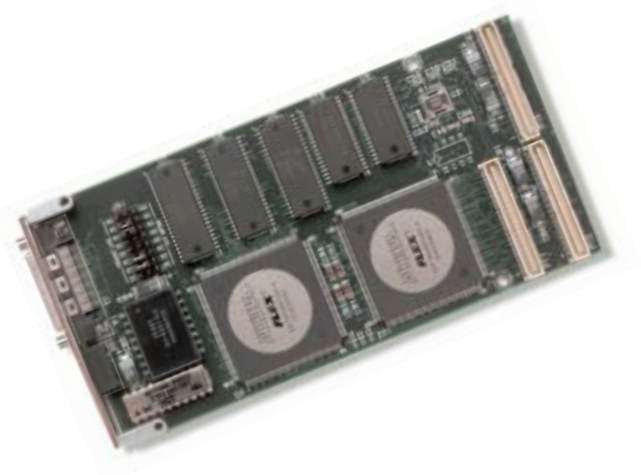
1553

Interface for PMC

PMC-1553

FEATURES

- **Multi-function Features**
  - Simultaneous Bus Controller, 31 Remote Terminals, or Bus Monitor
- **Single-function Features**
  - Bus Controller, 31 Remote Terminals, or Bus Monitor
- **Bus Controller - BC**
  - BC->RT, RT->BC, RT->RT
  - Mode Codes, Broadcast and single-shot messaging
  - Programmable time delays
  - Major/Minor frames
  - Real-time conditional branching
  - Two aperiodic messaging methods
- **Remote Terminal - RT**
  - RT data wrapping
  - Multiple RT buffers
  - Dynamic Bus Control
  - Automatic Mode Code and status bit responses
  - Programmable response time
- **Bus Monitor - BM**
  - Full error detection
  - Multiple monitoring methods
  - 45-bit time-tagging
  - Adv. interrupts and triggers
- **Architecture**
  - BC & RT error injection/ detection
  - DYNAMIC architecture
  - BC & RT link list structures
  - 1 Mbyte RAM per channel
  - Direct & transformer coupling
  - Onboard diagnostic bus
  - Environmental options
- **Software Support**
  - Advanced, high-level API
  - Source code included
  - BusTools Analyzer supported



The PMC-1553 provides the highest level of performance and flexibility for MIL-STD-1553A/B in the PMC form factor. The PMC-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 a fully loaded 1553 bus.

Multi-function Interface

The PMC-1553-M provides a multifunction 1553 interface that can operate simultaneously as a BC, up to 31 RTs and as a BM. It can completely emulate an entire dual-redundant 1553 channel internally, eliminating the need for external hardware to simulate missing nodes.

Single-function Interface

The PMC-1553-S is a single-function interface with all the features and functionality of the multi-function version, but only one major operational mode is enabled at a time. This interface functions as either a Bus Controller or 31 Remote Terminals or Bus Monitor.

Software

Included with the PMC-1553 is Condor’s easy-to-use, flexible, high-level API which supports up to 10 independent MIL-STD-1553 channels. Source code and Windows XP, 2000, Me, NT, 98, 95, VxWorks, Linux, LabWindows/CVI and Visual Basic support is provided. LabVIEW support, Solaris support and *BusTools*/1553, Condor’s GUI bus analysis and simulation 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.

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Interface for PMC

PMC-1553

SPECIFICATIONS

Physical

- Single PMC card (74mm x 149mm)

Environmental

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

Software

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

Connections

- Direct or transformer coupling
- Input and output triggers
- Jumper selectable front panel or P14 I/O connections
- Transition cabling to 1553 cable jacks included

Multi-function Operational Modes

- Simultaneous BC, 31 RTs and BM

Single-function Operational Modes

- BC or 31 RTs or BM

Power (50% duty cycle)

- +5 VDC: 1.4 A

On-board Shared RAM

- 1 Mbyte (per dual-redundant channel)

PCI Signal Compatibility

- 5V Signaling

Warranty: 3 year limited hardware warranty

AVAILABLE CONFIGURATIONS

PMC-1553-M	MIL-STD-1553 multi-function PMC Module
PMC-1553-S	MIL-STD-1553 single-function PMC Module
-Y suffix	Ruggedized, temperature screened option (-37°C to +85°C)

Optional Software

***BusTools*/1553**	MIL-STD-1553 Bus Analysis, Simulation & Data Logging software for Windows (multi-function boards only)
LV-1553	LabVIEW support for PMC-1553
VxW-1553	VxWorks support for PMC-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 message content (linked message buffers)
- Modify data, status words or setup while card is running
- Programmable error injection (on a per word basis)
- 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

See our on-line Military Products Configuration Guide for available configurations.
http://www.condoreng.com

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