PCI/PCIe/cPCI-7200

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


PCI-7200


PCIe-7200


cPCI-7200

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

- **Supports 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 7/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	5 V @ 720 mA typical
cPCI-7200	5 V @ 800 mA typical
PCIe-7200	12 V @ 200 mA 3.3 V @ 500 mA

- Dimensions (not including connectors)
  - 148 mm x 102 mm (PCI/PCIe-7200)
  - 160 mm x 100 mm (cPCI-7200)

Terminal Boards & Cables

PCI/PCIe-7200:

- DIN-37D-01
  Terminal Board with One 37-pin D-sub Connector and DIN-Rail Mounting (Cables are not included.)
- 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
- ACL-10137-1MM
  37-pin D-sub male/male cable, 1 M
- ACL-10137-1MF
  37-pin D-sub male/female cable, 1 M

cPCI-7200:

- DIN-100S-01
  Terminal Board with One 100-pin SCSI-II Connector and DIN-Rail Mounting (Cables are not included.)
- ACL-102100-1
  100-pin SCSI-II cable (mating with AMP-787082-9), 1 M

*** For more information on mating cables, please refer to P2-59/60.**

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

CN1

DI16	1	2	DO16	DI17	3	4	DO17
DI18	5	6	DO18	DI19	7	8	DO19
DI20	9	10	DO20	DI21	11	12	DO21
DI22	13	14	DO22	DI23	15	16	DO23
DI24	17	18	DO24	DI25	19	20	DO25
DI26	21	22	DO26	DI27	23	24	DO27
DI28	25	26	DO28	DI29	27	28	DO29
DI30	29	30	DO30	DI31	31	32	DO31
+5Vout	33	34	GND	O-ACK	35	36	O-TRG
O-REQ	37	38	N/C	N/C	39	40	N/C

CN2

DI0	1	20	DO0	DI1	2	21	DO1
DI2	3	22	DO2	DI3	4	23	DO3
DI4	5	24	DO4	DI5	6	25	DO5
DI6	7	26	DO6	DI7	8	27	DO8
DI8	9	28	DO7	DI9	10	29	DO9
DI10	11	30	DO10	DI11	12	31	DO11
DI12	13	32	DO12	DI13	14	33	DO13
DI14	15	34	DO14	DI15	16	35	DO15
+5Vout	17	36	GND	I-ACK	18	37	I-TRG
I-REQ	19						

cPCI-7200

CN1

DO0	1	51	DO1	DO2	2	52	DO3
DO4	3	53	DO5	DO6	4	54	DO7
DO8	5	55	DO9	DO10	6	56	DO11
DO12	7	57	DO13	DO14	8	58	DO15
GND	9	59	GND	DO16	10	60	DO17
DO18	11	61	DO19	DO20	12	62	DO21
DO22	13	63	DO23	DO24	14	64	DO25
DO26	15	65	DO27	DO28	16	66	DO29
DO30	17	67	DO31	GND	18	68	GND
GND	19	69	GND	+5Vout	20	70	GND
+5Vout	21	71	AUXOUT0	AUXIN0	22	72	AUXOUT1
AUXIN1	23	73	GND	I_TRG	24	74	GND
I_REQ	25	75	GND	I_ACK	26	76	GND
O_TRG	27	77	GND	O_REQ	28	78	GND
O_ACK	29	79	AUXOUT2	AUXIN2	30	80	AUXOUT3
AUXIN3	31	81	GND	+5Vout	32	82	GND
+5Vout	33	83	GND	GND	34	84	DIN1
DIN0	35	85	DIN3	DIN2	36	86	DIN5
DIN4	37	87	DIN7	DIN6	38	88	DIN9
DIN8	39	89	DIN11	DIN10	40	90	DIN13
DIN12	41	91	DIN15	DIN14	42	92	GND
GND	43	93	DIN17	DIN16	44	94	DIN19
DIN18	45	95	DIN21	DIN20	46	96	DIN23
DIN22	47	97	DIN25	DIN24	48	98	DIN27
DIN26	49	99	DIN29	DIN28	50	100	DIN31

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