



## Swift-PAK™ NTDS for CompactPCI

# The optimum NTDS solution for CompactPCI systems

*Impressive performance with unmatched features and flexibility*

The Swift-PAK for CompactPCI (cPCI) utilizes our state-of-the-art Swift PMC technology to provide high-performance MIL-STD-1397C NTDS channels for cPCI systems. It comes in 3U or 6U versions configured with NTDS parallel or serial types A, B, C, D, E or H. The 6U version allows for up to two channels of any combination to reside in a single slot which significantly reduces space requirements, especially for systems with numerous I/O channels.

The Swift-PAK for cPCI 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-PAK to perform simultaneous input and output (full duplex) operations. On parallel channels, the NTDS type is software-selectable allowing quick reconfiguration without the use of hardware jumpers or switch settings.

The Swift-PAK 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.

- Single or Dual Channels
- Conserve Slot Space
- Passive Tap Capability
- Test Without Disconnecting Cables

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 PCI, PMC, and cPCI versions of the Swift. Device driver software is available for the most commonly-used operating systems.

For maintenance and reliability, Swift-PAK parallel channels use short-circuit protected outputs to prevent failures due to improper cabling or NTDS type mismatch. An internal loop-back path allows the Swift-PAK to be tested without disconnecting cables. The Swift-PAK 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-PAK to be deployed and supported for years to come.

### Product Overview

- Single or dual NTDS I/O channels
- Interrupt, PIO & DMA operation
- Independent, full duplex NTDS input and output channels
- Field Programmable Gate Array (FPGA) technology



Swift-PAK cPCI Parallel 6U



Swift-PAK cPCI Serial 6U



Swift-PAK cPCI Serial 3U

- Separate word counters and time-outs for EI, EF, ID and OD
- PCI master and slave operation
- 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 PCI and PMC boards

**NTDS Parallel Type A/B/C/H**

- 8-, 16- or 32-bit NTDS transfers
- Software-selectable NTDS type
- Short circuit protected, tri-state NTDS drivers

**NTDS Serial Type D/E**

- Control frame programmability for MIL-STD-1397B compatibility
- Software-enabled System Integrity Features (SIF) (Type E)
- Software-selectable SIS/SOS 4th bit detection (Type E)

**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
- Single word or burst mode (Type E)

**Output Mode Features**

- Concurrent data and command buffer operation
- Single word or burst mode (Type E)

**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® 2000/XP, VxWorks®, Solaris™, Linux®, LynxOS®, HP-UX

\*Contact factory for new OS support

**Options and Accessories**

- Adapter Modules
- Cable Assemblies
- Tap Accessories

**Swift-PAK cPCI NTDS General Technical Specs**

PCI bus interface	PCI 2.1 compliant 32 Bit, 33MHz, universal card (3.3V or 5V I/O signaling)
Form factor	Eurocard 3U (Single Channel) or 6U (Dual Channel) CompactPCI
Weight	Single Channel: 8.6 oz. Dual Channel: 15 oz.
Power consumption	Configuration dependent – contact factory
Relative humidity	0% to 90% (non-condensing)
Operating temperature	0°C to +55°C

**NTDS Parallel Technical Specs**

NTDS interface	MIL-STD-1397C Type A/B/C/H
Input buffer	64K x 32-bit FIFO
NTDS I/O connector	120 pin docking connector (Molex 52755-1200)
Power consumption	Average +5V Current Draw: .85A Average +V/I/O Current Draw: 5mA Average Power Dissipated: 4.25W

**NTDS Serial Technical Specs**

NTDS Interface	MIL-STD-1397C Type D or E
Input buffer	64K x 32-Bit FIFO
NTDS I/O Connector	Type D: 2 coaxial connectors (Amphenol # 31-10-75) Type E: 2 triaxial connectors (Trompeter # BJ157)
Power consumption	Average +5V Current Draw: 0.58A Average +V/I/O Current Draw: 5mA Average Power Dissipated: 2.89W