



ADVANTECH PCI-1737U Digital I/O Universal PCI Card User Manual

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PCI-1737U 24 channel Digital I/O Universal PCI Card

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Packing List

Before installation, please make sure that you have received the following:

- PCI-1737U card
- Driver CD
- Quick Start User Manual

If anything is missing or damaged, contact your distributor or sales representative immediately.

User Manual

For more detailed information on this product, please refer to the 1737U User Manual on the CD-ROM (PDF format).

Declaration of Conformity

FCC Class A

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause interference in which case the user is required to correct the interference at his own expense.

CE

This product has passed the CE test for environmental specifications when shielded cables are used for external wiring. We recommend the use of shielded cables. This kind of cable is available from Advantech. Please contact your local supplier for ordering information.

Overview

The PCI-1737U is a 24-bit DI/O card with PCI bus. It provides you with 24 bits of parallel digital input /output. It emulates mode 0 of the 8255 PPI chip , but the buffered circuits offer a higher driving capability than the 8255. The I/O bits are divided into three 8-bit I/O ports: A0, B0, and C0. You can configure each port as either input or output via software.

Notes	
For more information on this and other Advantech products, please visit our websites at:	
http://www.advantech.com	
For technical support and service	
http://www.advantech.com/support/	
This startup manual is for PCI-1737U.	
Part No: 2003173720	1st Edition
	July 2015

1 Startup Manual

Specifications

Digital Input

Number of Input Channels	24 (Shared with output)
Compatibility	5V/TTL
Interrupt Inputs	1 (PC00)
Input Voltage	Logic 0 : 0.8 V (max.) Logic 1 : 2 V (min.)

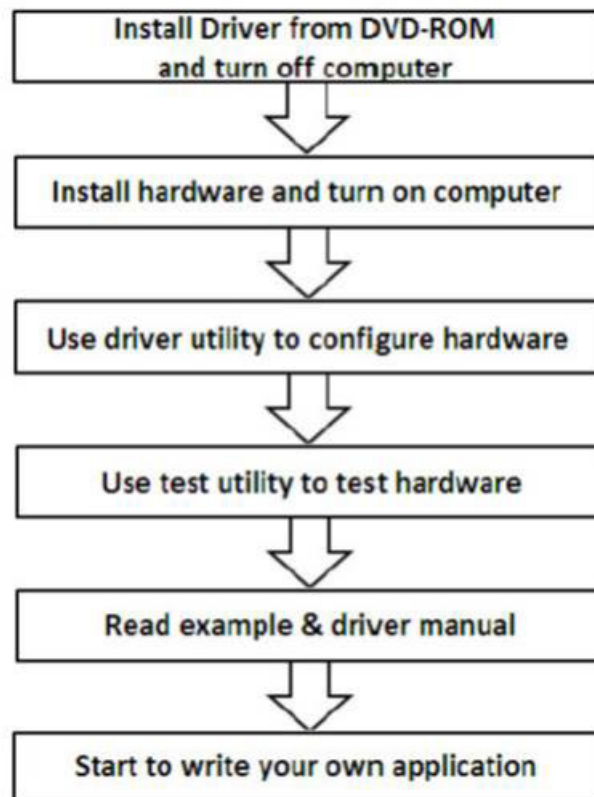
Digital Output

Number of Input Channels	24 (Shared with output)
Compatibility	5V/TTL
Input Voltage	Logic 0 : 0.8 V max. @+24 mA (sink) Logic 1 : 2 V min. @-15 mA (source)

General

I/O Connector Type	50-pin box header	
Dimensions	170 mm x 100 mm (6.9" x 3.9")	
Power Consumption	+5V @ 300 mA (max.)	
Temperature	Operation	0 – +60°C (32- 140°F) (refer to IEC 68 -2 – 1 ,2)
	Storage	-20 – +70°C (-4 -158°F)
Relative Humidity	5 – 95% RH non-condensing (refer to IEC 60068-2-3)	
Certification	CE/FCC	

Software Installation



Hardware Installation

1. Turn off your computer and unplug the power cord and cables. TURN OFF your computer before installing or removing any components on the computer.

