



3U cPCI SpaceWire Plug-and-Play Interface Card

PnP Innovations, Inc has developed several key avionics components to support spacecraft data communications and simulations. This 3U cPCI board allows for any embedded computer board to become a SpaceWire network entry point. The board features industry proven SpaceWire IP, along with an on-board DMA engine to quickly transfer SpaceWire packets to and from main processor memory. Additionally, the board features a small embedded router, which allows it to respond to interrogation type messages without requiring processor involvement.

In addition to the SpaceWire interface, the board includes RS422 timing pulse circuitry. This allows the board to become time synched with other spacecraft applications.

PnP Inc has interfaced and tested this board with several embedded processors on a variety of projects.



SPACEWIRE

- High speed SpaceWire port
- Industry proven SpaceWire IP
- Protocol compliant with ESA Specification
- Initiator PCI DMA Engine for fast data transfer
- Incoming and outgoing packet buffers
- Embedded router for packet echoing without processor involvement

TIMING SYNCHRONIZATION

- Board sinks pulse for time synchronization
- RS422 signaling levels
- Provides software interrupt
- Additional 64-bit general purpose counter register

SUPPORTED PROCESSOR BOARDS

- AiTech S950
- Curtiss Wright SCP-124
- Broadreach BRE440

BOARD INFORMATION

- Single MicroD 25 conn for SpW & Timing
- 3U cPCI Form Factor
- 3.3V Signaling (Keyed)
- Conduction cooled frame design which also fits standard air-cooled chassis

APPLICATIONS

- SpW Network Entry Point for Processors
- Sensor Simulation
- Component Integration
- Network Experimentation

DELIVERABLES

- Board User Guide
- VxWorks 6.x Driver
- Optional Cabling