

PCI/PCIe/cPCI-7200

12 MB/s High-Speed 32-CH DI & 32-CH DO Cards



PCI EXPRESS® **CompactPCI**

Introduction

ADLINK's PCI/PCIe/cPCI-7200 are high-speed digital I/O cards consisting of 32 digital input channels, and 32 digital output channels. High-performance designs and the state-of-the-art technology make these cards suitable for high-speed data transfer and pattern generation applications.

The PCI/PCIe/cPCI-7200 performs high-speed data transfers using bus-mastering DMA via 32-bit PCI bus architecture. The maximum data transfer rates can be up to 12 MB per second. Several digital I/O transfer modes are supported, such as direct programmed I/O control, timer pacer control, external clock mode and handshaking mode. They are very suitable for interfacing high-speed peripherals with your computer system.

Features

- Support a 32-bit 5 V PCI bus (PCI-7200)
- x1 lane PCI Express® interface (PCIe-7200)
- 3U EuroCard form factor, CompactPCI compliant (PICMG 2.0 R2.1) (cPCI-7200)
- 32-CH TTL digital inputs and 32-CH TTL digital outputs
- Up to 12 MB/s transfer rate
- Bus-mastering DMA for both digital inputs and outputs
- Onboard programmable timer pacer clock
- Supports handshaking digital I/O transfer mode
- Multiple programmable interrupt sources
- 5 V power available on connectors
- Compact, half-size PCB (PCI-7200/PCIe-7200)

Operating Systems

- Windows Vista/XP/2000/2003
- Linux

Recommended Software

- AD-Logger
- VB.NET/VC.NET/VB/VC++/BCB/Delphi
- DAQBench

Driver Support

- DAQPilot for Windows
- DAQPilot for LabVIEW™
- DAQ-MTLB for MATLAB®
- PCIS-DASK for Windows
- PCIS-DASK/X for Linux

Specifications

Digital I/O

- Number of channels:
 - 32-CH digital inputs
 - 32-CH digital outputs
- Compatibility: 5 V/TTL
- Data transfer rate
 - 12 MB/s with external 3 MHz clock, handshaking or external strobe
 - 8 MB/s with internal 2 MHz timer pacer
- Digital logic levels
 - Input high voltage: 2-5.25 V
 - Input low voltage: 0-0.8 V
 - Output high voltage: 2.7 V minimum
 - Output low voltage: 0.5 V maximum
- Output driving capacity
 - Source current: 3.0 mA
 - Sink current: 24 mA
- Data transfers:
 - programmed I/O, interrupt, bus-mastering DMA

Programmable Counter

- Base clock: 4 MHz
- Timer 0: DI clock source
- Timer 1: DO clock source
- Timer 2: Base clock source of timer 0 & 1

Interrupt

- Sources: EO_ACK, EI_REQ, Timer 0, Timer 1 or Timer 2

General Specifications

- I/O connector
 - PCI/PCIe-7200
 - 37-pin D-sub female
 - 40-pin Header
 - cPCI-7200
 - One 100-pin SCSI-II female
- Operating temperature: 0°C to 60°C
- Storage temperature: -20°C to 80°C
- Relative humidity: 5% to 95%, non-condensing
- Power requirements

Device	Power Consumption
PCI-7200	5V @ 720 mA typical
cPCI-7200	5V @ 800 mA typical
PCIe-7200	12V @ 200 mA 3.3V @ 500 mA

Dimensions (not including connectors)

- 148 mm x 102 mm (PCI/PCIe-7200)
- 160 mm x 100 mm (cPCI-7200)

Terminal Boards

PCI/PCIe-7200:

DIN-37D-01

Terminal Board with One 37-pin D-sub Connector and DIN-Rail Mounting (Cables are not included. For information on mating cables, refer to Section 14, Accessories.)

ACLD-9137-01

General-Purpose Terminal Board with One 37-pin D-sub Male Connector

ACLD-9137F-01

General-Purpose Terminal Board with One 37-pin D-sub Female Connector

cPCI-7200:

DIN-100S-01

Terminal Board with One 100-pin SCSI-II Connector and DIN-Rail Mounting (Cables are not included. For information on mating cables, refer to Section 14, Accessories.)

Ordering Information

PCI-7200

12 MB/s High-Speed 32-CH DI & 32-CH DO Card

PCIe-7200

12 MB/s High-Speed 32-CH DI & 32-CH DO PCI Express® card

cPCI-7200

12 MB/s High-Speed 32-CH DI & 32 CH DO Module Card for Low-Profile PCI

Pin Assignment

PCI/PCIe-7200				cPCI-7200			
CNI				CNI			
DI16	1	2	DO16	DO0	1	51	DO1
DI17	3	4	DO17	DO2	2	52	DO3
DI18	5	6	DO18	DO4	3	53	DO5
DI19	7	8	DO19	DO6	4	54	DO7
DI20	9	10	DO20	DO8	5	55	DO9
DI21	11	12	DO21	DO10	6	56	DO11
DI22	13	14	DO22	DO12	7	57	DO13
DI23	15	16	DO23	DO14	8	58	DO15
DI24	17	18	DO24	GND	9	59	GND
DI25	19	20	DO25	DO16	10	60	DO17
DI26	21	22	DO26	DO18	11	61	DO19
DI27	23	24	DO27	DO20	12	62	DO21
DI28	25	26	DO28	DO22	13	63	DO23
DI29	27	28	DO29	DO24	14	64	DO25
DI30	29	30	DO30	DO26	15	65	DO27
DI31	31	32	DO31	DO28	16	66	DO29
+5Vout	33	34	GND	DO30	17	67	DO31
O-ACK	35	36	O-TRG	GND	18	68	GND
O-REQ	37	38	N/C	+5Vout	19	69	GND
N/C	39	40	N/C	+5Vout	20	70	GND
				AUXIN0	21	71	AUXOUT0
				AUXIN1	22	72	AUXOUT1
DI0	1	20	DO0	I_TRG	23	73	GND
DI1	2	21	DO1	I_REQ	24	74	GND
DI2	3	22	DO2	I_ACK	25	75	GND
DI3	4	23	DO3	O_TRG	26	76	GND
DI4	5	24	DO4	O_REQ	27	77	GND
DI5	6	25	DO5	O_ACK	28	78	GND
DI6	7	26	DO6	AUXIN2	29	79	AUXOUT2
DI7	8	27	DO8	AUXIN3	30	80	AUXOUT3
DI8	9	28	DO7	+5Vout	31	81	GND
DI9	10	29	DO9	+5Vout	32	82	GND
DI10	11	30	DO10	GND	33	83	GND
DI11	12	31	DO11	DIN0	34	84	DIN1
DI12	13	32	DO12	DIN2	35	85	DIN3
DI13	14	33	DO13	DIN4	36	86	DIN5
DI14	15	34	DO14	DIN6	37	87	DIN7
DI15	16	35	DO15	DIN8	38	88	DIN9
+5Vout	17	36	GND	DIN10	39	89	DIN11
I-ACK	18	37	I-TRG	DIN12	40	90	DIN13
I-REQ	19			DIN14	41	91	DIN15
				GND	42	92	GND
				DIN16	43	93	DIN17
				DIN18	44	94	DIN19
				DIN20	45	95	DIN21
				DIN22	46	96	DIN23
				DIN24	47	97	DIN25
				DIN26	48	98	DIN27
				DIN28	49	99	DIN29
				DIN30	50	100	DIN31