

SpaceWire PCI Card

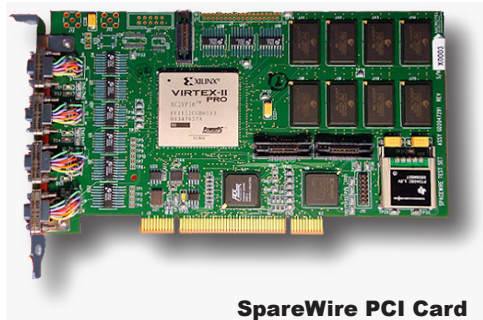
and fully compatible SpaceWire Cable



MICROTEL LLC

Microtel LLC is working with NASA Goddard Space Flight Center to provide SpaceWire technology. For NASA, Microtel provides manufacturing, integration and test of SpaceWire PCI cards. Using commercial MS Windows based PCs with NASA developed software, Microtel provides a low cost multi-featured SpaceWire Test Set.

Microtel LLC is working with the NASA Office of Technology Transfer to make this SpaceWire technology available for commercial use. At present Microtel can provide the NASA GSFC developed SpaceWire Test Set technology for use on U.S. Government programs.

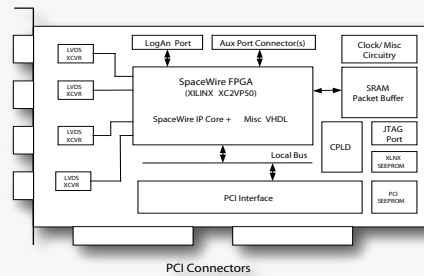


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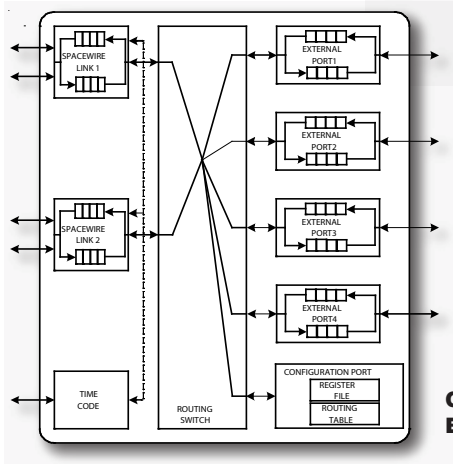
Major Features

- PCI interface to the PC Motherboard w/ DMA controller
- 4 Full-Duplex LVDS Transceiver circuits
- 16 MBytes of SRAM for local packet storage
- CPLD to facilitate loading of FPGA over PCI bus
- Large Reprogrammable FPGA to implement:
 - NASA GSFC SpaceWire Core
 - 2 Fully-Redundant Cross-Strapped SpaceWire Ports for communication with Flight Components.
 - 4 User Ports for communication with Processor on PC Motherboard.
 - Memory Controller Interface to on board Static Random Access Memory (SRAM) for Transferring Data to/from the SpaceWire Interface.
 - Memory Manager to control four transmit and receive buffers
 - I2C Interface to Cypress Clock Generator
 - Generation of Maskable Interrupts to software
 - Capability to Inject Parity Errors in Data Words
 - Time Code Manager
 - Capability To Measure SpaceWire Receive Bit Periods
 - Programmable Transmit Packet Rate Spacing
- Windows Device Driver Software

SpaceWire Port 1A
SpaceWire Port 1B
SpaceWire Port 2A
SpaceWire Port 2B



SpaceWire PCI Card High-Level Block Diagram



GSFC SpaceWire Router IP Core Block Diagram

SpaceWire Cable

- Fully compliant with SpaceWire specification
- 1 - 20 meter lengths.
- Hi-pot tested



CONTACT



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