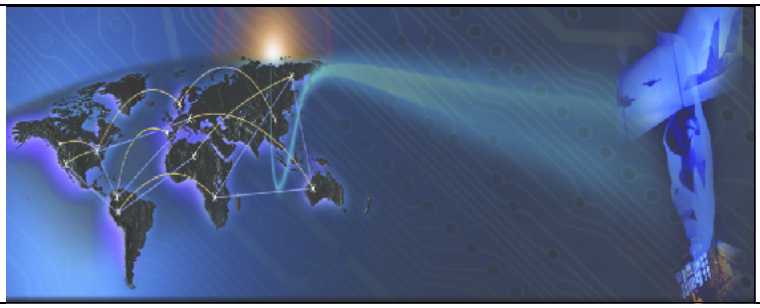


GPIO-HSD

FEATURES

- Device Mode and IBL Mode
- 32-Bit, 33 MHz PCI
- Built-In Self Tests
- Software Configuration of HSD/IBL Mode
- Plug-compatible with Existing HSD Devices
- Direct Interface to Visual Systems
- Comprehensive Software Package

BENEFITS

- Low Host Overhead
- Plugs into Existing Cables
- Quick Installation
- High Reliability
- Full Hardware and Software Support

The GPIO-HSD provides a full 32-bit parallel interface to a customer-designed device at rates up to 2,150K transfers per second. The GPIO-HSD includes a PCI interface to connect it to the host computer. It also includes a simple 32-bit bidirectional data bus and appropriate internal storage registers for exchanging data with the customer device.

The board includes a local microprocessor for controlling internal HSD data flow, PCI bus traffic, and the external I/O handshake interface. The high-speed Intercomputer Bus Link (IBL) mode connects two GPIO-HSD boards for high-speed, inter-system communication.

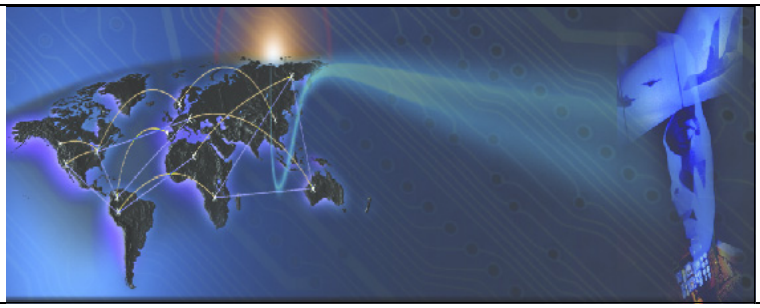
GPIO-HSD

Physical Description

The GPIO-HSD is a multi-layer, universal, 32-bit PCI board. A 100-pin, high-density connector on the board's faceplate connects to two 2 X 50 pin standard HSD cables. An array of six LED indicators on the printed circuit board provides status information.

Functional Description

- High-speed data transfers (up to 2,150K words per second; maximum rate of 465 nanoseconds per transfer); up to 64K (256 Kbytes) transfers per block
- Simple handshake protocol between HSD and customer-designed equipment
- Maximum data transfer rates for cable lengths up to 50 feet; slower rates for cable lengths up to 250 feet
- Standard IOCL commands including command chaining, data chaining, transfer-in-channel
- Intercomputer Bus Link (IBL) capability
- Linux® operating system



GPIO-HSD (Continued)

Supported Legacy 913x HSD Features

- External Mode operation where the customer device has complete control over the HSD interface
- On-board processor minimizes software overhead; full external mode support
- Can operate in Compatible mode and IBL mode
- Supports 44 valid I/O HSD Operation Code variations
- I/O Command Lists built up in host memory
- Automatic status posting
- PCI interrupts to report status information

Enhanced GPIO-HSD Features

- Transfer rates up to 8.5 Mbytes/second
- Can operate in Internal Loopback mode and External Loopback mode
- Software-controlled multiplexers to change signal assignments for IBL modes with straight cables or crossed IBL cables
- 16 Mbytes of onboard memory
- Programmable interface clock rates to ensure operation with slower devices
- Memory Buffer Address Registers allow PCI transfers between other PCI boards and GPIO-HSD
- Queued interrupt structure practically prevents loss of interrupts
- Supports all IOCB/IOCL commands; emulates Encore HSDI IOCB/IOCL data structures
- Programmable external mode operation notification by PCI interrupt
- Software-controlled Online/Offline capability
- All “jumper” configuration accomplished via software
- State of HSD bus control signals accessible to software
- Built-in Self Test
- Remote HSD interrupt capability through IBL Link Request Acknowledge handshake

Specifications

Specification	Description		
Physical Characteristics			
	Depth	4.2 inches (10.67 centimeters)	
	Height	6.95 inches (17.65 centimeters)	
	Weight	1.2 lbs (0.54 kilograms)	
Environmental Characteristics			
	Operating	• Temperature:	32° F to 131° F (0° C to 55° C)
		• Relative Humidity:	0% to 90%
		• Altitude:	0 to 10,000 AMSL (0 to 3,048 meters)
	Storage	• Temperature:	-40° F to 176° F (-40° C to 80° C)
		• Relative Humidity:	0% to 90%
		• Altitude:	0 to 40,000 AMSL (0 to 12,192 meters)
	Electrical	Voltage	5.0 VDC ± 5% 3.3 VDC ± 5%

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