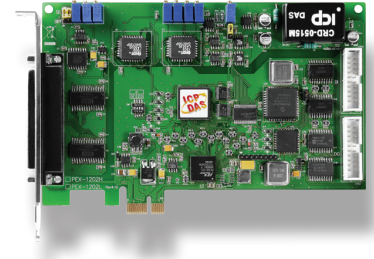


## 2-2 Multifunction Boards

### PEX-1202L/PEX-1202H

PCI Express, 32-channel, 12-bit, 110 kS/s or 44 kS/s Multi-function (1 K word FIFO) Board



#### 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)

#### 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.

#### Software

##### Drivers

- 32/64-bit Windows XP/2003/2008/7/8/10
- Linux

##### Sample Programs

- DOS Lib and TC/BC/MSC Demo
- LabVIEW Toolkit
- VB/VC/Delphi/BCB/VB.NET/C#.NET/VC.NET/MATLAB Demo



#### Hardware Specifications

Model	PEX-1202L	PEX-1202H
<b>Analog Input</b>		
Channels	32 Single-ended/16 Differential	
Resolution	12-bit, 8.5 $\mu$ s Conversion Time	
FIFO Size	1024 Samples	
Accuracy	0.1% of FSR $\pm$ 1 LSB @ 25°C, $\pm$ 10 V	
Sampling Rate	110 kS/s	44 kS/s
<b>Analog Output</b>		
Channels	2	
Resolution	12-bit	
Accuracy	0.06% of FSR $\pm$ 1 LSB @ 25°C, $\pm$ 10 V	
Output Range	$\pm$ 5 V, $\pm$ 10 V	
<b>Digital Input</b>		
Channels	16	
Compatibility	5 V/TTL	
Input Voltage	Logic 0: 0.8 V Max., Logic 1: 2.0 V Min.	
Response Speed	500 kHz (Typical)	
<b>Digital Output</b>		
Channels	16	
Compatibility	5 V/CMOS	
Output Voltage	Logic 0: 0.1 V Max., Logic 1: 4.4 V Min.	
Output Capability	Sink: 6 mA @ 0.33 V, Source: 6 mA @ 4.77 V	
Response Speed	500 kHz (Typical)	
<b>Timer/Counter</b>		
Channels	3	
Resolution	16-bit	
Reference Clock	Internal: 8 MHz	
<b>General</b>		
Bus Type	PCI Express x1	
Card ID	Yes (4-bit)	
Connectors	Female DB37 x 1, 20-pin Box Header x 2	
Power Consumption	1300 mA @ +3.3 V; 0 mA @ +12 V	
Operating Temperature	0°C to +60°C	
Humidity	5 to 85% RH, Non-condensing	

#### 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_Trg	19	

Pin Assignment	Terminal No.	Pin Assignment
DO 0	01	02 DO 1
DO 2	03	04 DO 3
DO 4	05	06 DO 5
DO 6	07	08 DO 7
DO 8	09	10 DO 9
DO 10	10	12 DO 11
DO 12	12	14 DO 13
DO 14	14	16 DO 15
GND	16	18 GND
+5 V	18	20 +12 V

Pin Assignment	Terminal No.	Pin Assignment
DI 0	01	02 DI 1
DI 2	03	04 DI 3
DI 4	05	06 DI 5
DI 6	07	08 DI 7
DI 8	09	10 DI 9
DI 10	11	12 DI 11
DI 12	13	14 DI 13
DI 14	15	16 DI 15
GND	17	18 GND
+5 V	19	20 +12 V

#### Ordering Information

PEX-1202L CR	PCI Express, 32-channel, 12-bit, 110 kS/s. Low Gain Multifunction DAQ Board (RoHS). Includes one CA-4002 D-sub Connector.	PEX-1202H CR	PCI Express, 32-channel, 12-bit, 44 kS/s. High Gain Multifunction DAQ Board (RoHS). Includes one CA-4002 D-sub Connector.
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