

# **General Standards Corporation**

## **High Performance Bus Interface Solutions**

### ***PMC-HPDI32B-P***

#### **High-speed Parallel Digital Interface** *with Differential PECL Transceivers*



The PMC-HPDI32B-P board is a very high speed parallel digital input/output board providing up to 200 Mbytes/sec transfers. The board employs General Standards' high performance PCI-DMA (PLX) engine and can transfer data indefinitely without host intervention. The PCI-DMA is easily set up and operated by writing only a few programming instruction statements to the board. Once the link between the PMC-HPDI32B board and the external customer device is established, the desired data transfers between the two devices are performed and are transparent to the user. The 32 bit data interface employs differential PECL transceivers. The board will interface to a wide variety of digital I/O devices.

#### **Features Include:**

- 200 Mbytes/sec input transfer rate via the front panel connector (PECL transceivers)
- 132 Mbytes per second PMC transfer rate in burst mode.
- A single board can interface to a wide variety of external high-speed devices.
- "Deep FIFO buffers" (up to 1 Mbytes) allow data bursts to be transferred over the PMC bus independent of transfers over the cable.
- 32-Bit data transfers on the PMC bus.
- On-board cable controller, FIFOs, and DMA engine provide for continuous data transfer capability.
- Data input/output clock rate up to 50 MHz
- Data input/output width of 32 bits
- "Program-and-forget" DMA engine handles D32 transfers, also DMA Chaining
- Interrupts available upon DMA-completion, FIFO status, cable status, frame-valid and line-valid.
- A variety of device drivers are available, including VxWorks, Windows, and Linux.

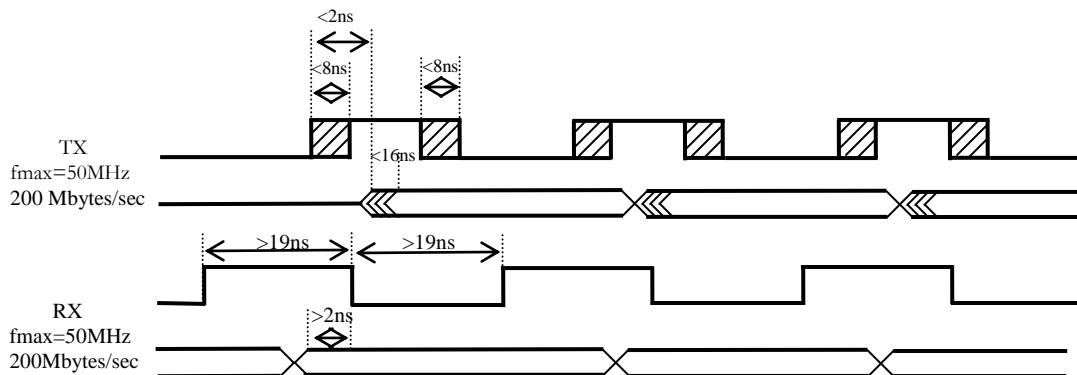
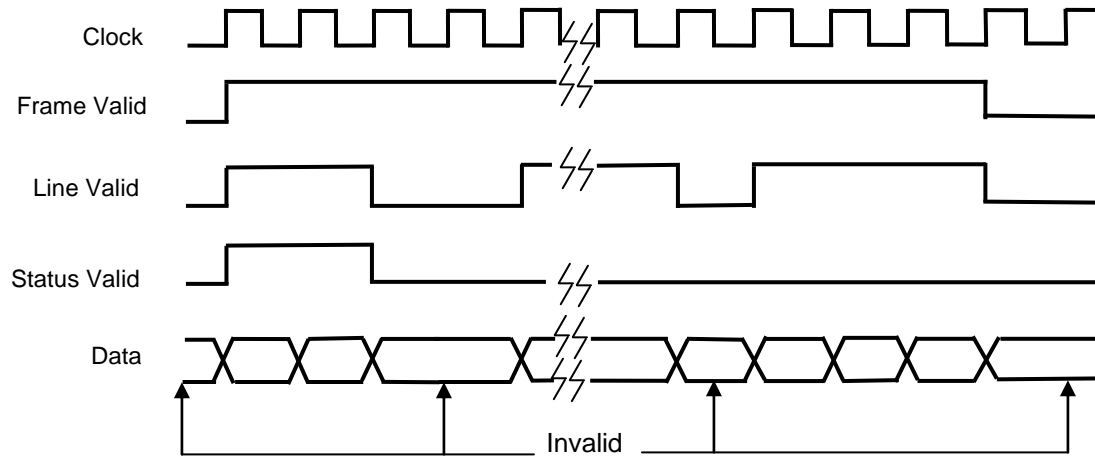
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The PECL cable interface provides for very high-speed reception of data (up to 200 Mbytes/sec). The cable interface provides for a differential data interface width of 32 bits.



**Note:** Data is transmitted on the rising edge of the Transmit clk and received on the falling edge of the Receive clk.

### Termination (Ordering Option)

The PECL interface can be ordered with two termination options.

**-P1 :** 120 Ohm parallel termination between all +/- pairs. (Socketed SIP)  
All signals are pulled to GND with 220 Ohm resistors

**-P2 :** No termination resistors are installed. Socketed SIP between +/- pairs not installed.

Contact factors if different termination value are desired.

