



PEX-1202L

PCI Express, 110 kS/s, 32-ch, 12-bit Multi-function Board
(1 K word FIFO)

PEX-1202H

PCI Express, 44 kS/s, 32-ch, 12-bit Multi-function Board
(1 K word FIFO)

Introduction

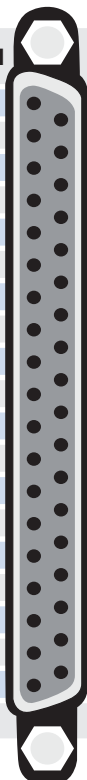
The PEX-1202L/H series utilizes the PCI Express bus and is designed as an easy replacement for the PCI-1202 series without requiring any modification to either the software or the driver.

The PEX-1202L/H provides 32 single-ended or 16 differential Analog Input channels at 12-bit resolution, together with 16 TTL Digital Input and 16 TTL Digital Output channels. Data acquisition under DOS is gap-free and continuous, at 110 kHz for low gain and 44 kHz for high gain. The PEX-1202L/H also features "Magic Scan" and Continuous Capture functions.

The PEX-1202L/H includes a Card ID switch that enables the board to be easily recognized via software if two or more cards are installed in the same computer. The pull-high/low jumpers allow the DI status to be predefined instead of remaining floating if the DI channels are disconnected or line broken.

Pin Assignments

Pin Assignment	Terminal	No.	Pin Assignment
AI_0	01	20	AI_16
AI_1	02	21	AI_17
AI_2	03	22	AI_18
AI_3	04	23	AI_19
AI_4	05	24	AI_20
AI_5	06	25	AI_21
AI_6	07	26	AI_22
AI_7	08	27	AI_23
AI_8	09	28	AI_24
AI_9	10	29	AI_25
AI_10	11	30	AI_26
AI_11	12	31	AI_27
AI_12	13	32	AI_28
AI_13	14	33	AI_29
AI_14	15	34	AI_30
AI_15	16	35	AI_31
A.GND	17	36	Da2 out
Da1 out	18	37	D.GND
Ext_Trq	19		



CON3

Features

- PCI Express x1 Interface
- 16-channel 5 V/TTL Digital Input
- 16-channel 5 V/TTL Digital Output
- Pull-high/Pull-low Jumpers for DI Channels
- 12-bit, 32 Single-ended/16 Differential Analog Input channels
- Three External Triggers: Pre-trigger, Middle-trigger, Post-trigger
- 110 or 44 kS/s AD Sampling Rate
- Supports Card ID (SMD Switch)



Software

Drivers

- 32/64-bit Windows 10/11
- Linux

Sample Programs

- DOS Lib and TC/BC/MSD Demo
- VB/VC/Delphi/VB.NET/C#.NET/VC.NET/LabVIEW/Python/MATLAB

Applications

- High speed data acquisition system.
- Process monitor and control.
- Vibration analysis.
- Digital pattern generator from digital I/O port.

Pin Assignment	Terminal No.	Pin Assignment
DO 0	01	DO 1
DO 2	03	DO 3
DO 4	05	DO 5
DO 6	07	DO 7
DO 8	09	DO 9
DO 10	10	DO 11
DO 12	12	DO 13
DO 14	14	DO 15
GND	16	GND
+5 V	18	+12 V

CON1

Pin Assignment	Terminal No.	Pin Assignment
DO 0	01	DO 1
DO 2	03	DO 3
DO 4	05	DO 5
DO 6	07	DO 7
DO 8	09	DO 9
DO 10	11	DO 11
DO 12	13	DO 13
DO 14	15	DO 15
GND	17	GND
+5 V	19	+12 V

CON2



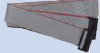
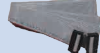