2. Remove the cover of your computer.
3. Remove the slot cover on the back panel of your computer.
4. Touch the metal surface of your computer to neutralize any static electricity that may be on your body.
5. Insert the PCI-1737U card into a PCI slot. Hold the card only by its edges and carefully align it with the slot. Insert the card firmly into place. Use of excessive force must be avoided, otherwise the card might be damaged.
6. Fasten the bracket of the PCI card on the back panel rail of the computer with screws.
7. Connect appropriate accessories (50-pin flat cable, wiring terminals, etc. if necessary) to the PCI card.
8. Replace the cover of your computer chassis. Reconnect the cables you removed in step2.
9. Plug in the power cord and turn on the computer.

Switch and Jumper Settings

We designed the PCI-1737U with ease of use in mind. It is a “plug and play” card, i.e. the system BIOS assigns the system resources such as base address and interrupt automatically. There are only some functions with 3 switches to be set by the user. The following section describes how to configure the card. You may want to refer to the figure below for help in identifying card components.

Port Status Settings

Users can set the onboard I/O ports as input or output separately. Please be aware that once dials the switch to “ON” (Set port as output); the software setting will be ignored.

ON	Set port as output
OFF	Set port I/O by software

Output Status Settings

Users can determine the output status of each port after the system powering up or resetting. The function will be effective only when the “Port Status Setting” switch is on.

ON	Output LOW after reset
OFF	Output HIGH after reset

Board ID Settings

ID3	ID2	ID1	ID0	Board ID
1	1	1	1	0
1	1	1	0	1
1	1	0	1	2
1	1	0	0	3
1	0	1	1	4
1	0	1	0	5
1	0	0	1	6
1	0	0	0	7
0	1	1	1	8
0	1	1	0	9
0	1	0	1	10
0	1	0	0	11
0	0	1	1	12
0	0	1	0	13
0	0	0	1	14
0	0	0	0	15

PIN Assignments

PCI-1737U is quipped with a standard IDC 50-pin header. However you can also access the signals on CN1 by attaching IDC 20-pin connectors to the holes in the PCB at CN2 and CN3 by yourself. The pin assignments are as follows.

CN1

PC 7	1	2	GND
PC 6	3	4	GND
PC 5	5	6	GND
PC 4	7	8	GND
PC 3	9	10	GND
PC 2	11	12	GND
PC 1	13	14	GND
PC 0	15	16	GND
PB 7	17	18	GND
PB 6	19	20	GND
PB 5	21	22	GND
PB 4	23	24	GND
PB 3	25	26	GND
PB 2	27	28	GND
PB 1	29	30	GND
PB 0	31	32	GND
PA 7	33	34	GND
PA 6	35	36	GND
PA 5	37	38	GND
PA 4	39	40	GND
PA 3	41	42	GND
PA 2	43	44	GND
PA 1	45	46	GND
PA 0	47	48	GND
+5V	49	50	GND

CN2


PA 0	1	2	PA 1
PA 2	3	4	PA 3
PA 4	5	6	PA 5
PA 6	7	8	PA 7
PB 0	9	10	PB 1
PB 2	11	12	PB 3
PB 4	13	14	PB 5
PB 6	15	16	PB 7
GND	17	18	GND
+5V	19	20	+12V

CN3

PC 0	1	2	PC 1
PC 2	3	4	PC 3
PC 4	5	6	PC 5
PC 6	7	8	PC 7
PD 0	9	10	PD 1
PD 2	11	12	PD 3
PD 4	13	14	PD 5
PD 6	15	16	PD 7
GND	17	18	GND
+5V	19	20	+12V

Signal	Reference	Direction	Description
PA <0~7>	GND	Input/Output	Digital input/output port A, ch.0~7
PB <0~7>	GND	Input/Output	Digital input/output port B, ch.0~7
PC <0~7>	GND	Input/Output	Digital input/output port C, ch.0~7
+5V	GND	Output	+5V DC power
+12V	GND	Output	+12V DC power
GND	—	—	Digital ground

Documents / Resources

	<p>ADVANTECH PCI-1737U Digital I/O Universal PCI Card [pdf] User Manual PCI-1737U Digital I O Universal PCI Card, 24 channel Digital I O Universal PCI Card</p>
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References

- [A Advantech Co-Creating the Future of the IoT World](#)
- [A Online Support - Advantech](#)