

# PIO-D64U

Universal PCI, 64-channel Digital I/O Board with Timer/Counter



## Features ▶▶▶

- Universal PCI (3.3 V/5 V) Interface, Plug & Play
- 32-channel Digital Input
- 32-channel Digital Output
- Interrupt Trigger via Event/Timer Trigger
- 3 Independent Programmable 16-bit Down Counters
- Supports Card ID (SMD Switch)
- Programmable Interrupt Handling
- DI/O Response Time is about 1 μs (1 MHz)

## Introduction

The PIO-D64U card is designed as a direct replacement for the PIO-D64 without requiring any modification to the software or the driver.

The PIO-D64U Universal PCI card supports the 3.3 V/5 V PCI bus, and provides 32 Digital Input channels and 32 Digital Output channels that consist of two 16-bit input ports and two 16-bit output ports. The PIO-D64U also includes a 6-channel counter/timer that can use four clock sources, 250 kHz, 500 kHz, 1 MHz, and 2 MHz, which can be sourced from the soldering pad. Three of the six channels can be used for general purposes, such as frequency measurement, event counting or pulse generation, while the remaining channels are for interrupt functions.

The PIO-D64U 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.

## Software

### Drivers

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

### Sample Programs

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

## Hardware Specifications

Digital Input	
Channels	32
	5 V/TTL
Input Voltage	Logic 0: 0.8 V Max.; Logic 1: 2.0 V Min.
Response Speed	1 MHz
Digital Output	
Channels	32
	5 V/TTL
Output Voltage	Logic 0: 0.4 V Max.; Logic 1: 2.4 V Min.
Output Capability	Sink: 24 mA @ 0.8 V; Source: 15 mA @ 2.0 V
Response Speed	1 MHz
Timer/Counter	
Channels	6 (Independent x 3/EVTIRQ x 1/TMRIRQ x 1/EXTIRQ x 1)
Resolution	16-bit
Input Frequency	10 MHz Max.
Reference Clock	Internal: 4 MHz
General	
Bus Type	3.3 V/5 V Universal PCI, 32-bit, 33 MHz
Card ID	Yes (4-bit)
Connectors	20-pin Box Header x 5
Power Consumption	580 mA @ +5 V
Operating Temperature	0°C to +60°C
Humidity	5 to 85% RH, Non-condensing

## Pin Assignments

Pin Assignment	Terminal No.	Pin Assignment	Terminal No.	Pin Assignment
DO 0	01	DO 1	02	DI 1
DO 2	03	DO 3	04	DI 3
DO 4	05	DO 5	06	DI 5
DO 6	07	DO 7	08	DI 7
DO 8	09	DO 9	10	DI 9
DO 10	10	DO 11	12	DI 11
DO 12	12	DO 13	14	DI 13
DO 14	14	DO 15	16	DI 15
GND	16	GND	18	GND
+5 V	18	+12 V	20	STROBE1

CN1

Pin Assignment	Terminal No.	Pin Assignment	Terminal No.	Pin Assignment
DO 16	01	DO 17	02	DI 17
DO 18	03	DO 19	04	DI 19
DO 20	05	DO 21	06	DI 21
DO 22	07	DO 23	08	DI 23
DO 24	09	DO 25	10	DI 25
DO 26	10	DO 27	12	DI 27
DO 28	12	DO 29	14	DI 29
DO 30	14	DO 31	16	DI 31
GND	16	GND	18	GND
+5 V	18	+12 V	20	STROBE2

CN2

Pin Assignment	Terminal No.	Pin Assignment	Terminal No.	Pin Assignment
CLK 2	01	CLK 1	02	CLK 0
OUT 2	03	OUT 1	04	OUT 0
GATE 2	05	GATE 1	06	GATE 0
CLK 3	07	CLK 0	08	CLK 0
OUT 3	09	OUT 0	10	OUT 0
GATE 3	10	GATE 0	12	GATE 0
GATE 4	12	CLK 4	14	CLK 4
-	14	OUT 4	16	OUT 4
GND	16	GND	18	GND
+5 V	18	-	20	-

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## Ordering Information

PIO-D64U CR	Universal PCI, 64-channel Digital I/O Board with Timer/Counter (RoHS).
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