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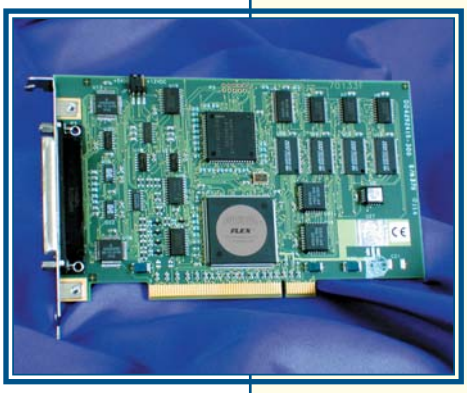
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www.ddc-web.com

# ARINC 429 PCI Card

MODEL: DD-42924i5-300



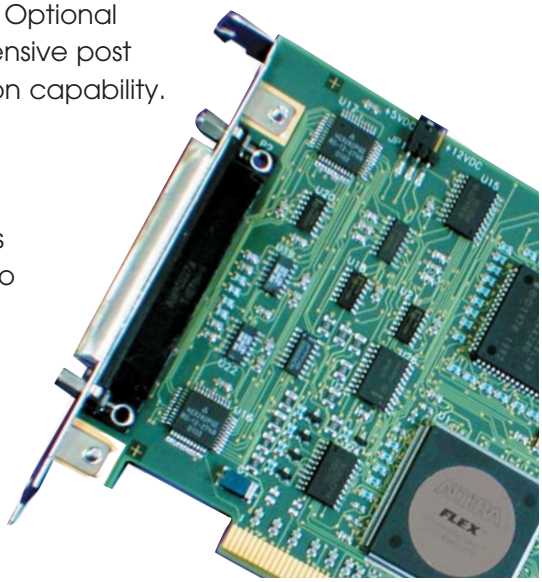
## FEATURES

- 2 Transmitters and 4 Receivers
- Five Discrete Inputs and Five Discrete Outputs
- Supports High, Low, and Variable Speed Data Rates
- Synchronous and Asynchronous Transmission Methods
- Receive Label/SDI Data Filtering and Data Time Stamping
- Multiple Reception Methods
- Programmable Interrupt Support
- On-Board Processor for Data Processing
- Dual-Port Ram for ARINC Data
- Drivers And Run-Time Library
- Supports Windows® 95/98/2000/XP, and Windows NT® , and Linux, Including LabVIEW™ and LabWindows™/CVI Support
- Optional Commercial Avionics Utilities 32-Bit Software Suite
- Optional *dataMARS/dataSIMS* 32-Bit Monitoring and Simulation Software

## DESCRIPTION

The DD-42924I5-300 PCI interface card for the ARINC 429 data bus contains two transmit channels, four receive channels, five discrete inputs, and five discrete outputs. It can be used as a data source for simulating or as a data receiver for analyzing data on a bus. The card incorporates a high performance processor for data processing and time stamping and dual-port RAM for efficient transfer of ARINC 429 data to and from the card.

DD-42924I5-300 software supports all modes of operation and includes 'C', LabVIEW and LabWindows/CVI programming libraries. An optional Commercial Avionics Utilities Suite, with an ARINC 429 Data Bus Analyzer and ARINC 615 Data Loader, is also available. The card's WinPanel GUI allows users to transmit and receive data onto a bus without developing software. Optional *dataMARS* software provides powerful monitoring, display, and extensive post analysis capabilities. Plus, optional *dataSIMS* software adds simulation capability.