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### Power Requirements (@25° C):

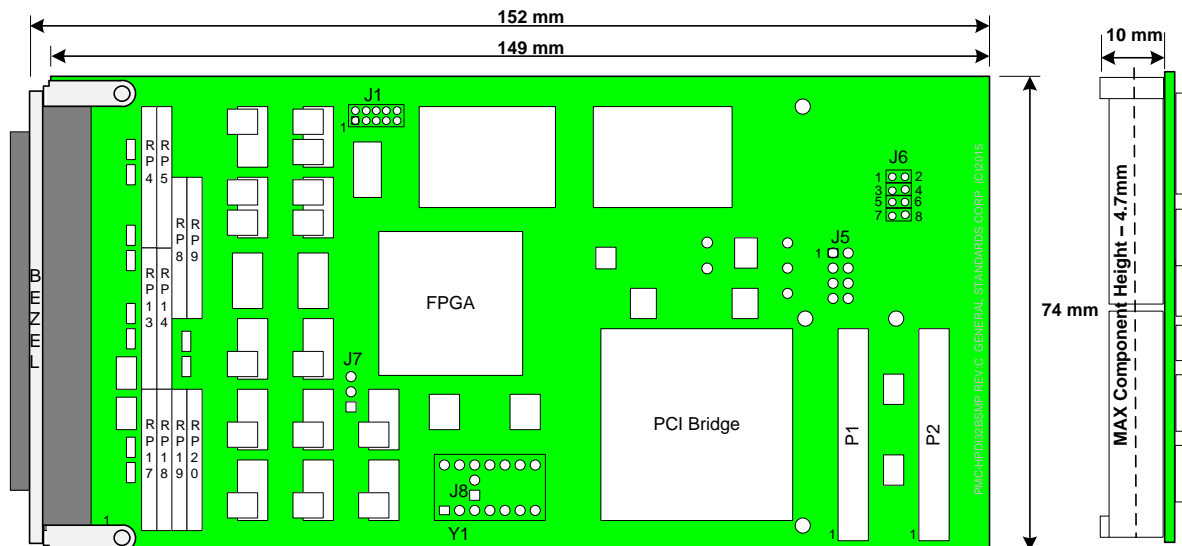
- +5.0 VDC at 1.5 Amps Max (typical 1.2 Amps)
- Typical Total Power Dissipation: ~6W

### PMC Compatibility:

- Conforms to PCI Specification 2.1, with D32 read/write transactions.
- Supports "plug-n-play" initialization.
- Single multifunction interrupt
- Supports DMA transfers as bus master.

### Physical Characteristics:

Conforms to PMC Specification  
 Length: 149.00 mm (5.866")  
 Width: 74.0 mm (2.913")  
 Height: 10 mm (0.394")



### Environmental Specifications:

Ambient Temperature Range: Operating: 0° to +70° C (Commercial)  
 Storage: -40° to +85° C  
 Relative Humidity: Operating: 0 to 80%, non-condensing  
 Storage: 0 to 95%, non-condensing  
 Altitude: Operation to 10,000 ft

### Cooling Requirements:

Conventional air-cooling, 200 LPFM

### Ordering Information:

PMC - HPDI32B - <FIFO Size> - <Termination>

Option	Value	Description
FIFO Size	64K	8K x 32 FIFO
	256K	64K x 32 FIFO
	1M	256K x 32 FIFO
PECL Termination	P1	220 Ohm Output Termination / 120 Ohm Input Termination
	P2	No Termination

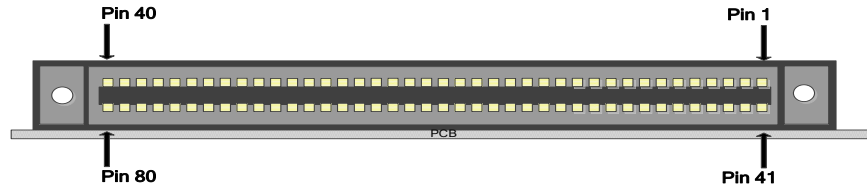
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## High Performance Bus Interface Solutions

### System I/O Connections:

User I/O Connector: 80 pin IO connector (female)  
 Part Number: Robinson Nugent P50E-080-P1-SR1-TG  
 Mating Connector: Robinson Nugent P50E-080-S-TG (50 mil twisted pair)  
 Robinson Nugent P25E-080-S-TG (25 mil non-twisted pair)



Pin #	Signal Name	Pin #	Signal Name
1	CLKp	41	D12p
2	CLKn	42	D12n
3	CMD0p	43	D13p
4	CMD0n	44	D13n
5	CMD1p	45	D14p
6	CMD1n	46	D14n
7	CMD2p	47	D15p
8	CMD2n	48	D15n
9	CMD3p	49	D16p
10	CMD3n	50	D16n
11	CMD4p	51	D17p
12	CMD4n	52	D17n
13	CMD5p	53	D18p
14	CMD5n	54	D18n
15	CMD6p	55	D19p
16	CMD6n	56	D19n
17	D0p	57	D20p
18	D0n	58	D20n
19	D1p	59	D21p
20	D1n	60	D21n
21	D2p	61	D22p
22	D2n	62	D22n
23	D3p	63	D23p
24	D3n	64	D23n
25	D4p	65	D24p
26	D4n	66	D24n
27	D5p	67	D25p
28	D5n	68	D25n
29	D6p	69	D26p
30	D6n	70	D26n
31	D7p	71	D27p
32	D7n	72	D27n
33	D8p	73	D28p
34	D8n	74	D28n
35	D9p	75	D29p
36	D9n	76	D29n
37	D10p	77	D30p
38	D10n	78	D30n
39	D11p	79	D31p
40	D11n	80	D31n

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