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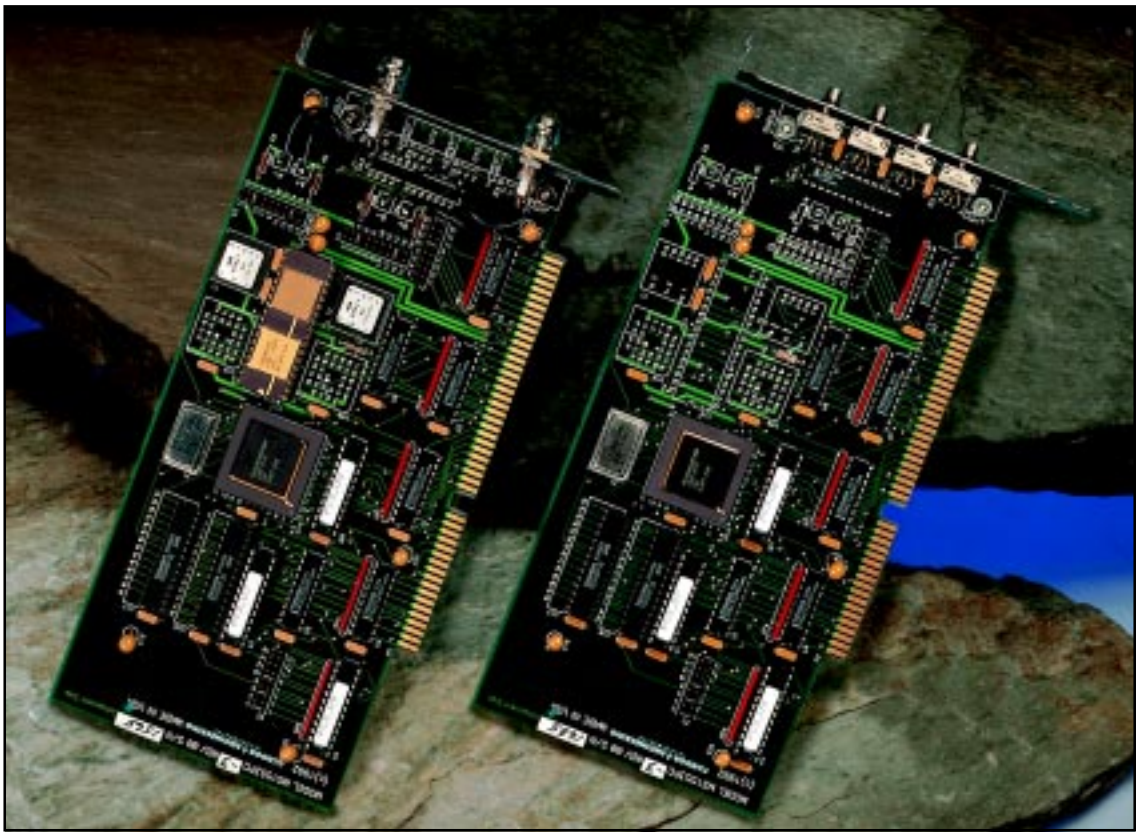
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MS1553PC
MS1773PC

Intelligent MIL-STD-1553 and MIL-STD-1773 Interfaces for IBM-PC/AT and Compatibles

FEATURES

- Fully compliant with MIL-STD-1553B Notice II and MIL-STD-1773
- BC, single RT or Bus Monitor
- Powerful on-board controller
- Optional rugged, extended temp. version
- Dual redundant channel support
- Easy-to-use menu-driven software
- Economical
- High-level 1553 API libraries for Windows NT, 98, 95, DOS and Visual Basic
- Interactive command language
- Internal wraparound BIT testing
- Create, save and replay complex test scenarios without C programming
- Dual-ported RAM provides large message storage capacity



Robust hardware, extensive software, and competitive pricing combine to provide the best value in 1553 and 1773 interfaces.

The MS1553PC and MS1773PC offer integrated, dual redundant, ISA bus interface board solutions respectively for MIL-STD-1553B and MIL-STD-1773 avionics data buses. An on-board controller manages all critical protocol functions without loading down the PC host. As either a Bus Controller (BC), a single Remote Terminal (RT), or as a Bus Monitor (BM), these products allow users to quickly develop software, simulate equipment, monitor data buses or test MIL-STD avionics hardware and software using economical PC-based platforms.

