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Find the *Abaco Systems / Condor Engineering RPCIE-1553-2MW* at our website: *Click HERE*

GE
Intelligent Platforms



RPCIE-1553

High Density PCI Express Interface

Features

- 1, 2 or 4 dual-redundant MIL-STD-1553A/B Notice II channels
- Native 4 lane PCI Express interface (no bridge)
- Simultaneous Bus Controller, 31 Remote Terminals and Bus Monitor
- High-level API for Windows 7, Vista, XP, 2000, NT, VxWorks, Linux, Integrity, LynxOS, QNX and Solaris included
- Multi-function and single-function versions
- Optional IRIG-B receiver/generator
- 45-bit, microsecond time-tagging
- Complete message programmability
- Flexible message status/interrupt generation
- I/O triggering and error injection/detection
- Transition cabling to 1553 cable jacks included
- Optional conformal coating
- Supportable throughout program lifetime with Product Lifetime Management (PLM) program

GE Intelligent Platforms RPCIE-1553 is the latest generation of performance and flexibility for MIL-STD-1553A/B Notice II on a PCI Express module. Available in -40 to +70 temperature with one, two or four dual-redundant channels, the RPCIE-1553 includes advanced API (Application Programming Interface) software that reduces application development time.

Standard features include IRIG-B signal Receiver/Generator with GPS synchronization, transformer coupling, 66 MHz, PCI bus support, 1 Mbyte of RAM per channel, 45-bit 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. Variable voltage output is optionally available. The RPCIE-1553 Bus Monitors provide unparalleled error detection and 100% monitoring of fully loaded buses.

Multi-function Interfaces

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

Single-function Interfaces

Single-function RPCIE-1553 interfaces have all the features and functionality of the multi-function versions, but only one major operational mode is enabled at a time. Each interface can emulate either a Bus Controller or 31 Remote Terminals or a Bus Monitor.

Software

GE Intelligent Platforms provides our advanced 1553 API in source code, along with support for Windows 7, Vista, XP, 2000, NT, VxWorks, Linux, Integrity, LynxOS, QNX and other operating systems. To access 1553 functionality without software development, BusTools/1553, GE Intelligent Platforms MIL-STD-1553 bus analysis, simulation and data logging/monitoring solution is available.

RPCIE-1553 High Density PCI Express Interface

Specifications

Physical
- PCI Express Interface Card (4.376 x 6.60 inches)

Environmental
- Standard operating temperature range: -40° C up to +70° C
- Relative humidity: 5 to 95% (non-condensing)
- Optional conformal coating configurations

Software Support
- API - High-level libraries with source code included for Windows XP, 2000, Me, NT, 98, 95, VxWorks, Linux, Integrity, LynxOS and Solaris
- GUI - Optional BusTools/1553 GUI Bus Analysis, Simulation & Data Logging software (multi-function boards only)
- IRIG-B Receiver (AM or DC/TTL) and Generator (DC/TTL)

Connections
- Transformer coupling
- I/O triggers; 18 avionics-level discretes
- 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 (4 channels at 75% duty cycle)
- +12 VDC @ 200mA (typ.)
- +3.3 VDC @ 2A (typ.)
- 5.9 W power dissipated on board

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

Optional Configurations
- 1, 2 or 4 dual-redundant channels
- 1, 2 or 4 Single or Multi function channels
- Optional conformal coating
- Optional Direct coupling

Contact factory for custom requirements

Descriptions

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 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
- 45-bit , microsecond resolution timetagging
- IRIG/GPS synchronization

Ordering Information

RPCIE-1553-1MW: MIL-STD-1553 MULTI-FUNCTION, PCI EXPRESS INTERFACE, SINGLE DUAL-REDUNDANT CHANNEL, VARIABLE VOLTAGE, WITH IRIG-B/G

RPCIE-1553-1SAW: MIL-STD-1553 SINGLE-FUNCTION, PCI EXPRESS INTERFACE, SINGLE DUAL-REDUNDANT CHANNEL, FIXED VOLTAGE, WITH IRIG-B/G

RPCIE-1553-2MW: MIL-STD-1553 MULTI-FUNCTION, PCI EXPRESS INTERFACE, TWO DUAL-REDUNDANT CHANNEL, VARIABLE VOLTAGE, WITH IRIG-B/G

RPCIE-1553-2SAW: MIL-STD-1553 SINGLE-FUNCTION, PCI EXPRESS INTERFACE, TWO DUAL-REDUNDANT CHANNEL, FIXED VOLTAGE, WITH IRIG-B/G

RPCIE-1553-4MW: MIL-STD-1553 MULTI-FUNCTION, PCI EXPRESS INTERFACE, FOUR DUAL-REDUNDANT CHANNEL, VARIABLE VOLTAGE, WITH IRIG-B/G

RPCIE-1553-4SAW: MIL-STD-1553 SINGLE-FUNCTION, PCI EXPRESS INTERFACE, FOUR DUAL-REDUNDANT CHANNEL, FIXED VOLTAGE, WITH IRIG-B/G

-K suffix Conformal coating

For detailed information including systems options contact GE Intelligent Platforms

About GE Intelligent Platforms

GE Intelligent Platforms, a General Electric Company (NYSE: GE), is an experienced high-performance technology company and a global provider of hardware, software, services, and expertise in automation and embedded computing. We offer a unique foundation of agile, advanced and ultra-reliable technology that provides customers a sustainable advantage in the industries they serve, including energy, water, consumer packaged goods, government and defense, and telecommunications. GE Intelligent Platforms is a worldwide company headquartered in Charlottesville, VA and is part of GE Enterprise Solutions. For more information, visit www.ge-ip.com.

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Global regional phone numbers are available on our web site.

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