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Data Sheet

August 15, 2026

ABACO SYSTEMS / CONDOR ENGINEERING

Abaco Systems / Condor Engineering CNIC-A2P Dual Port ARINC 664 Part 7 PMC Interface

Dual port ARINC 664 Part 7 PMC interface card designed for avionics and aerospace applications.

**MODEL**

**Abaco Systems /
Condor
Engineering CNIC-
A2P**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

CNIC-A2P

LISTING

<https://aumictechlabs.com/products/cnic-a2p-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Abaco Systems / Condor Engineering CNIC-A2P is a dual-port ARINC 664 Part 7 PMC interface engineered for avionics and aerospace test, monitoring, and traffic generation. The card configures as either a single dual-redundant AFDX interface or two independent ports, each operating at 10/100 MHz full-duplex. Its proprietary pipeline architecture employs parallel controllers and efficient DMA transfers to achieve maximum packet throughput while bypassing CPU-based interface bottlenecks. The CNIC-A2P delivers simultaneous real-time traffic generation on both ports with advanced transmission scheduling and link-level error injection. Every incoming packet receives a 64-bit timestamp with 20 nanosecond resolution for precise temporal correlation. Integrated IRIG-B receiver/generator capability enables synchronization to

external time sources or between multiple CNIC boards, critical for multi-unit test systems. Full-bandwidth AFDX/ARINC 664 Part 7 protocol monitoring captures all frame and header data with comprehensive link and protocol-level statistics. Error detection and injection, built-in test (BIT) features, and I/O trigger support round out the diagnostic toolkit. The FPGA-based architecture ensures deterministic performance independent of host processor load. Software integration spans multiple paradigms: high-level AFDX API, low-level raw frame-based API, and .NET integration libraries support diverse development environments. Flexible packet capture API, XML configuration format, and integrated log file format streamline integration into automated test workflows. Berkeley packet filter capabilities enable sophisticated traffic filtering and capture rules.

Technical Specifications

Protocol: AFDX / ARINC 664 Part 7 **Form Factor:** PMC (PCI Mezzanine Card) **Ports:** 2 independent, dual-redundant configurable **Data Rate:** 10/100 MHz full-duplex per port **Timestamp Resolution:** 20 nanosecond, 64-bit **Port Configuration:** Single dual-redundant interface or two independent ports **Synchronization:** Integrated IRIG-B receiver/generator **Architecture:** Proprietary pipeline with parallel controllers, FPGA processor, DMA transfers

Key Features

- Simultaneous real-time traffic generation on both ports
- Advanced transmission scheduling and DMA transfer capability
- Full-bandwidth protocol monitoring and analysis
- Error detection and link-level error injection
- Built-in test (BIT) functionality
- Direct access to all frame and header data
- Link and protocol-level statistics collection
- Multi-board synchronization via IRIG-B

Typical Applications

- AFDX/ARINC 664 Part 7 avionics system test and validation
- Real-time traffic generation and monitoring
- Protocol conformance and performance analysis
- Integrated modular avionics (IMA) system integration testing

Compatibility & Integration

- AFDX and low-level software development kit (SDK) included
- High-level AFDX API, low-level frame-based API, .NET libraries
- XML configuration support
- Integrated log file format
- Berkeley packet filter engine

CNICA2P Characteristics / Specifications

PARAMETER	VALUE
Model	CNIC-A2P
Instrument Type	AFDX / ARINC 664 Part 7 PMC interface
Protocol	AFDX / ARINC 664 Part 7
Port Count	two independent 10/100 MHz full-duplex
Port Modes	one dual-redundant AFDX port or two independent ports
Time Tag	64-bit at 20 ns resolution on each incoming packet
Irig	IRIG-B receiver/generator for external and multi-board sync
Triggers	input and output triggers per channel
Error Features	error detection and error injection
Discretes Rugged Sibling	four bidirectional avionics-level discretes on RCNIC-A2PA
Pci Interface	33/66 MHz 32-bit PCI on PMC
Carrier Pci	PCI (-X)
Carrier Cpci 3U	3U CompactPCI (-3 / CNIC-A2P3)
Carrier Cpci 6U	6U CompactPCI (-F)
Carrier Pcie	PCI Express (-U)
Software	high-level AFDX API, low-level raw frame API, .NET libraries
Analyzer	BusTools/AFDX available
Cooling	convection cooled
Manufacturer	Abaco Systems / Condor Engineering
Family	CNIC / RCNIC AFDX PMC
Architecture	pipeline architecture versus CPU-based NIC
Bit Testing	built-in test access to all frame and header data
Application Class	lab simulation and test

CNICA2P Specifications

PARAMETER	VALUE
Applications	AFDX/ARINC 664 traffic generation, monitoring, and analysis on PMC carriers in lab and simulation rigs.
Key Features	Two 10/100 full-duplex AFDX/ARINC 664 ports
Technical Specifications	Model: CNIC-A2P

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.

Specifications	
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Notes	
From Abaco/Condor CNIC-A2P Dual Port AFDX/ARINC 664 PMC product literature. Confirm carrier suffix (PMC versus -3/-F/-U) on the installed assembly.	

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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NIST-traceable calibration · SAM registered ·
30-day returns
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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.