



## PIO-D96U/PIO-D96SU

Universal PCI, 96-ch Digital I/O Board

### Introduction

The PIO-D96U/D96SU card is designed as a direct replacement for the PIO-D96, without requiring any modification to the software or the driver.

The PIO-D96U provides four connectors for I/O wiring, while the PIO-D96SU provides a single high-density connector that reduces the amount of installation space required for the card in the computer.

The PIO-D96U/D96SU Universal PCI card supports the 3.3 V/5 V PCI bus, and provides 96 TTL Digital I/O lines that consist of twelve 8-bit bi-directional ports. Each group of three 8-bit ports is arranged on the connector as Port A (PA), Port B (PB) and Port C (PC), respectively, and all ports are configured as inputs on power-up or after a reset.

The PIO-D96U/D96SU card also includes an onboard Card ID switch that enables the board to be recognized via software if two or more boards are installed in the same computer.

### Pin Assignments

Models	PIO-D96U	PIO-D96SU
<b>Programmable DIO</b>		
Channels	96	
<b>Digital Input</b>		
Compatibility	5 V/TTL	5 V/CMOS
Input Voltage	Logic 0: 0.8 V Max. ; Logic 1: 2.0 V Min.	
Response Speed	1 MHz	
<b>Digital Output</b>		
Compatibility	5 V/TTL	5 V/CMOS
Output Voltage	Logic 0: 0.4 V Max.; Logic 1: 2.4 V Min.	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	Sink: 64 mA @ 0.8 V Source: 32 mA @ 2.0 V
Response Speed	1 MHz	
<b>General</b>		
Bus Type	3.3 V/5 V Universal PCI, 32-bit, 33 MHz	
Card ID	Yes (4-bit)	
Connectors	Female DB37 x 1 50-pin Box Header x 3	Female SCSI II 100-pin x 1
Power Consumption	600 mA @ +5 V	
Operating Temperature	0°C to +60°C	
Humidity	5 to 85% RH, Non-condensing	

### Ordering Information

<b>PIO-D96U CR</b>	Universal PCI, 96-ch Digital I/O Board (RoHS)
<b>PIO-D96SU CR</b>	Universal PCI, 96-ch Digital I/O Board (RoHS)

### Features

- Universal PCI (3.3 V/5 V) Interface
- 96-channel Digital I/O
- Twelve 8-bit Bi-directional Programmable I/O Ports
- All I/O Lines Buffered on the Board
- 4-channel Interrupt Source
- Buffer Output for Higher Driving Capability
- Supports Card ID (SMD Switch)
- DI/O Response Time approximately 1 μs (1 MHz)



### Software

#### Drivers

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












#### Sample Programs











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

### Hardware Specifications

PIO-D96U			PIO-D96SU				
Pin Assignment	Terminal No.	Pin Assignment	Pin Assignment	Terminal No.	Pin Assignment		
N.C.	01	20	+5 V	PA_00	1	51	PA_10
N.C.	02	21	GND	PA_01	2	52	PA_11
PB_7	03	22	PC_7	PA_02	3	53	PA_12
PB_6	04	23	PC_6	PA_03	4	54	PA_13
PB_5	05	24	PC_5	PA_04	5	55	PA_14
PB_4	06	25	PC_4	PA_05	6	56	PA_15
PB_3	07	26	PC_3	PA_06	7	57	PA_16
PB_2	08	27	PC_2	PA_07	8	58	PA_17
PB_1	09	28	PC_1	PB_00	9	59	PB_10
PB_0	10	29	PC_0	PB_01	10	60	PB_11
GND	11	30	PA_7	PB_02	11	61	PB_12
N.C.	12	31	PA_6	PB_03	12	62	PB_13
GND	13	32	PA_5	PB_04	13	63	PB_14
N.C.	14	33	PA_4	PB_05	14	64	PB_15
GND	15	34	PA_3	PB_06	15	65	PB_16
N.C.	16	35	PA_2	PB_07	16	66	PB_17
GND	17	36	PA_1	PC_00	17	67	PC_10
+5 V	18	37	PA_0	PC_01	18	68	PC_11
GND	19			PC_02	19	69	PC_12
				PC_03	20	70	PC_13
				PC_04	21	71	PC_14
				PC_05	22	72	PC_15
				PC_06	23	73	PC_16
PC_7	01	02	GND	PC_07	24	74	PC_17
PC_6	03	04	GND	GND	25	75	GND
PC_5	05	06	GND	PA_20	26	76	PA_30
PC_4	07	08	GND	PA_21	27	77	PA_31
PC_3	09	10	GND	PA_22	28	78	PA_32
PC_2	11	12	GND	PA_23	29	79	PA_33
PC_1	13	14	GND	PA_24	30	80	PA_34
PC_0	15	16	GND	PA_25	31	81	PA_35
PB_7	17	18	GND	PA_26	32	82	PA_36
PB_6	19	20	GND	PA_27	33	83	PA_37
PB_5	21	22	GND	PB_20	34	84	PB_30
PB_4	23	24	GND	PB_21	35	85	PB_31
PB_3	25	26	GND	PB_22	36	86	PB_32
PB_2	27	28	GND	PB_23	37	87	PB_33
PB_1	29	28	GND	PB_24	38	88	PB_34
PB_0	31	30	GND	PB_25	39	89	PB_35
PA_7	33	32	GND	PB_26	40	90	PB_36
PA_6	35	34	GND	PB_27	41	91	PB_37
PA_5	37	36	GND	PC_20	42	92	PC_30
PA_4	39	38	GND	PC_21	43	93	PC_31
PA_3	41	40	GND	PC_22	44	94	PC_32
PA_2	43	42	GND	PC_23	45	95	PC_33
PA_1	45	44	GND	PC_24	46	96	PC_34
PA_0	47	46	GND	PC_25	47	97	PC_35
+5 V	49	48	GND	PC_26	48	98	PC_36
		50	GND	PC_27	49	99	PC_37
				+5 V	50	100	+5 V

## Accessories

	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-3750DM CR	DB-37 Male-Male Cable, 5.0 M, 180° (RoHS)
	CA-4002 CR	37-pin Male D-sub connector with plastic cover (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)
	ADP-37/PCI CR	50-pin connector extender to 37-pin connector (RoHS)

	DB-24P CR	24-channel isolated D/I board (RoHS)
	DB-24R CR	24-channel relay board (RoHS)
	DB-24PR CR	24-channel power relay board (RoHS)
	DB-24POR CR	24-channel of PhotoMos Relay output board (RoHS)
	DB-24SSR CR	24-channel Photo Mos relay output board (RoHS)
	DB-24C CR	24-channel of open-collector output board (RoHS)
	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-37/DN-37-381 CR	I/O Connector Block with DIN-Rail Mounting and 37-Pin D-Sub Connector (RoHS)
	DN-50/DN-50-381 CR	I/O Connector Block with DIN-Rail Mounting and 50-Pin Header (RoHS)

