

FEATURES

- > Simultaneous Bus Controller, 31 Remote Terminals and Bus Monitor
- > 1 or 2 independent MIL-STD-1553 dual-redundant busses (channels)
- > Easy-to-use BusTools/1553 Windows-based GUI bus analyzer available
- > Advanced, high-level software API libraries
- > Multi-function and single-function versions
- > Conditional BC branching on real-time message data or status
- > Aperiodic message insertion
- > Real-time bus playback with RT edit mode
- > Flexible I/O triggering
- > Extensive error injection/detection
- > 1 Mbyte shared RAM per channel
- > Supports MIL-STD-1553A and B Notice II
- > Variable output voltage



The ISA-1553 provides the highest level of performance and flexibility for MIL-STD-1553A/B on the PC/AT bus (ISA). The ISA-1553 is integrated with powerful software that reduces development time. All 1553 databus functionality is supported from our advanced API (Application Programming Interface). Standard features include real-time bus playback (with ability to edit out RTs), aperiodic message insertion, error injection/detection, conditional BC branching, 45-bit timetags and "Oneshot" BC operation. Provides host software synchronization to pulses from external timing sources (IRIG, GPS, etc). The Bus Monitor mode provides 100% bus monitoring of fully loaded 1553 busses.

Multi-function Interfaces

One or two multi-function 1553 interfaces are available on a single PC/AT board. They can operate simultaneously as a BC, up to 31 RTs and as a BM. It can emulate an entire dual-redundant 1553 channel internally, eliminating the need for external hardware to simulate missing nodes.

Single-function Interfaces

The PCI-1553 can provide one or two single-function 1553 interfaces with all the features and functionality of the multi-function versions, but only one major operational mode is enabled at a time – emulating either a Bus Controller or 31 Remote Terminals or Bus Monitor.

Software

Included with the ISA-1553 is Condor's easy-to-use flexible, high-level API which supports up to 10 independent 1553 channels. Windows XP, 2000, Me, NT, 98, 95, Linux, DOS, LabWindows/CVI, Visual Basic and source code support is provided. LabVIEW support and BusTools/1553, Condor's GUI bus analysis, simulation and data logging solution for 1553, are optionally available. Condor's high performance and intuitive software solutions provide complete and simplified access to MIL-STD-1553 functionality for development, integration, test, embedded and maintenance applications.



SPECIFICATIONS

Physical

- 3/4 length ISA card (8.4" x 4.8")

Environmental

- Operating temperature range: 0°C to +70°C

Software

- API - Includes high-level API libraries for Windows XP 2000, Me, NT, 98, 95, DOS, Linux, LabWindows/CVI and Visual Basic
 - Source code API library provided
- GUI - Optional *BusTools/1553* GUI bus analyzer
- LabVIEW - Support optional

Connections

- Programmable direct or transformer coupling
- Input and output triggers
- Transition cabling to 1553 cable jacks included

Multi-function Operational Modes (IP-D1553-1M and -2M)

- Simultaneous BC, 31 RTs and BM

Single-function Operational Modes (IP-D1553-1S and -2S)

- BC or 31 RTs or BM

On-board Shared RAM

- 1 Mbyte per channel

Power (two channels, 50% duty cycle)

- +5 VDC: 1.5 A
- +12 VDC: 226 mA
- -12 VDC: 50 mA

Warranty: 3 year limited hardware warranty

AVAILABLE CONFIGURATIONS

ISA-1553-M	MIL-STD-1553 multi-function, single channel PC/AT interface board
ISA-1553-MM	MIL-STD-1553 multi-function, two channel PC/AT interface board
ISA-1553-S	MIL-STD-1553 single-function, single channel PC/AT interface board
ISA-1553-SS	MIL-STD-1553 single-function, two channel PC/AT interface board

Optional Software

BusTools/1553	MIL-STD-1553 Bus Analysis, Simulation & Data Logging software for Windows (multi-function boards only)
LV-1553	LabVIEW support for MIL-STD-1553

DESCRIPTION

Bus Controller

- Programmable control over:
 - Major and minor frame content and timing
 - Intermessage gap times
 - Response time-out and late response
- Modify messages, data or setup while card is running
- Insert aperiodic messages into a running BC list
- "Oneshot" mode for simplified BC operation
- Conditional message sequencing based on real-time message data or status
- Selectable interrupt generation and status messages
 - Full range of system conditions
 - All detected errors
- Full error detection
 - Invalid word
 - Bit count error
 - High word
 - Low word
 - Inverted sync
 - Manchester
 - Late response
 - Early response
 - No response
 - Incorrect RT address
 - Parity error
- Extensive programmable error injections (on a per word basis)
- Synchronize BC operation to external time source

Remote Terminal

- Multiple RT simulation (up to 31 RTs)
- Programmable error injection (on a per word basis)
- Modify data, status words or setup while card is running
- Programmable message content (linked message buffers)
- Interrupts can be generated on a per message basis upon End of Message and error conditions

Bus Monitor

- Capture 100% fully loaded bus traffic with:
 - Time-tagging
 - Word status
 - RT response time
 - Error status
 - Message status
- Interrupts can be selected by RT / SA / WC
- Extensive filtering and triggering options
 - By individual RT/subaddress
 - Transmit, receive or broadcast mode codes
 - Internal or external triggering
 - Trigger output on user specified data
- Real-time bus playback with RT edit mode
- 45-bit, microsecond resolution timetagging
- Host software synchronization to external timing sources

A channel is a dual-redundant A/B pair.
See our on-line Military Products Configuration Guide for available configurations.
<http://www.condoreng.com>

