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SABTECH INDUSTRIES
TACTICAL DATA LINK SPECIALISTS



Swift™ PCIe NTDS Parallel Type A, B, C and H

A high-performance NTDS interface for PCI Express

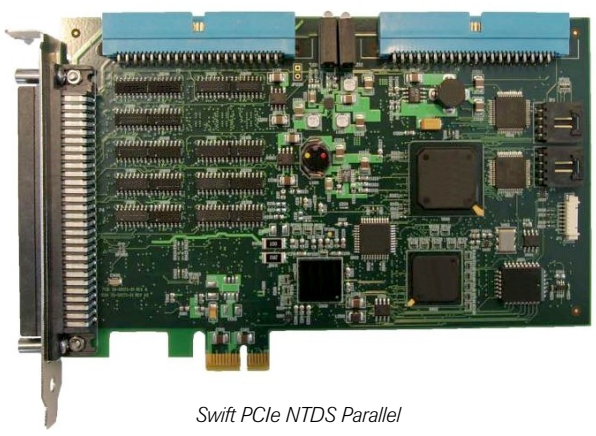
NTDS for a new generation of PCIe bus servers and workstations

The Swift 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 Swift 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 Sabtech's Swift PCI board, allowing an easy upgrade to the PCIe version without the need to change cabling.

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

Sabtech's Swift 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 Swift 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.

Swift 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.



Swift PCIe NTDS Parallel

All boards in the Swift 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/104-Plus versions of the Swift. Device driver software is available for the most commonly-used operating systems.

For maintenance and reliability, Swift 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 Swift to be tested without disconnecting cables. The Swift 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, and 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
- Short-circuit protected, tri-state drivers
- 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 EFs
- Software compatible with Swift Parallel PCI, cPCI, and PMC 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 Feature

- Concurrent data and command buffer operation

Time-out Mode Features

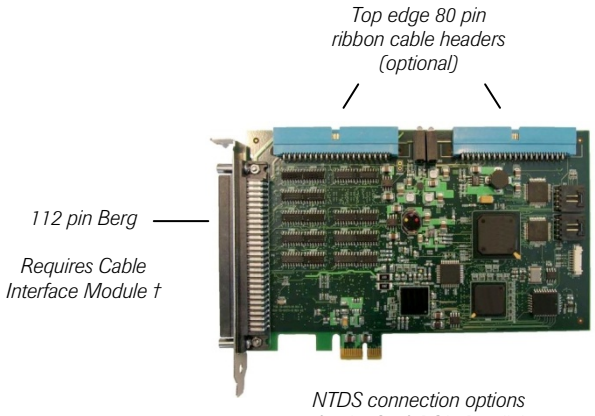
- Time-out values in 10µs or 1ms increments
- Time-out between words and/or total transfer times
- Start time-out at beginning of operation or upon transfer of the first word

Software Drivers Available*

- Choice of driver included with board purchase: Windows® NT, Windows® 2000/XP, Windows® Vista, Windows® 7, VxWorks®, Solaris™, Linux®, LynxOS®, HP-UX, FreeBSD
  **Contact factory for new OS support*

NTDS Connector Compatibility

- Connector compatible with Swift PCI Parallel NTDS board



NTDS connection options for the Swift PCIe Parallel

Swift PCIe NTDS Parallel Technical Specs

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 (Berg 50295-5112E) 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 g²/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

Model Numbers

SE-02102-01	NTDS A/B/C/H, 64K FIFO, Standard, Low Power

Options and Accessories

TB-11280-00	† Cable Interface Module, 112 pin Berg to dual 80 pin ribbon, standard length
TB-11280-04	† Cable Interface Module, 112 pin Berg to dual 80 pin ribbon, mini length
AM-SW012-00	80 pin ribbon to M28840 (92 pin) recpt.
AM-SW018-00	80 pin ribbon to M81511 (85 pin) receptacles
AM-SW013-00	80 pin ribbon to D38999 (79 pin) receptacles
CA-28840-XX	M28840 (92 pin) Cable Set**
CA-81511-XX	M81511 (85 pin) Cable Set**
CA-38999-XX	D38999 (79 pin) Cable Set**
CA-SW080-XX	80 pin Ribbon Cable Set**
TK-11278-00	Tap Cable Kit (connects to taps below)
AN-BT511-00	NTDS Parallel Isolation Tap, M81511
AN-BT840-00	NTDS Parallel Isolation Tap, M28840
AN-BT999-00	NTDS Parallel Isolation Tap, M38999
AN-PT000-00	Universal NTDS Parallel Breakout Box

*** Contact factory for length*

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