

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 | |
| ON Voltage Level | 2.0 V Min. | |
| 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 | |
| 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) | 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) |
| Environment | | |
| Operating Temperature | 0 ~ +60°C | |
| Storage Temperature | -20 ~ +70°C | |
| Humidity | 5 ~ 85% RH, Non-condensing | |

Features

- PCI Express x1 Interface
- Supports Card ID (SMD Switch)
- DI/O Response Time approximately 2 μ s (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 10/11
- Linux

Sample Programs

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

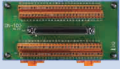
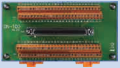


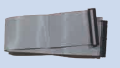


Pin Assignments

| 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 | | |

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) |

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) |

