

MILITARY & DEFENSE



NTDS ABCH PCIe

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A high-performance NTDS interface for PCI Express

SPECIAL FEATURES

- Full Duplex NTDS Channel
- Passive Tap Capability
- Compatible with PCIe x1, x2, x4, x8 or x16 slots
- Test Without Disconnecting Cables

The PCIe NTDS Parallel card connects computers with PCI Express (PCIe) slots to military computers and peripherals with MIL-STD-1397C Type A, B, C or H interfaces. The PCIe is compatible with x1, x2, x4, x8 or x16 PCIe slots, allowing it to be used in the widest range of servers and workstations. NTDS cable connections are backward compatible with IXI Technology's PCI board, allowing an easy upgrade to the PCIe version without the need to change cabling.

IXI Technology's NTDS ABACH PCIe is easy to program and offers a variety of input and output modes to support any NTDS protocol. Hardware-independent input and output channels allow the NTDS ABACH PCIe to perform simultaneous input and output (full duplex) operations. NTDS type is software-selectable allowing quick reconfiguration without the use of hardware jumpers or switch settings.

Boards can be used for passive tap applications as well as normal NTDS I/O. An on-board time stamp generator tags individual input words with 125 ns resolution. Time stamping is software-selectable and can be used with active or passive communications. All boards in the family are software compatible making it easy to mix parallel and serial NTDS boards in the same system as well as allowing transparent migration of applications between PCIe, PCI, PMC, cPCI, and PC/10. Device driver software is available for the most commonly-used operating systems.

For maintenance and reliability, PCIe NTDS Parallel boards use short-circuit protected outputs to prevent failures due to improper cabling or NTDS type mismatch. An internal loop-back path allows the NTDS ABACH PCIe to be tested without disconnecting cables. The NTDS ABACH PCIe can be updated in the field by reconfiguring its Field Programmable Gate Array (FPGA) logic to add features or compensate for non-compliant interfaces. Using FPGA technology reduces component obsolescence, enabling the Swift to be deployed and supported for years to come.

PRODUCT OVERVIEW

- MIL-STD-1397C type A, B, C, and H compliant
- Full-duplex 8-, 16- or 32-bit NTDS transfers
- Interrupt, PIO & DMA operation
- Independent NTDS input and output channels
- Field Programmable Gate Array (FPGA) technology
- Separate word counters and time-outs for EI/EF words and data words on inputs and outputs
- Internal loopback test without disconnecting NTDS cables
- Software-enabled time stamp on input words with 125ns resolution
- Time stamps can be synchronized across multiple interfaces
- Supports receipt of multiple forced EF's
- Software compatible with Swift PMC and Swift cPCI boards

GENERAL PRODUCT FEATURES

Input Mode Features

- Separate or combined data and command word buffers
- Input command words, stop on data word
- Input data words, stop on command word
- Passive tap mode

Output Mode Features

- Concurrent data and command buffer operation

Time-out Mode Features

- Time-out values in 10µs or 1ms increments
- Time-out between words and/or total transfer times
- Start time-out at beginning of operation or upon transfer of the first word



PCIe NTDS Parallel

NTDS Connector Compatibility

- Connector compatible with PCI Parallel NTDS board

Software Drivers Available*

- Choice of driver included with board purchase: Windows® 2000/XP, VxWorks®, Solaris™, Linux®, LynxOS®, HP-UX
- * Contact factory for new OS support

OPTIONS AND ACCESSORIES

- Adapter Modules
- Cable Interface Modules (CIM)
- Cable Assemblies
- Tap Accessories

TECHNICAL SPECIFICATIONS

NTDS Interface	MIL-STD-1397C Parallel Types A, B, C or H
PCIe Bus Interface	PCI Express Base Specification, Revision 1.0a
Input Buffer	64K x 32-bit FIFO
NTDS I/O Connectors	Rear Bezel: 112 Pin Receptacle (Berg50295-5112E) Top Edge: Dual 80 pin high density ribbon cable headers
Form Factor	Standard height, half length PCIe 4.20" X 6.6" (106.7mm X 167.65mm)
Weight	6.3 oz., 7.0 oz. with top edge connectors
Power Consumption	Average power consumption: 4.956W Average +3.3V current draw: 0.92A Average +12V current draw: 0.16A
Temperature	Operating: 0°C to +56°C Storage: -41°C to +71°C
Shock	MIL-STD-810F, method 516.4, procedure VI (bench handling)
Vibration	Random: 20-200Hz/0.01 g ² /Hz Sine Peak: 5-28Hz/1g
Relative Humidity	0% to 95% (non-condensing)
Altitude	Operating: 5000 ft. Storage: 26,250 ft.
MTBF	>250,000 hours calculated per MIL-HDBK-217F @ 30 degrees C, ground benign