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Data Sheet

August 15, 2026

ABACO SYSTEMS / CONDOR ENGINEERING

Abaco Systems / Condor Engineering CEI-420A-44R ARINC 429 Interface for PC/104

Abaco Systems / Condor Engineering Embedded Test Systems. PC/104 ARINC 429 interface card.

**MODEL**

**Abaco Systems /
Condor
Engineering CEI-
420A-44R**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

CEI-420A-44R

LISTING

<https://aumictechlabs.com/products/cei-420a-44r-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The CEI-420A-44R is a PC/104 ARINC 429 interface card for embedded avionics applications. This intelligent databus controller delivers comprehensive protocol support including ARINC 429, ARINC 575, and optional ARINC 573/717 functionality. Built around an Intel 80960 CPU, the card provides up to 8 receive and 8 transmit ARINC 429 channels with selectable data rates, parity, and automatic slew rate adjustment. On-board message scheduling, label/SDI filtering, time-tagging, and multiple buffering modes Buffered, Merged, and Dedicated - enable flexible data acquisition and transmission. The card includes up to 16 discrete inputs (± 100 V tolerance) and 8 switched output discretes rated to 0.5 A, supporting TTL to avionics-level voltages. Latching, keyed connectors ensure secure signal integration. Optional ruggedized configurations with

extended operating temperatures are available, along with PC/104-Plus pass-through connectors for stacked deployments. Windows, Linux, and VxWorks drivers ship with on-board firmware and a high-level API. BusTools/ARINC Windows GUI enables real-time analysis, simulation, and logging; LabVIEW support is optional.

Technical Specifications

Processor: Intel 80960 CPU

ARINC 429 Channels: Up to 8 Rx and 8 Tx

Discrete Inputs: Up to 16, TTL to avionics-level voltage compatible

Discrete Input Voltage Range: ± 100 V

Discrete Outputs: Up to 8 low-side switched, 0.5 A maximum per channel

Data Rates: Selectable

Parity: Selectable

Slew Rate: Automatic adjustment

Buffering: Buffered Mode (per-channel circular), Merged Mode (time-sequenced), Dedicated Mode (latest-data snapshot)

Data Filtering: Label and/or SDI filtering per receive channel

Time-tagging: Supported

Message Scheduling: On-board

Error Detection: Included

Key Features

Large on-board data buffers with three buffering architectures

Supports ARINC 429, 575, and optional 573/717 protocols

Discrete I/O handles avionics-level signaling

Optional ruggedization with extended temperature operation

Latching, keyed connectors for solid field installation

Typical Applications

Avionics databus integration in embedded flight systems

Aircraft health monitoring and parameter acquisition

Multi-protocol avionics testbeds

Real-time discrete I/O control and monitoring

Compatibility & Integration

Host Interface: PC/104 bus

Operating Systems: Windows, Linux, VxWorks

API: High-level application programming interface

Software Tools: BusTools/ARINC (Windows analysis/simulation/logging); LabVIEW support (optional)

Firmware: On-board, integrated for flexible protocol generation and reception

Software Distribution: Device drivers, firmware, and sample programs included

CEI420A44R Characteristics / Specifications

PARAMETER	VALUE
Model	CEI-420A-44R
Instrument Type	Intelligent ARINC 429 PC/104 interface
Card Form Factor	PC/104
Arinc Receive Channels This Config	4
Arinc Transmit Channels This Config	4
Family Arinc Channel Span	2 to 8
Family Receive Channel Maximum	up to 8
Family Transmit Channel Maximum	up to 8
Processor Clock Cei420a	16 MHz
Processor Class Cei420a	3.3 V 80960JS
Discrete Inputs Cei420a	16 single-ended unipolar
Discrete Shared Lines	eight inputs share eight discrete output connections
Discrete Input Voltage Range	-20 V to plus 100 V continuous
Discrete Input Threshold Approximate	3.3 V
Discrete Pull Up	4.7 kohm
Temperature Classes	commercial and extended XT available
Protocol Support Family	ARINC 429/575 and related including 717 option class
Api Support	Windows Linux and VxWorks high-level API
Ruggedized Configuration	extended temperature rugged option class
Ordering Alias Family	CEI-420A-44R
Software Compatibility Note	CEI-x20-SW 3.20 and higher supports CEI-420 and CEI-420A
Form Factor Class	PC/104
Application Class	lab simulation test
Analyzer Software	BusTools/ARINC
Family Arinc Channels	2 to 8

PARAMETER	VALUE
Receive Channel Maximum	8
Transmit Channel Maximum	8
Processor Clock	16 MHz
Processor Device	3.3 V 80960JS
Discrete Input Count	16
Discrete Output Count	8 shared with inputs
Discrete Input Threshold	approximately 3.3 V
Discrete Pull Up Resistance	4.7 kohm
Temperature Class	commercial and XT
Protocol Family	ARINC 429/575 with 717 option class
Api Platforms	Windows Linux VxWorks
Software Version Minimum	CEI-x20-SW 3.20

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

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Notes

From Abaco CEI-420A product specifications and Condor CEI-x20 discrete application notes for channel family limits, 16 MHz A-revision processor, discrete counts, and -20 V to plus 100 V discrete input span. The -44R suffix follows the family Rx/Tx naming with ruggedized option; electrical limits are family-common.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.