



PCI/PCIe Gen 2 Expansion Backplane

Features

- **PCI/PCIe over fiber optic extension**
- **2 PCIe 2.5 GT/s or 5.0 GT/s slots**
- **2 PCI slots**
- **One lane 2.5 GT/s or 5.0 GT/s over fiber**
- **Fiber optic cable length:**
 - 1+ km SM at 2.5 GT/s or 5.0 GT/s
 - 250 m at data rate 2.5 GT/s
 - 100 m at data rate 5.0 GT/s
- **Optical isolation**
- **Temperature range: -40° C to +85° C**
- **Host processor and OS independent**
- **SFP transceiver with LC connectors**
- **RoHS compliant**
- **Works with Adnaco products**

Overview

The Adnaco-R1BP1A (R1BP1A) is an expansion backplane which extends the I/O card capabilities of a host computer over fiber optic cable at distances up to 1000 meters. The R1BP1A provides two PCI and two PCIe slots suitable for standard PCI/PCIe devices. The PCIe x16 slots are wired as x1. An on-board PCIe-to-PCI bridge provides the connection for standard PCI devices in order to support Legacy PCI devices. The installed PCI/PCIe devices operate transparently over the PCIe extension. No additional host software drivers are required during installation or operation. The R1BP1A can be mounted in a standard microATX case

Applications

- Computer bus expansion
- Industrial temperature range applications.
- Split-systems: remote desktop console.
- Manufacturing: production testing.
- Medical: complete isolation.
- NAS: remote and secure data storage.
- Data Acquisition: modular instruments.

Adnaco PCI Express over fiber optic technology

PC-centric, data-intensive embedded system applications place demanding requirements on high-performance I/O interconnect bus architectures. For inside the PC communications, the most commonly used buses for commercial and embedded applications have been PCI and PCIe types. Adnaco Technology, with its breakthrough Adnaco PCI Express fiber optic solution, brings the PCI and PCIe buses out of the PC and extends them over fiber optic cable up to 1 km. The unique feature of this technology is its transparent access to remote PCI/PCIe devices without compromising performance. Even at long distances they appear as local devices to the host PC. Installation is simple and requires no additional drivers for the remote PCI/PCIe devices.

Specifications: Adnaco-R1BP1A Gen2 PCI Express Backplane:

Product Name	Adnaco-R1BP1A
Expansion Capabilities	Two 2.5 GT/s or 5.0 GT/s PCIe x16 (electrical x1) connectors Two 32 bit, 33 MHz or 66 MHz, 5.0V or 3.3V PCI connectors
Specification Compliance	PCIe slots: PCIe Base r2.0, backward compatible with PCIe Base r1.1 and 1.0a PCI slots: PCIe Base r1.0a, PCI Local Bus r2.3, PCIe to PCI/PCI-X Bridge r1.0
Communication	One full duplex 2.5 GT/s or 5.0 GT/s link over fiber optic cable
Software	Transparent to software applications and drivers
Power Requirements	3.3V @ 2A maximum (without PCI/PCIe cards) 24 pin connector for ATX compliant power supply
Operating Environment	Temperature: -40° C to +85° C without optical transceiver -20° C to +85° C or -40° C to +85° C depending on optical transceiver Relative humidity: 10 to 90%, non-condensing
Storage Environment	Temperature: -40° C to +85° C Relative humidity: 5 to 95%, non-condensing
Regulatory Compliance	FCC class B, ICES-003 class B, EN 55022 class B, EN 55024, RoHS compliant
Physical Dimensions	171.5 mm (6.75") x 111.8 mm (4.40") microATX mounting holes (B,C,H,R,S)

Transceiver and Cable Information:

Transceiver	LC connectors, 850 nm VCSEL – SFP MSA compatible
	LC connectors, 1300 nm – SFP MSA compatible
Fiber Optic Cable	LC-LC, Multi-mode, 50/125 µm Length: 2 m to 250 m at data rate 2.5 GT/s 2 m to 100 m at data rate 5.0 GT/s
	LC-LC, Multi-mode, 62.5/125 µm Length: 2 m to 150 m at data rate 2.5 GT/s 2 m to 50 m at data rate 5.0 GT/s
	LC-LC, Single-mode, 9/125 µm Length: 1000+ m

Compatibility matrix:

Device	R1BP1	R1BP1A	R1BP1B	RA3	R1USB30
H1A	NO	YES	YES	YES	YES
H1	YES	YES	YES	YES	NO

Related Documents and Ordering Information:

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