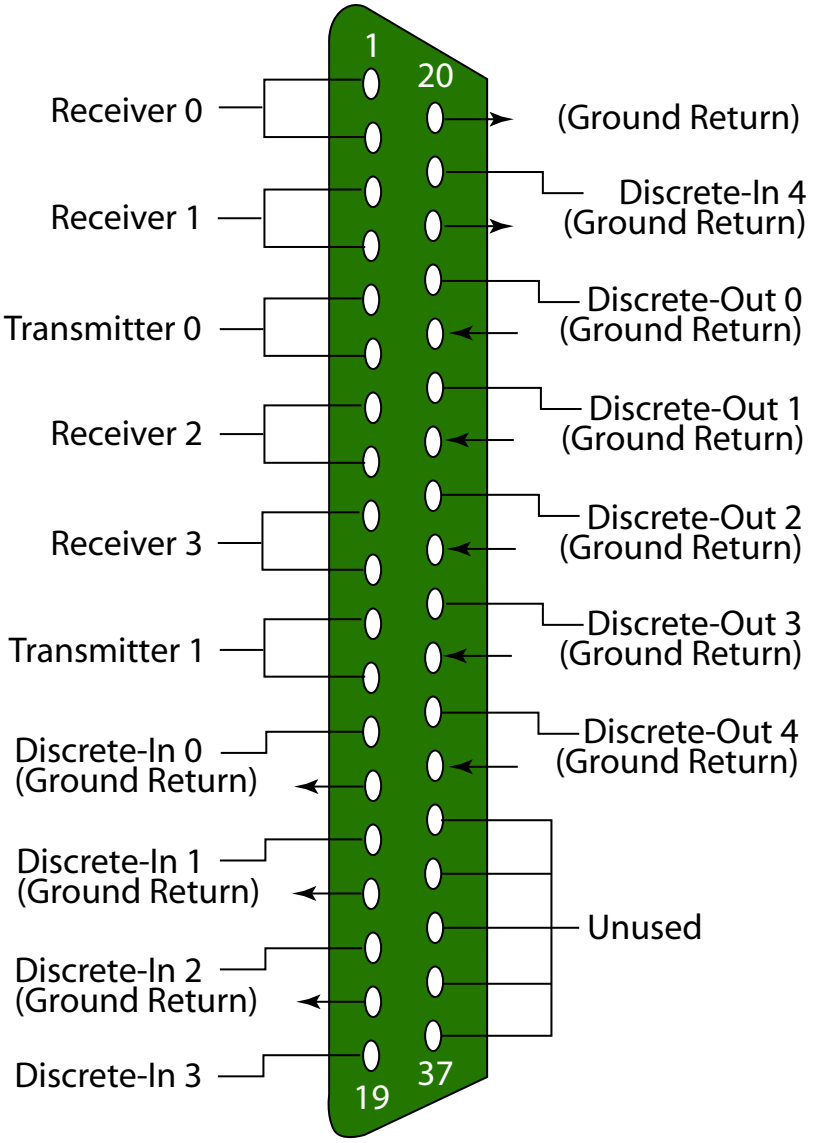
## APPLICATIONS

The DD-42924I5-300 is designed for military and commercial avionics applications. This includes simulating and testing new systems prior to use with actual flight systems, in-lab end item testing, and onboard testing via portable PC.

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## 37-Pin D-Type Connector

Figure 1




### CARD and SOFTWARE CAPABILITIES

Transmit Data Options
- Scheduled Data
- Instant Data
- File Data

Received Data Options
- FIFO
- "Mailbox"
- Filtering
- Time Stamping of Received Data

256 KB Dual Port RAM

Convert data to engineering units with the optional ARINC 429 Data Bus Analyzer Software

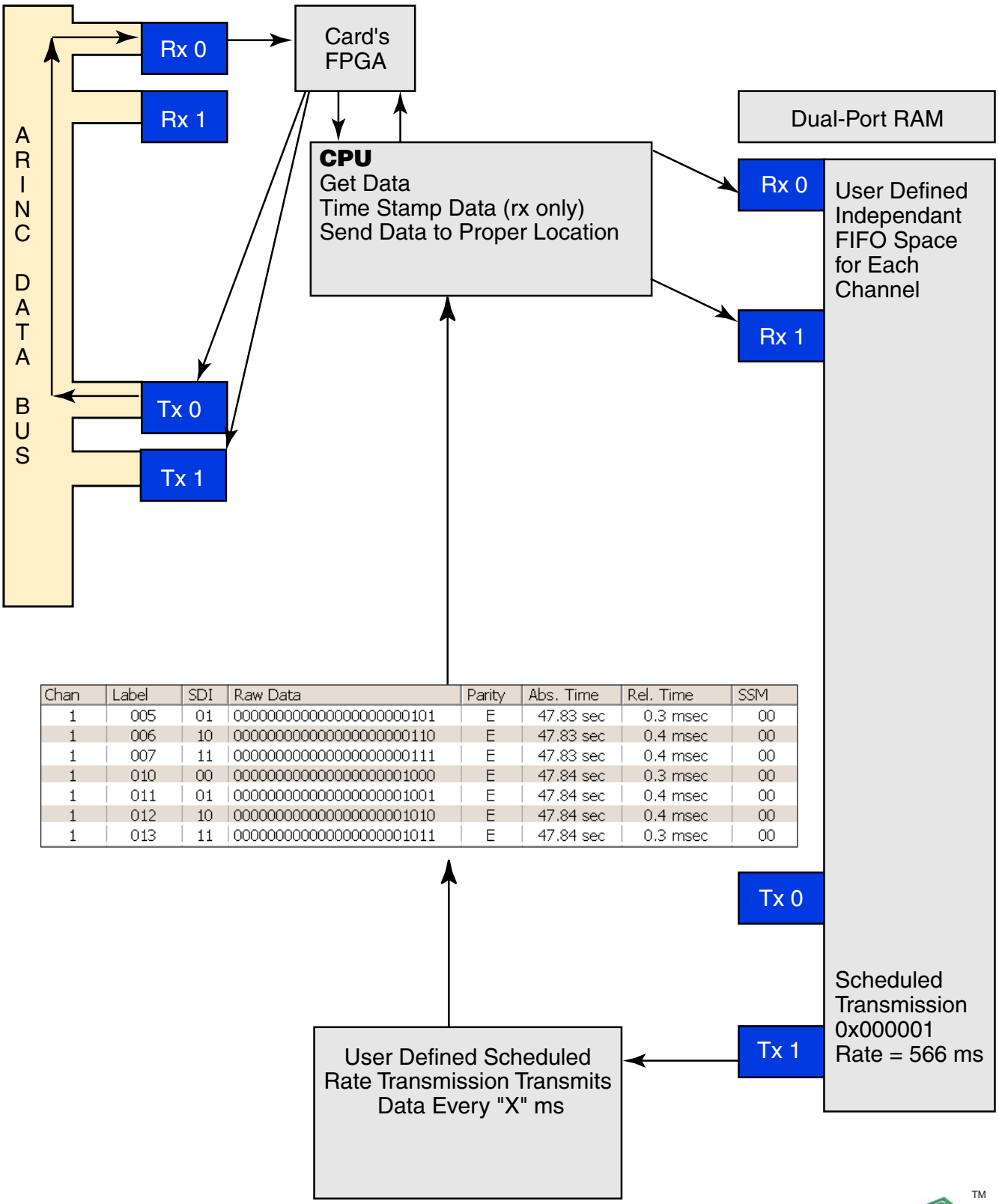
Interrupt Options
- Frequency (time)-driven
- Reception-Driven

