

MILITARY & DEFENSE



NTDS VME PAK

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VMEbus systems

SPECIAL FEATURES

- 2 Channels per VMEbus slot
- Up to 32 Channels per VMEbus
- Passive Tap Capability
- Test Without Disconnecting Cables

The NTDS VME PAK brings the power and performance of IXI Technology's state-of-the-art PCI Mezzanine Card (PMC) technology to VMEbus systems. The NTDS VME PAK allows two independent MIL-STD-1397C NTDS channels to reside in the space of a single 6U VME slot. It can be configured with any combination of parallel or serial NTDS types A, B, C, D, E or H. With the ability to address up to 16 NTDS ABCH VMEs on the same VMEbus, as many as 32 NTDS I/O channels can be addressed while occupying half the space required for single board NTDS channels. Whether designing a new system or looking for ways to upgrade an existing system, NTDS VME PAK is the right solution for reducing space requirements while maintaining or increasing the number of NTDS channels, especially where numerous channels are needed.

The NTDS VME PAK is easy to program and offers a variety of input and output modes to support any NTDS protocol. The included software device driver and application programming interface (API) library ensure smooth integration of your application with the NTDS ABCH VME's PMC channels in VMEbus address space. Hardware-independent input and output channels allow the NTDS VME 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 NTDS VME 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.

For maintenance and reliability, NTDS VME PAK parallel channels use short-circuit protected outputs to prevent failures due to improper cabling or NTDS type mismatch. An internal loopback path allows the NTDS VME PAK to be tested without disconnecting cables. The NTDS VME 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 NTDS VME 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
 - VME A32/A24/A16 master and slave addressing
 - Field Programmable Gate Array (FPGA) technology
 - Separate word counters and time-outs for EI, EF, ID and OD
 - 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
 - PCI master and slave operation
- 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:
VxWorks®, LynxOS®

Contact factory for new OS support



VME Parallel



VME Serial

OPTIONS AND ACCESSORIES

- Adapter Modules
- Cable Assemblies
- Tap Accessories

TECHNICAL SPECIFICATIONS

VMEbus interface Form factor	VME Revision C.1 (IEEE P1014) 6U VME Eurocard
Weight	Dual Channel: 15.2 oz.
Power consumption	Configuration dependent – contact factory
Relative humidity Operating temperature	0% to 90% (non-condensing) 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 +VI/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 +VI/O Current Draw: 5mA Average Power Dissipated: 2.89W