# ARINC

## Interface for PC/104

CEI-420A

**FEATURES**

- Up to 16 input discretes or 8 Rx and 8 Tx ARINC 429 channels
- Intelligent interface with large buffers
- Full featured API included for Windows XP, 2000, Me, NT, 98, 95, Linux Kernel (2.4 and 2.6), Visual Basic, Labview, VxWorks and LabWindows/CVI
- Easy-to-use *BusTools*/ARINC Windows-based GUI bus analyzer available
- PC/104-Plus pass-through connectors available
- Up to 16 input and 8 output discretes
- High-performance processor
- Fully independent channel operation
- Support for ARINC 573 or 717 optional

### Hardware

Available in a range of configurations to match your needs, the intelligent CEI-420A provides complete, integrated databus functionality for ARINC 429/575 and related avionics protocols in embedded PC/104 applications. The 420A supports maximum data throughput on all channels while providing on-board message scheduling, label filtering, multiple buffering options, timetagging and I/O discretes that handle avionics-level voltages. Ruggedized configurations with extended operating temperatures and a configuration with PC/104-Plus pass-through connector are optional.

### Software

Condor software tools and solutions significantly reduce the time required to integrate ARINC 429 and other avionics protocols into your application. Included with the CEI-420A is our flexible, high-level, API (Application Programming Interface) support for Windows XP, 2000, Me, NT, 98, 95, Linux Kernel (2.4 and 2.6), VxWorks, Labview, LabWindows/CVI and Visual Basic. This powerful API supports multiple cards, and is compatible with Condor API support on PCI, PC/AT, CompactPCI and PCMCIA platforms. Optional software includes LabVIEW support and *BusTools*/ARINC, Condor's easy-to-use, Windows-based GUI solution for ARINC 429 analysis, simulation and data logging.

### Architecture

Controlled by a powerful Intel 80960 CPU, the CEI-420 features independent channels, selectable data rates and parity, along with automatic slew rate adjustment. Other standard features include error detection, small PC/104 bus memory footprint and latching, keyed I/O connections. Up to sixteen input discretes support TTL to avionics-level voltages, while up to eight low-side switched output discretes can handle up to 0.5 ampere.

GE FANUC | CONDOR ENGINEERING

101 W. Anapamu Street, Santa Barbara, CA 93101
Tel 805.965.8000 • Fax 805.963.9630

# ARINC

## Interface for PC/104

CEI-420A

### SOFTWARE FEATURES

On-board firmware, large data buffers and a high-level API are integrated to provide total flexibility in receiving and generating ARINC bus traffic. Filter data by label and/or SDI for each receive channel. Three different methods are provided to buffer received data: Buffered Mode utilizes a separate circular buffer for each channel; Merged Mode combines all received data into a single, time-sequenced circular buffer; and Dedicated Mode provides a snapshot of the very latest data. Transmit messages are automatically scheduled on-board or transmitted from a FIFO.

### SPECIFICATIONS

**ARINC 429 Receive Channels**

- Number of channels: up to 8
- Data rates: 12.5 KHz or 100 KHz
- Standard input levels: ± 6.5 to ±13 VDC (A to B)
- Buffering: 2 KB per channel
- Parity: odd, even or none
- Error reporting: parity

**ARINC 429 Transmit Channels**

- Number of channels: 8
- Data rates: 12.5 KHz or 100 KHz
- Standard output level: ±10 VDC (A to B)
- Buffering: 2 Kbyte per channel
- Parity: odd, even or none

**Software**

- API - Includes high-level API for Windows XP, 2000, Me, NT, 98, 95, Linux Kernel (2.4 and 2.6), VxWorks, Labview, LabWindows/CVI and Visual Basic
  - Source code API library included
- GUI - Optional *BusTools*/ARINC GUI bus analyzer
- LabVIEW - Support optional

**Additional Protocol Support**

- ARINC 573/717 Bi-Polar RZ and Harvard Bi-Phase

**Architecture**

- Processor: Intel 80960
- RAM: 64 Kbyte dual-port SRAM
- 4 KB PC/104 bus memory footprint
- Uses 16-bit PC/104 bus signals
- PC/104-Plus pass-through connector optional

**Physical / Environmental**

- Standard PC/104 card size (3.7" x 3.5")
- Standard operating temperature: 0°C to +70°C
- Extended temperature range available
- Latching I/O connectors

**Discrete Inputs**

- Number of inputs: 8
- Supports avionics-level (open/gnd or high/low) and TTL/CMOS

**Multi-purpose Discrete Input/Output Channels**

- Number of outputs: 8
- Each channel can be individually configured as an input or output
- Low side switches, each capable of sinking 0.5 ampere

**Power (typical)**

- +5 VDC:750 mA
- +12 VDC:100 mA
- -12 VDC:80 mA

**Warranty:** 3 year limited hardware warranty

### TOOLS

**API Support**

Flexible, high-level utility libraries for Windows XP, 2000, Me, NT, 98, 95, Linux Kernel (2.4 and 2.6), VxWorks, Labview, LabWindows/CVI and Visual Basic are included with the CEI-420A. Our easy-to use API (Application Programming Interface) speeds application development by providing simplified access to all configuration, initialization, transmit and receive functionality. Contact Condor for a copy of the API User Manual to see how this robust and flexible C programming interface can reduce development, integration and life cycle maintenance efforts. LabVIEW VI support is also available.

**Bus Analysis**

*BusTools*/ARINC is an easy-to-use, Windows XP, 2000, Me, NT, 98, 95-based ARINC 429 Bus Analysis/Simulation/Data Logging solution available on the CEI-200, 220, 420A, 520, 620, 715 and PA-100 products for PC/AT, PC/104, PCI, CompactPCI, and PCMCIA platforms. Monitor multiple channels in real-time. Display time-tagged data in hex, binary or engineering units (standard or custom). Filter received data by label and/or SDI. View discrete descriptors and user-bit-encoded values. Quickly create and display historical and real-time charts of individual labels. Record and playback data over transmit buses.

**See our on-line Commercial Products Configuration Guide for available configurations.**
**http://www.condoreng.com**



GE FANUC | CONDOR ENGINEERING

101 W. Anapamu Street, Santa Barbara, CA 93101
Tel 805.965.8000 · Fax 805.963.9630

www.condoreng.com