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Data Sheet

August 15, 2026

ABACO SYSTEMS / GE

Abaco Systems / GE RAR-PCIE-1616 ARINC High Density PCI Express Interface

The Abaco Systems / GE RAR-PCIE-1616 is a high-density PCI Express interface card delivering ARINC databus functionality for aerospace simulation and testing. Operating over native 4-lane PCIe, it supports up to 32 ARINC 429 channels (16 Rx / 16 Tx), ARINC 717/573 dual-mode operation with Harvard Bi-Phase and Bi-Polar Return to Zero encoding, and ARINC 575 plus selected 2-wire 32-bit protocols. The card provides 2 MBytes of onboard RAM for transmit and receive buffering with three distinct modes - buffered (per-channel circular buffers), merged (time-sequenced single buffer), and dedicated (latest-data snapshot). Independent, software-programmable bit rates span all channels with simultaneous maximum data throughput. Discrete I/O comprises 16 input and 16 output channels supporting avionics-level and TTL voltages with open-collector/open-drain outputs. Additional capabilities include me

**MODEL****Abaco Systems /
GE RAR-PCIE-1616****CALIBRATION****Available on
request****CONDITION****Used****STATUS****In stock****RFQ / SKU****RAR-PCIE-1616****LISTING**<https://aumictechlabs.com/products/rar-pcie-1616-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

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PCIe, it supports up to 32 ARINC 429 channels (16 Rx / 16 Tx), ARINC 717/573 dual-mode operation with Harvard Bi-Phase and Bi-Polar Return to Zero encoding, and ARINC 575 plus selected 2-wire 32-bit protocols. The card provides 2 MBytes of onboard RAM for transmit and receive buffering with three distinct modes - buffered (per-channel circular buffers), merged (time-sequenced single buffer), and dedicated (latest-data snapshot). Independent, software-programmable bit rates span all channels with simultaneous maximum data throughput. Discrete I/O comprises 16 input and 16 output channels supporting avionics-level and TTL voltages with open-collector/open-drain outputs. Additional capabilities include message scheduling, label filtering with SDI and promiscuous modes, time-tagging, error detection and injection, automatic transmit slew rate control, and onboard temperature and voltage monitoring. Optional IRIG-B receiver (AM or DC/TTL) and generator (DC/TTL) enable external time synchronization across multiple boards. Conformal coating is available. The standard-height, half-length form factor (4.376 × 5.0 inches) integrates into compact avionic test systems via an advanced high-level API.

Technical Specifications

Interface: Native 4-lane PCI Express Form Factor: Standard height, half length (4.376 × 5.0 inches)

ARINC 429 Channels: Up to 16 Rx and 16 Tx (32 total)

Protocols: ARINC 429, ARINC 717/573 dual-mode (HBP / BPRZ), ARINC 575, selected 2-wire 32-bit protocols

Bit Rates: Independent, software-programmable per channel

Onboard Memory: 2 MBytes RAM for transmit/receive buffers

Buffering Modes: Buffered (per-channel), merged (time-sequenced), dedicated (snapshot)

Discrete I/O: 16 input, 16 output channels

Discrete Voltage Support: Avionics-level, TTL, open-collector/open-drain

Optional IRIG-B: Receiver (AM or DC/TTL) and generator (DC/TTL)

Optional Conformal Coating: Available

Key Features

All channels operate independently with simultaneous maximum data throughput

Message scheduling and label filtering (SDI and promiscuous modes)

Integrated time-tagging with optional IRIG-B synchronization across boards

Error detection and injection capabilities

Automatic transmit slew rate adjustment

Onboard temperature and voltage monitoring

Typical Applications

Aerospace system simulation and validation

Avionics test and integration

Aircraft databus monitoring and recording

Compatibility & Integration

Advanced high-level API for PCI Express host systems.

RARPCIE1616 Characteristics / Specifications

PARAMETER	VALUE
Model	RAR-PCIE-1616
Instrument Type	ARINC 429 PCI Express interface
Bus	native 4-lane PCI Express
Rx Channels	16 ARINC 429 receive
Tx Channels	16 ARINC 429 transmit
Total Channels	32 ARINC 429
Data Rates	12.5 kHz, 100 kHz, or 5 kHz to 150 kHz programmable
Rx Levels	plus or minus 6.5 to plus or minus 13 VDCAtoBTx Level: plus or minus 10 VDC typicalAtoSlew: automatic slew-rate adjustment
Parity	odd, even, or none
Filtering	label and/or SDI
Error Injection	parity, gap, high or low bit count
Discretes	16 input and 16 output avionics-level
Irig	optional IRIG-B receiver and generator
Card Size	standard height half length 4.376 × 5.0 inches
Rohs	RoHS compliant
Software Api	Windows and Linux high-level API
Analyzer	BusTools/ARINC GUI optional
Monitoring	onboard temperature and voltage monitoring
Protocols	ARINC 429, 575; optional 573/717 dual-mode
Manufacturer	Abaco Systems / GE Intelligent Platforms
Sibling	RAR-PCIE-88 is 8 Rx / 8 Tx Io: front bezel connector

RARPCIE1616 Specifications

PARAMETER	VALUE
Applications	High-density ARINC 429 simulation and analysis on PCI Express workstations and ATE.
Key Features	16 Rx and 16 Tx ARINC 429 channels
Programmable bit rate per channel	16 avionics discretes each direction
Technical Specifications	Model: RAR-PCIE-1616

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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Rx Levels	plus or minus 6.5 to plus or minus 13 VDC A to B
Tx Level	plus or minus 10 VDC typical A to B
Slew	automatic slew-rate adjustment
Parity	odd, even, or none
Filtering	label and/or SDI
Error Injection	parity, gap, high or low bit count
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Notes

From Abaco/GE RAR-PCIE series datasheet ordering row RAR-PCIE-1616 (16 Rx / 16 Tx). Confirm IRIG and 717 options; this SKU is the non-J 429-only 16/16 build.

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.