

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

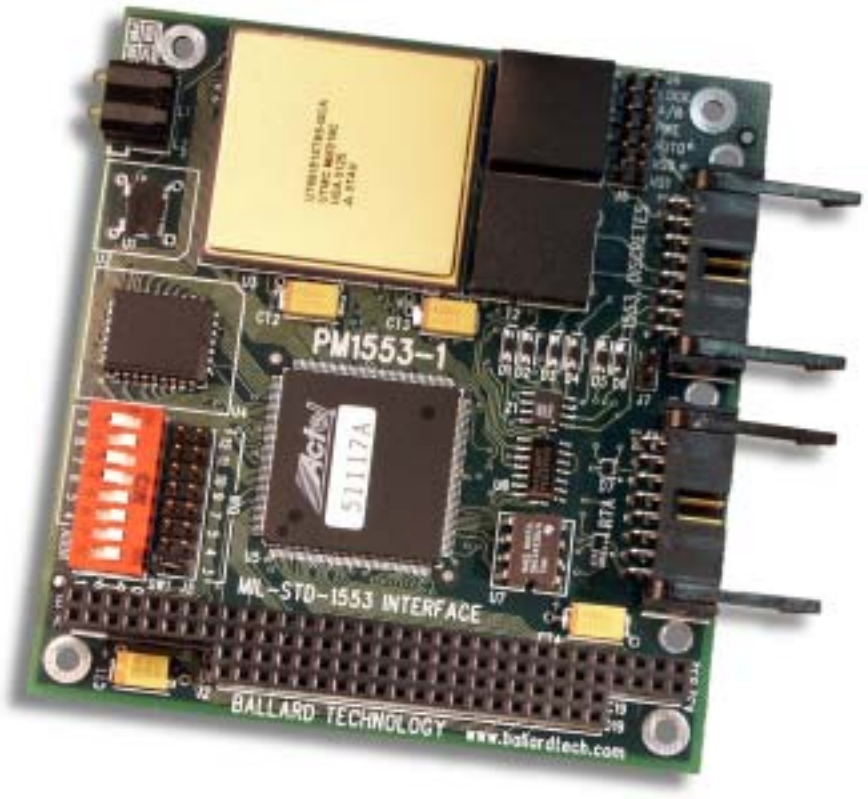
Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Visit our website - *Click HERE*

PM1553-1

MIL-STD-1553 Interface for PC/104 Computers



Features

- BC, RT, and Monitor modes
- 32K x 16 memory
- Powerful SµMMIT protocol processor
- MIL-STD-1760 support
- Configurable discretes (4 in/2 out)
- Custom versions available
- PC/104 compliant

Description

The PM1553-1 is a low-cost dual-redundant MIL-STD-1553 interface for PC/104-embedded computers. It can be programmed to function as a 1553 Bus Controller, Remote Terminal, or Monitor. In addition to 1553 capability, the PM1553-1 has configurable input and output discretes. The PM1553-1 has many features that minimize the load on the host processor and can even eliminate the need for additional cards. The straightforward architecture and I/O-mapped registers make integration and applications programming a simple task in any operating system.

Designed for flexibility, the PM1553-1 can be ordered in various configurations to provide the most cost-effective solution for a given application. Industrial temperature range is standard; military temperature range is also available. For rugged applications, the standard switches and moveable jumpers can be replaced with fixed settings, and conformal coating is available. Input discretes may be configured for different voltages in a variety of series and shunt circuits. Output discretes are open-collector with an optional internal pull-up resistor. The PM1553-1 is available with or without discretes and MIL-STD-1760 capability. An RT-only version is also available.

MIL-STD-1553

MIL-STD-1553 functionality is provided by an Aeroflex UTMC SµMMIT® protocol processor. Once configured by software, the SµMMIT runs autonomously, handling messages without further host intervention. In Bus Controller mode, frame timing, retries, and exception processing are all programmable and handled automatically. In Remote Terminal mode, subaddresses and mode codes may be selectively illegal-

Ballard Technology

3229A Pine Street, Everett, WA 98201-5306 USA ▪ Tel: (800) 829-1553 (425) 339-0281 Fax: (425) 339-0915
E-mail: sales@ballardtech.com Web: www.ballardtech.com

ized during initialization. Messages may be buffered in an indexed 256-message buffer or in a ping-pong double buffer on a subaddress-by-subaddress basis. A record of interrupts is maintained in an interrupt log list. When in Monitor mode, the PM1553-1 records a time-tagged command and data history of bus traffic to and from all or selected terminals.

