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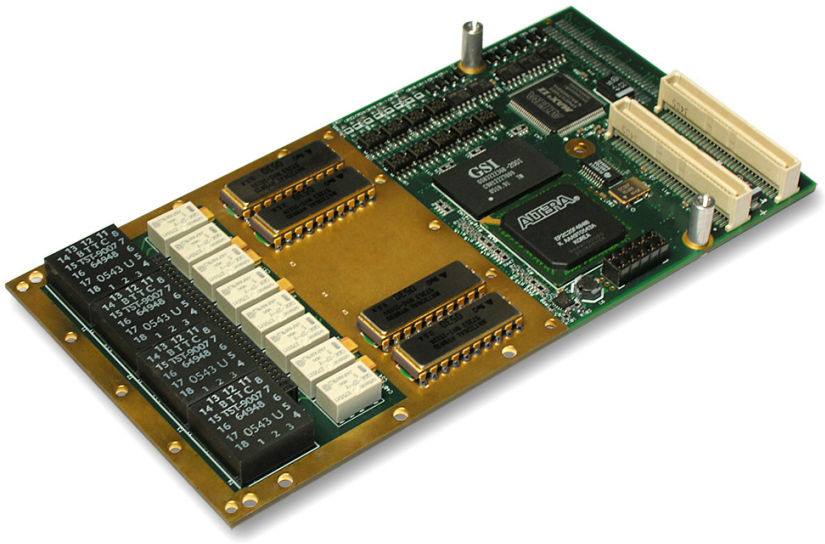
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QPM-1553

High Density PMC Module

Abaco Systems' QPM-1553 is the latest generation of performance and flexibility for MIL-STD-1553A/B Notice II on a PMC (PCI Mezzanine Card) module. Available in commercial, ruggedized and conductively cooled versions with one, two or four dual-redundant channels, the QPM-1553 includes advanced API (Application Programming Interface) software that reduces application development time.

Standard features include selectable transformer or direct coupling, 66 MHz, PCI bus support, 1 Mbyte of RAM per channel, 64-bit , 25 nanosecond message timetagging, triggers, extensive BC & RT link-list structures, error injection/detection, avionics level discretes, automatic/manual RT Status Bit and Mode Code responses, along with advanced BC functionality. IRIG-B signal Receiver/Generator with GPS synchronization, variable voltage output and RS-485 differential discretes are optionally available. With the highest speed encoder/decoder in the industry, the QPM-1553 Bus Monitors provide unparalleled error detection and 100% monitoring of fully loaded buses.

Multi-function Interfaces

QPM-1553 multi-function interfaces are easily configured to operate with simultaneous Bus Controller, 31 Remote Terminals and Bus Monitor functionality.

Dual-function Interfaces

Dual-function QPM-1553 interfaces have all the features and functionality of the multifunction versions, with either Bus Monitor and Bus Controller or Bus monitor and 31 Remote terminals.

Software

Abaco provides our advanced 1553 API in source code, along with support for Windows®, VxWorks® and Linux (contact the factory for supported operating system versions). To access 1553 functionality without software development, BusTools/1553, Abaco's MIL-STD-1553 bus analysis, simulation and data logging/monitoring solution is available.

FEATURES:

- 1, 2 or 4 dual-redundant MIL-STD-1553A/B Notice II channels
- 100% software and hardware compatibility with QPMC-1553
  - Less heat
  - Less power
  - Higher MTBF
- Simultaneous Bus Controller, 31 Remote Terminals and Bus Monitor
- High-level API for Windows®, VxWorks® and Linux included (contact the factory for supported operating system versions)
- Multi- and Dual-function versions
- Supports 66/33 MHz PCI bus
- Front panel or rear (P14) I/O available
- Optional IRIG-B receiver/generator
- 64-bit, 25 ns time tagging
- (virtually unlimited time stamping)
- Complete message programmability
- Flexible message status/interupt generation
- I/O triggering and error injection/detection
- Transition cabling to 1553 cable jacks included
- Optional extended temperature, variable voltage output, conductive cooling and differential discretes

abaco SYSTEMS

QPM-1553 *High Density PMC Module*

Specifications

Physical
- PMC Mezzanine Card (74mm x 149 mm without bezel)
- Standard configuration has front panel I/O

Environmental
- Standard operating temperature range: 0° to +85° C
- Relative humidity: 5% to 90% (non-condensing)
- Optional ruggedized, extended temp and conductively cooled configurations

Software Support
- API – High-level libraries with source code included for Windows®, VxWorks® and Linux (contact the factory for supported operating system versions)
- GUI – Optional BusTools/1553 GUI Bus Analysis, Simulation & Data Logging software (multi-function boards only)

Connections
- Direct or transformer coupling
- I/O triggers; 18 avionics-level discretes
- Front panel or P14 I/O connections
- Transition cabling to 1553 cable jacks included on front panel configurations
- Optional RS-485 differential discretes

Multi-function Operational Modes
- Simultaneous BC, 31 RTs and BM

Dual-function Operational Modes
- BM and 31 RTs or BM and BC

Power (4 channels at 75% duty cycle)
- +5 VDC @ 1.01 A (typ.)
- +3.3 VDC @ 230mA (typ.)
- 5.9 W power dissipated on board

On-board Shared RAM
- 1 Mbyte (per dual-redundant channel)

PCI Signal Compatibility
- Universal (5V or 3.3V)
- Supports 66 or 33 MHz PCI bus operation

Timing
- Independent 64-bit, 25ns message time-tagging per channel
- Time can be programmed via the host or by a 1553 trigger
- All timers can be synchronized to 0 via the host
- Timers can independently use IRIG time
- IRIG-B receiver (AM or DC/TTL) and generator (DC/TTL)

Optional Configurations
- 1, 2 or 4 dual-redundant channels
- Optional P14 I/O
- Optional ruggedized, -40° C to +85° C operating temperature range
- Optional ruggedized, VITA compliant conductive cooling (-40°C to +85° C at rail)
- Optional conformal coating
- Optional IRIG-B Receiver (AM or DC/TTL) and Generator (DC/TTL)

Bus Controller
- Programmable control over:
  - Major and minor frame content and timing
  - Intermessage gap times
  - Response time-out and late response
- Multiple data buffers
- 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 on full range of system conditions or 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 injection (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)
- Selectable interrupts upon multiple conditions
- RT Map Monitoring

Bus Monitor
- Capture 100% fully loaded bus traffic with:
  - Time-tagging
  - Word status
  - 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
- 64-bit, 25ns time tagging on BC, RT and BM
- Virtually unlimited time stamping
- IRIG/GPS synchronization

Ordering information

QPM-1553-G2-1D	MIL-STD-1553 dual-function, single dual-redundant channel, 32-bit FW, fixed voltage PMC interface
QPM-1553-G2-2D	MIL-STD-1553 dual-function, two dual-redundant channel, 32-bit FW, fixed voltage PMC interface
QPM-1553-G2-4D	MIL-STD-1553 dual-function, four dual-redundant channel, 32-bit FW, fixed voltage PMC interface
QPM-1553-G2-1M	MIL-STD-1553 multi-function, single dual-redundant channel, 32-bit FW, fixed voltage PMC interface
QPM-1553-G2-2M	MIL-STD-1553 multi-function, two dual-redundant channel, 32-bit FW, fixed voltage PMC interface
QPM-1553-G2-4M	MIL-STD-1553 multi-function, four dual-redundant channel, 32-bit FW, fixed voltage PMC interface

Legacy part numbers are still available, contact your Sales representative for more information.

Optional Hardware

-D suffix	P14 rear I/O, blank front panel
-Y suffix	P14 rear I/O, No front panel
-R suffix	Front I/O, transformer coupled, ruggedized, extended temperature
-G suffix	P14 rear I/O, blank front panel, transformer coupled, ruggedized, extended temperature
-N suffix	P14 rear I/O, No front panel, transformer coupled, ruggedized, extended temperature
-C suffix	P14 rear I/O, No front panel, transformer coupled, ruggedized, extended temperature, conformal coated, conduction cooled
-K suffix	Conformal coating
-W suffix	IRIG-B Receiver (AM or DC/TTL) and Generator (DC/TTL)
-H suffix	Differential discretes, fixed voltage, transformer coupled
-V suffix	Variable voltage
-NCBL suffix	does not include transition cable

Carrier Card options

-X suffix	PCI (mounted on PCI carrier card) is compatible with PCI-X 1.0 and PCI slots
-3 suffix	3U cPCI (mounted on 3U cPCI carrier card)
-U suffix	PCI Express (mounted on PCI Express carrier card)

Optional Software

BT-1553	MIL-STD-1553 Bus Analysis & Data Logging software for Windows
LV-1553	Lab/View support for MIL-STD-1553

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