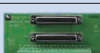

Hardware Specifications

Model	PEX-1202L	PEX-1202H
Hardware		
Card ID	Yes (4-bit)	
Connector	Female DB37 x 1 , 20-pin Box header x 2	
Analog Input		
Channels	32 single-ended/16 differential	
Range	Gain: 0.5, 1, 2, 4, 8 Bipolar Range: ± 10 V, ± 5 V, ± 2.5 V, ± 1.25 V, ± 0.625 V Unipolar Range: 0 ~ 10 V, 0 ~ 5 V, 0 ~ 2.5 V, 0 ~ 1.25 V	Gain: 0.5, 1, 5, 10, 50, 100, 500, 1000 Bipolar Range: ± 10 V, ± 5 V, ± 1 V, ± 0.5 V, ± 0.1 V, ± 0.05 V, ± 0.01 V, ± 0.005 V Unipolar Range: 0 ~ 10 V, 0 ~ 1 V, 0 ~ 0.1 V, 0 ~ 0.01 V
Resolution	12-bit	
Accuracy	0.1% of FSR ± 1 LSB @ 25 °C, ± 10 V	
Sampling Rate	110 kS/s. Max.	44 kS/s. Max.
Input Impedance	10 M Ω /6 Pf	
Overvoltage Protection	Continuous ± 35 Vp-p	
Zero Drift	± 4 ppm/°C of FSR	
FIFO Size	1024 samples	
Trigger Mode	Software, Internal programmable pacer, External (5 V/TTL compatible)	
Data Transfer	Polling	
Analog Output		
Channels	2	
Range	± 5 V, ± 10 V	
Resolution	12-bit	
Accuracy	0.06% of FSR ± 1 LSB @ 25 °C, ± 10 V	
Voltage Output Capability	± 5 mA	
Slew Rate	8.33 V/ μ s	
Operation Mode	Software	
Digital Input		
Channels	16	
Type	5 V/TTL	
ON Voltage Level	2.0 V Min.	
OFF Voltage Level	0.8 V Max.	
Response Speed	500 KHz (Typical)	
Trigger Mode	Static Update	
Digital Output		
Channels	16	
Type	5 V/CMOS	
Operation Mode	Static Update	
Load Voltage	Logic 0: 0.1 V Max. Logic 1: 4.4 V Min.	
Load Current	Sink: 6 mA @ 0.33 V Source: 6 mA @ 4.77 V	
Response Speed	500 KHz (Typical)	
Timer/Counter/Frequency		
Channels	3 (Independent x 1/Internal pacer x 1/External pacer x 1)	
Type	5 V/TTL	
Resolution	16-bit	
Input Frequency	10 MHz Max.	
Reference Clock	Internal: 8 MHz	
PC Bus		
Type	PCI Express x 1	
Data Bus	16-bit	
Power		
Consumption	1300 mA @ +3.3 V , 0 mA @ +12 V	
Mechanical		
Dimensions (mm)	100 x 162 x 22 (W x L x D)	
Environment		
Operating Temperature	0 ~ +60°C	
Storage Temperature	-20 ~ +70°C	
Humidity	5 ~ 85% RH, Non-condensing	

Ordering Information

PEX-1202L CR	PCI Express, 110 kS/s, 32-ch, 12-bit Multi-function Board (1 K word FIFO) (RoHS) Includes one CA-4002 D-Sub connector
PEX-1202H CR	PCI Express, 44 kS/s, 32-ch, 12-bit Multi-function Board (1 K word FIFO) (RoHS) Includes one CA-4002 D-Sub connector

Accessories

	ADP-20/PCI CR	Extender, Extended dual 20-pin flat-cable connector to PC slot window (RoHS)
	CA-2002 CR	20-pin flat cable, 20 cm x 2 (RoHS)
	CA-2010 CR	20-pin flat cable, 1 M (RoHS)
	CA-2020 CR	20-pin flat cable, 2 M (RoHS)
	CA-3710 CR	DB-37 Male-Male D-sub cable 1 M (Cable for Daughter Board (45°)) (RoHS)
	CA-3710D CR	DB-37 Male-Male D-sub cable 1 M (Cable for Daughter Board (180°)) (RoHS)
	CA-3715DM-H CR	DB-37 Male-Male Cable, 1.5 M, 180°. (RoHS)
	CA-3730DM-H CR	DB-37 Male-Male Cable, 3.0 M, 180°. (RoHS)
	CA-4002 CR	37-pin Male D-sub connector with plastic cover. (RoHS)
	DB-1825 CR	Analog Input Screw terminal Board (RoHS)
	DB-16P CR	Isolated Digital Input Daughter Board (RoHS)
	DB-16R CR	Relay Output Daughter Board (RoHS)
	DN-20/DN-20-381 CR	20-pin DIN-RAIL mounting I/O connector board (RoHS)
	DN-37 CR	DIN Rail Mounting 37-pin Connector (RoHS)
	2AB125R CR	Resistor DIP 125R 0.1% 1/4W MF 50PPM (1PCS) (RoHS)

PEX-1202L/PEX-1202H PCI-1202LU/PCI-1202HU