Autoinitialization

The mode, RT address, and data structures can be either initialized by the host processor or automatically initialized at power-on. Jumpers and an on-board EEPROM select the settings and provide data for initialization. The host can reprogram the contents of the EEPROM. For critical applications, a PROM may be used in place of the EE-PROM. Fast autoinitialization enables the PM1553-1 to respond to 1553 command words on the databus even before the host processor has finished booting.

MIL-STD-1760 Features

The PM1553-1 may be used in MIL-STD-1760 systems, which require connector-programmable RT addresses and fast initialization. Jumpers enable this capability, and the EEPROM provides the autoinitialization data. The five RT address lines and the required address parity are inputs to a connector on the PM1553-1.

Discretes

The PM1553-1 is available with up to four input and two output discretes. The input discretes are factory-configured to the desired circuit and threshold voltage. A variety of series and shunt configurations (open/ground, voltage/ground, and voltage/open) are available. In addition to analog filtering, inputs are debounced through a programmable digital circuit. Each input discrete may be programmed to issue a service request on the positive and/or negative edge of the input signal. Output discretes are under host control and have open-collector circuits with optional pull-up resistors.

Programming

The PM1553-1 may be programmed in most languages and operating systems. All accesses to the PM1553-1 are through registers in an I/O address window. Polling and/or interrupts may be used to handle the service requests generated by the various resources. Provided with the PM1553-1 are files containing many software helper functions and examples that demonstrate how easy it is to program and use the PM1553-1.

Ordering Information

PM1553-1/xyz: MIL-STD-1553 PC/104 card (where xyz is the configuration number). Please contact Ballard Technology for configuration numbers. Includes circuit board, manual, and software disk.

Technical Specifications: PM1553-1

MIL-STD-1553
- BC, RT, monitor, or RT/monitor modes
  - (RT-only version available)
- Dual-redundant
- Transformer or direct coupled
- MIL-STD-1553A or B (Notice 2)
- SµMMIT XTE protocol processor (or
  - SµMMIT RTE for RT-only)
- 32K x 16 memory
- BC frame timing options
  - Internal schedule
  - External clock
  - Single step
- RT watchdog timer
  - Enable/disable
  - Sets subsystem flag in status word
  - 0 to 174 ms (programmable)

Message Buffering
- single
- ping-pong

MIL-STD-1760
- Fast autoinitialization
  - From EEPROM or PROM
  - No host processing required
- RT address
  - Connector-programmable
  - Internal pull-up resistors
  - Odd parity

DISCRETES
- Inputs: Up to 4
  - 5, 12, 28 VDC or other
  - Series or shunt
  - Transient voltage protected
- Outputs: Up to 2
  - Open-collector (optional pull-up)
  - 50 VDC at 500 mA (max)

OTHER
- PC/104: 8 or 16-bit
- Interrupts: 3, 4, 5, 7, 9, 10, 11, 12
- Power required
  - 5 VDC
  - (+/–12 VDC is not used)
- Size: 3.55 x 3.75 in. (90.2 x 95.9 mm)
- Weight: 3.3 ounces (94 grams)
- Temperature grades
  - Industrial (std): –40° to +70° C
  - Military: –55° to +85° C

SµMMIT® is a registered trademark of Aeroflex UTMC Microelectronic Systems, Inc.

Ballard Technology
3229A Pine Street
Everett, WA 98201-5306 USA
Tel: (800) 829-1553 (425) 339-0281
Fax: (425) 339-0915
E-mail: sales@ballardtech.com
Web: www.ballardtech.com

Specializing in avionics databuses
MIL-STD-1553
ARINC 429/575/629/708/717
SPACE SHUTTLE
Custom Products

BR144-121902

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP