specifications**
- **Software Drivers support for a host of Operating Systems/Environment**

## OVERVIEW

The AT-PMC-429 card provides a flexible, powerful ARINC429 avionics databus 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 databus 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 128x32 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 bits 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 set up 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 S4.0 are available. Sample applications are included.

# AT-PMC-429

## ARINC-429PMCCARD

### PRODUCT SPECIFICATIONS

#### ARINC-429 Interface

- Supports upto 12 ARINC 429 channels
  - > 4 Transmit Channels
  - > 8 Receive Channels
- 128x32 Static RAM interface on each ARINC controller
- Data rate is programmable to 12.5KHZ or 100KHZ
- 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 bitrate
- Two 32(words deep)x32(bit) Transmit FIFO's on each ARINC 429 controller
- Each transmit channel operates independently
- Programmable data transmit rate for each channel
- Transmit FIFO Status Indicators

#### Receive Interface

- Four 32(words deep)x32(bit) Receive FIFO's on each ARINC 429 controller
- Received data rates can be programmed for channel 0 and 1 independent of channel 2 and 3 in each ARINC 429 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
- Wrap around 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 (149mm x 74mm)

#### Environmental

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

#### Power

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

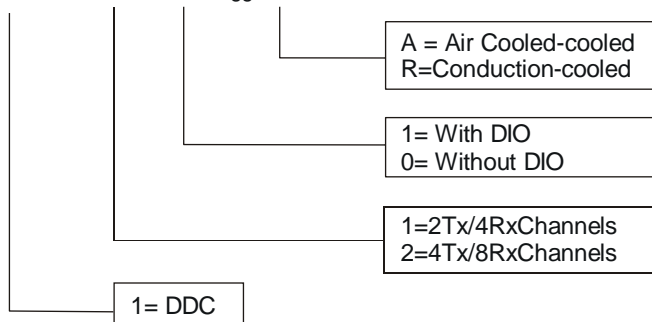
#### Warranty

- 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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