



PEX-D96S

PCI Express, 96-ch Digital I/O Board

PEX-D144LS

PCI Express, 144-ch Digital I/O Board

Introduction

The PEX-D96S/D144LS utilizes the PCI Express bus and designed as an easy replacement for the PIO-D96U/D96SU/D144U/D144LU without requiring any modification to the software or the driver.

The PEX-D96S/D144LS provides a high-density connector that reduces the amount of installation space required for the card in the computer.

The PEX-D96S/D144LS supports the 96/144 CMOS digital I/O lines that consist of twelve/eighteen 8-bit bi-direction ports: port A (PA), port B (PB) and port C (PC) in a connector. All ports are configured as input ports during power-on or after a reset.

The PEX-D96S/D144LS also includes an onboard Card ID that enables the board to be recognized via software if two or more cards are installed in the same computer.

Hardware Specifications

Model	PEX-D96S	PEX-D144LS
Hardware		
Card ID	Yes (4-bit)	
Connector	Female SCSI II 100-pin x 1	Female SCSI II 100-pin x 1 50-pin box header x 1
Digital Input		
Channels	96 (Bi-Direction)	144 (Bi-Direction)
Type	5 V/CMOS	
TTL Input, ON Voltage Level	2.0 V Min.	
TTL Input, OFF Voltage Level	0.8 V Max.	
Response Speed	500 kHz (Typical)	250 kHz (Typical)
Trigger Mode	Static Update	
Digital Output		
Channels	96 (Bi-Direction)	144 (Bi-Direction)
Type	5 V/CMOS	
Operation Mode	Static Update	
Voltage	Logic 0: 0.1 V Max. Logic 1: 4.4 V Min.	
Max. Load Current	Sink: 6 mA @ 0.33 V Source: 6 mA @ 4.77 V	
Response Speed	500 kHz (Typical)	250 kHz (Typical)
PC Bus		
Type	PCI Express x 1	
Data Bus	8-bit	
Power		
Consumption	650 mA @ +3.3 V 0 mA @ +12 V	750 mA @ +3.3 V 0 mA @ +12 V
Mechanical		
Dimensions (mm)	95 x 130 x 22 (W x L x D)	100 x 162 x 22 (W x L x D)
Environmental		
Operating Temperature	0 ~ +60°C	
Storage Temperature	-20 ~ +70°C	
Humidity	5 ~ 85% RH, Non-condensing	

Ordering Information

PEX-D96S CR	PCI Express, 96-ch Digital I/O Board (SCSI II Connector, RoHS)
PEX-D144LS CR	PCI Express, 144-ch Digital I/O Board (SCSI II Connector, RoHS)

Features

- PCI Express x1 Interface
- Supports Card ID (SMD Switch)
- DI/O Response Time approximately 2 μs (500 kHz Max.)
- DO Provides Higher Driving Capability
- 96/144 Buffered CMOS Digital Input/Output Lines
- Twelve/Eighteen 8-bit Bi-directional I/O Ports
- Four Interrupt Sources
- Pull-high/Pull-low Jumpers for DI Channels



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

Pin Assignments

Pin Assignment	Terminal No.	Pin Assignment	Pin Assignment	Terminal No.	Pin Assignment
PA_00	1	51 PA_10	GND	01	02 +5 V
PA_01	2	52 PA_11	PA_40	03	04 PA_50
PA_02	3	53 PA_12	PA_41	05	06 PA_51
PA_03	4	54 PA_13	PA_42	07	08 PA_52
PA_04	5	55 PA_14	PA_43	09	10 PA_53
PA_05	6	56 PA_15	PA_44	11	12 PA_54
PA_06	7	57 PA_16	PA_45	13	14 PA_55
PA_07	8	58 PA_17	PA_46	15	16 PA_56
PB_00	9	59 PB_10	PA_47	17	18 PA_57
PB_01	10	60 PB_11	PB_40	19	20 PB_50
PB_02	11	61 PB_12	PB_41	21	22 PB_51
PB_03	12	62 PB_13	PB_42	23	24 PB_52
PB_04	13	63 PB_14	PB_43	25	26 PB_53
PB_05	14	64 PB_15	PB_44	27	28 PB_54
PB_06	15	65 PB_16	PB_45	29	30 PB_55
PB_07	16	66 PB_17	PB_46	31	32 PB_56
PC_00	17	67 PC_10	PB_47	33	34 PB_57
PC_01	18	68 PC_11	PC_40	35	36 PC_50
PC_02	19	69 PC_12	PC_41	37	38 PC_51
PC_03	20	70 PC_13	PC_42	39	40 PC_52
PC_04	21	71 PC_14	PC_43	41	42 PC_53
PC_05	22	72 PC_15	PC_44	43	44 PC_54
PC_06	23	73 PC_16	PC_45	45	46 PC_55
PC_07	24	74 PC_17	PC_46	47	48 PC_56
GND	25	75 GND	PC_47	49	50 PC_57
PA_20	26	76 PA_30	CON2 (PEX-D144LS only)		
PA_21	27	77 PA_31			
PA_22	28	78 PA_32			
PA_23	29	79 PA_33			
PA_24	30	80 PA_34			
PA_25	31	81 PA_35			
PA_26	32	82 PA_36			
PA_27	33	83 PA_37			
PB_20	34	84 PB_30			
PB_21	35	85 PB_31			
PB_22	36	86 PB_32			
PB_23	37	87 PB_33			
PB_24	38	88 PB_34			
PB_25	39	89 PB_35			
PB_26	40	90 PB_36			
PB_27	41	91 PB_37			
PC_20	42	92 PC_30			
PC_21	43	93 PC_31			
PC_22	44	94 PC_32			
PC_23	45	95 PC_33			
PC_24	46	96 PC_34			
PC_25	47	97 PC_35			
PC_26	48	98 PC_36			
PC_27	49	99 PC_37			
+5 V	50	100 +5 V	CON1		

Accessories

 DN-100 CR	I/O Connector Block with DIN-Rail Mounting and 100-Pin SCSI II Connector (RoHS)
 DN-100-CA CR	I/O Connector Block with DIN-Rail Mounting and 100-Pin SCSI II Connector Include one CA-SCSI100-15 cable (RoHS)
 DN-50 CR DN-50-381 CR	I/O Connector Block with DIN-Rail Mounting and 50-Pin Header (RoHS)
 CA-5002 CR	50-pin flat cable 20 cm (RoHS)
 CA-5015 CR	50-pin flat cable 1.5 M (RoHS)
 CA-SCSI100-15 CR	SCSI II 100-pin & 100-pin Male connector cable 1.5 M (RoHS)
 CA-SCSI100-30 CR	SCSI II 100-pin & 100-pin Male connector cable 3 M (RoHS)