Discrete I/O
- 5 CMOS Discrete Inputs
- 5 CMOS Discrete Outputs

Software
- Driver Support for Windows 95/98/2000, Windows NT and Linux
- Support for LabVIEW and LabWindows/CVI
- High-Level API
- Demonstration Software
- Diagnostics

# Data Reception and Transmission

Figure 2




| Chan | Label | SDI | Raw Data | Parity | Abs. Time | Rel. Time | SSM |
|---|---|---|---|---|---|---|---|
| 1 | 005 | 01 | 00000000000000000000101 | E | 47.83 sec | 0.3 msec | 00 |
| 1 | 006 | 10 | 00000000000000000000110 | E | 47.83 sec | 0.4 msec | 00 |
| 1 | 007 | 11 | 00000000000000000000111 | E | 47.83 sec | 0.4 msec | 00 |
| 1 | 010 | 00 | 00000000000000000001000 | E | 47.84 sec | 0.3 msec | 00 |
| 1 | 011 | 01 | 00000000000000000001001 | E | 47.84 sec | 0.4 msec | 00 |
| 1 | 012 | 10 | 00000000000000000001010 | E | 47.84 sec | 0.4 msec | 00 |
| 1 | 013 | 11 | 00000000000000000001011 | E | 47.84 sec | 0.3 msec | 00 |

# Specifications

| PARAMETER | VALUE | UNITS |
|---|---|---|
| **ELECTRICAL CHARACTERISTICS** | | |
| Nominal Data Rates | 8, 10, 12.5, 14, 64.5, 80, 100, 111 | kHz |
| Expected bus impedance | 75 | ohms |
| Receiver input impedance | 12 K | ohms |
| Time Tag Resolution | 1 to 20 | ms |
| Operating Voltage | 5 ± 10% | Vdc |
| Maximum operating current with no transmitters in use | 50 | mA |
| Maximum operating current with one transmitter in use | 100 | mA |
| Discrete Outputs (open drain sink) | 100 | mA |
| Discrete Inputs | | |
| True condition | 3.5V to 40 | V |
| False condition | 0V to 1.35 | V |
| **ENVIRONMENTAL CHARACTERISTICS** | | |
| Operating Temperature: (up to 95% relative humidity, non-condensing) | 0 to 55 | °C |
| Storage Temperature (up to 99% relative humidity, non- condensing) | -40° to 85 | °C |
| **PHYSICAL CHARACTERISTICS** | | |
| Standard Short PCI Card | 6.865 x 4.2 | in |
| | (17.46 x 10.67) | (cm) |
| I/O Connector | 37-pin D-Type connector on front panel | |
| Weight | 5.50 | oz |
| | (156) | (g) |

## Ordering Information

**DD-42924 I5 - X 0 0**

- **Test Criteria**
  0 = Standard Testing
- **Process Requirements**
  0 = Standard DDC Processing
- **Temperature Range**
  3 = 0 to +55° C (DD-42916I5/300)
- **Card Type**
  I = PCI Card
- **Base Model Number**
  DDC ARINC 429 2Tx/4Rx PCI Card

Note: The above product contains tin-lead solder.

## Included Software

**DD-42976S0 -** Software Drivers, `C´ API Library, LabVIEW, and LabWindows/CVI for Windows 9x/2000/XP and Windows NT

**DD-42976S1 -** Software Drivers and C API Library for Linux

## Optional 32-bit GUI Software

**BU-694X4DM-64VM -** 32-bit *dataMARS*

**BU-694X4DS-64VM -** 32-bit *dataSIMS*

X= Software License Type,
0= Parallel Port, 1= USB
Windows 9x/2000/XP and Windows NT

**DD-42999S0 -** Commercial Avionics Utilities Software Suite for Windows 9x/2000/XP and Windows NT
Includes: ARINC 429 Data Bus Analyzer
ARINC 615 Data Loader

The information in this product brief is believed to be accurate; however, no responsibility is assumed by Data Device Corporation for its use, and no license or rights are granted by implication or otherwise in connection therewith. Specifications are subject to change without notice.

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