Condor includes extensive software tools with these interfaces at no additional charge. Users can rapidly develop custom applications with our high-level 1553 API libraries for Windows NT, 98, 95, DOS and Visual Basic. Easy-to-use, DOS menu-driven software is provided to supply the BC, RT and BM functionality needed for basic test, simulation, and monitoring applications. Also included is CP, our command-driven, DOS script processing language that enables non-programmers to generate complex test scenarios.

CONDOR ENGINEERING

ARCHITECTURE

The powerful BCRTM controller from United Technologies Microelectronics Center provides the on-board intelligence for these MIL-STD interface products. The field-proven BCRTM supports all dual redundant mode codes and message formats, keeps up with maximum data bus traffic, and minimizes PC overhead by isolating the host computer from the bus protocol Internal wraparound BIT testing, programmable intermessage delays, time tagging, programmable event interrupts, automatic polling and interrupt history lists are among the features supported on-board.

Dual-Ported RAM provides easy access to large data buffers with the optimal host computer interface for performance and versatility. Optional configurations with industrial temperature parts and ruggedized construction are available. The MS1553PC board is also factory upgradable to MIL-STD-1773 (fiber optics) capability.

SPECIFICATIONS

Physical
16-bit, ISA bus half card: 8.4" x 4.2"

Environmental
Standard Operating Temperature 0°C to +70°C
Optional Industrial Temperature -40ºC to +85ºC

MIL-STD-1773 Optical Specifications
Transmitter
Peak emission wavelength: 850 nm
15 µW optical power (typical)
Receiver
Typical sensitivity: -33dBm
Dynamic range: 20dB (typical)
Pulse width distortion: 10% maximum at 1 µW peak

MIL-STD-1553 Features
Direct or transformer coupling
BC, single RT or Bus Monitor operational modes
Internal wraparound self test

Interrupt Jumper Selection
IRQ 3-7, 9-12, 14, 15

Electrical (Model MS1553PC)
+5 VDC (±0.5) 440 ma typical
+12 VDC (±0.5)10 ma quiescent, 10 ma at 50% duty cycle
+12 VDC (±0.5) 40 ma quiescent, 140 ma at 50% duty cycle

Documentation
MS1553PC/MS1773PC User's Manual
CP Menu System Manual
MIL-STD-1553 Tutorial

Connectors
MS1553PC: Two BJ-77 Twinax
MS1773PC: Four SMA fiber optic

Address Space
32 KB window (PC-3 models)
64 KB window (PC-4 models)
Memory mapped from segment 8000H to F800H in 32 KB or 64 KB increments

SOFTWARE TOOLS AND SOLUTIONS - included with all hardware

Utility Libraries Condor supplies extensive libraries of high-level 1553 API (Application Programming Interface) routines to allow users to easily develop their own applications. C / C++ libraries are included (at no additional charge) for Windows NT, 98, 95 and DOS. Visual Basic libraries are also included.

Menu-Driven Software Our menu-driven DOS software provides an easy way to use the interface boards. It is well suited for learning how the board works, simple applications, demonstrations, and diagnostic tests to ensure that the BC and RTs are talking to each other. Quickly display filtered, real-time data with BCD, binary or IEEE floating point units and labels. Save bus data to disk for later replay and analysis.

Command Language The CP system allows users with no knowledge of C to create custom scripts for their unique testing scenarios. CP can be used interactively for troubleshooting and custom analysis, or it can be used in batch mode for repetitive test scenarios. Generate, save, and replay test sequences that include synchronized commands for complex simulations. Nest up to 10 levels of script files.

AVAILABLE CONFIGURATIONS

MIL-STD-1553 PC/AT Interfaces

MS1553PC-3	MIL-STD-1553 single-function, single channel PC/AT interface board with 16 KB TAM
MS1553PC-4	MIL-STD-1553 single-function, single channel PC/AT interface board with 64 KB TAM
-R suffix	Ruggedized construction with industrial termperature range components

MIL-STD-1773 PC/AT Interfaces (All configurations are a single-function and single channel PC/AT interface)

MS1773PC-3-SMA	MIL-STD-1773 board with 16 KB RAM. 850 nm fiber optic interface with SMA connectors.
MS1773PC-3-ST	MIL-STD-1773 board with 16 KB RAM. 850 nm fiber optic interface with ST connectors.
MS1773PC-4-SMA	MIL-STD-1773 board with 64 KB RAM. 850 nm fiber optic interface with SMA connectors.
MS1773PC-4-ST	MIL-STD-1773 board with 64 KB RAM. 850 nm fiber optic interface with ST connectors.

CONDOR ENGINEERING
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