I/O CARD QUICK START GUIDE

For PISO-1730U

English/ Jul. 2013/ Version 1.0

PCI Bus Digital I/O Boards
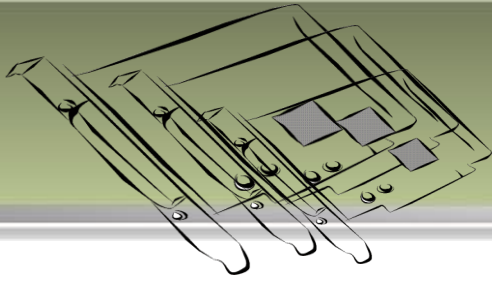
1 What's in the shipping package?

The package includes the following items:

	One PISO-1730U PCI Board.
	One Software Utility CD (V5.2 or later)
	One Quick Start Guide (This Document)
One CA-4037B Cable	Two CA-4002 D-Sub connectors

2 Installing Windows Driver

Step 1: Setup the Windows driver. The driver is located at:

☑ The UniDAQ driver supports 32-/64-bit Windows 2K/XP/2003/Vista/7/8; it is recommended to install this driver for new user:

CD: \NAPDOS\PCI\UniDAQ\DLL\Driver

http://ftp.icpdas.com/pub/cd/iocard/pci/napdos/pci/unidaq/dll/driver/

Step 2: Click the "Next>" button to start the installation.

Step 3: Check your DAQ Card is or not on supported list, then click the "Next>" button.

Step 4: Select the installed folder, the default path is C:\ICPDAS\UniDAQ , confirm and click the "Next>" button.

Step 5: Check your DAQ Card on list, then click the "Next>" button.

Step 6: Click the "Next>" button on the Select Additional Tasks window.

Step 7: Click the "Next>" button on the Download Information window.

Step 8: Select "No, I will restart my computer later" and then click the "Finish" button.

For detailed information about the driver installation, please refer to Chapter 2.1 "Getting the UniDAQ Driver DLL Installer package" of the UniDAQ SDK user manual.

3 Installing Hardware on PC

Step 1: Shut down and power off your computer.

Step 2: Remove the cover from the computer.
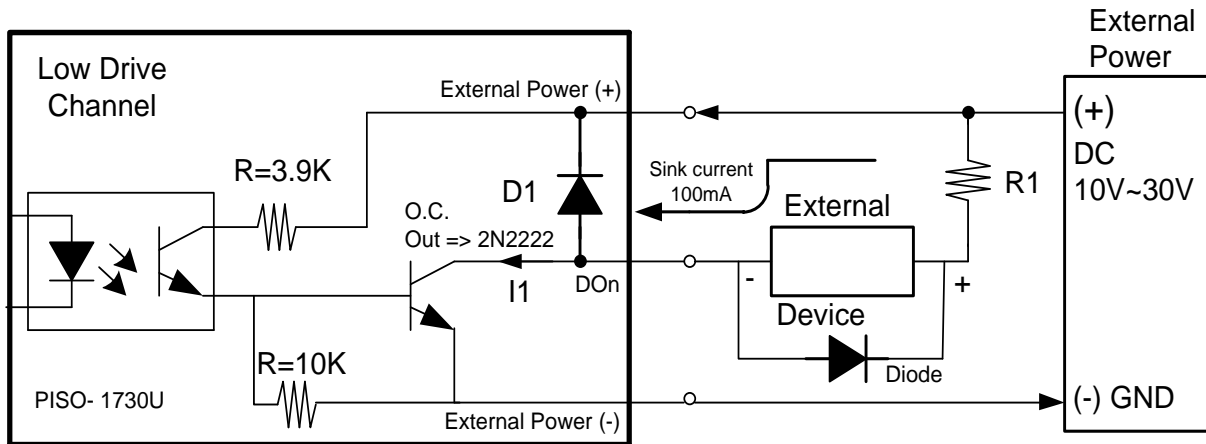
Step 3: Select an unused PCI slot.

Step 4: Carefully insert your I/O card into the PCI slot.

Step 5: Replace the PC cover.

Step 6: Power on the computer.

After powering-on the computer, please finish the Plug&Play steps according to the prompted messages.

PCI Bus Digital I/O Boards

Low Drive Channel

R=3.9K

PISO- 1730U

R=10K

O.C.
Out => 2N2222

D1

I1

External Power (+)

External Power (-)

DOn

Sink current
100mA

External

Device

Diode

R1

External
Power

(+)
DC
10V~30V

(-) GND

If your control device is an inductive load (ex: inductive relay), it is recommended to connect a diode at the Control Device side as a means of preventing damage from the counter EMF.

⚠️ *To prevent the board damaged forever by overload, the GND pins (CON1: pin 19, CON2: pin 19) all must be connected with GND of External Power.*

PCI Bus Digital I/O Boards

5 Pin Assignments

Pin Assign-ment CON2	Pin Assign-ment CON1	Terminal No.	Pin Assign-ment CON1	Pin Assign-ment CON2
IDI_0	IDO_0	01		
IDI_2	IDO_2	02		
IDI_4	IDO_4	03		
IDI_6	IDO_6	04		
PCOM	PCOM	05		
IDI_9	IDO_9	06		
IDI_11	IDO_11	07		
IDI_13	IDO_13	08		
IDI_15	IDO_15	09		
IDI_16	IDO_16	10		
IDI_18	IDO_18	11		
IDI_20	IDO_20	12		
IDI_22	IDO_22	13		
PCOM	PCOM	14		
IDI_25	IDO_25	15		
IDI_27	IDO_27	16		
IDI_29	IDO_29	17		
IDI_31	IDO_31	18		
EGND	EGND	19		
		20	IDO_1	IDI_1
		21	IDO_3	IDI_3
		22	IDO_5	IDI_5
		23	IDO_7	IDI_7
		24	IDO_8	IDI_8
		25	IDO_10	IDI_10
		26	IDO_12	IDI_12
		27	IDO_14	IDI_14
		28	PCOM	PCOM
		29	IDO_17	IDI_17
		30	IDO_19	IDI_19
		31	IDO_21	IDI_21
		32	IDO_23	IDI_23
		33	IDO_24	IDI_24
		34	IDO_26	IDI_26
		35	IDO_28	IDI_28
		36	IDO_30	IDI_30
		37	PCOM	PCOM

CON1/CON2 (Female DB-37)

Pin Assign-ment	Terminal No.	Terminal No.	Pin Assign-ment
IDI_0	01	02	IDI_1
IDI_2	03	04	IDI_3
IDI_4	05	06	IDI_5
IDI_6	07	08	IDI_7
PCOM	09	10	IDI_8
IDI_9	11	12	IDI_10
IDI_11	13	14	IDI_12
IDI_13	15	16	IDI_14
IDI_15	17	18	PCOM
IDI_16	19	20	IDI_17
IDI_18	21	22	IDI_19
IDI_20	23	24	IDI_21
IDI_22	25	26	IDI_23
PCOM	27	28	IDI_24
IDI_25	29	30	IDI_26
IDI_27	31	32	IDI_28
IDI_29	33	34	IDI_30
IDI_31	35	36	PCOM
EGND	37	38	N/A
N/A	39	40	N/A

CON2 (40-pin box header)

Extension Cable (CA-4037B):
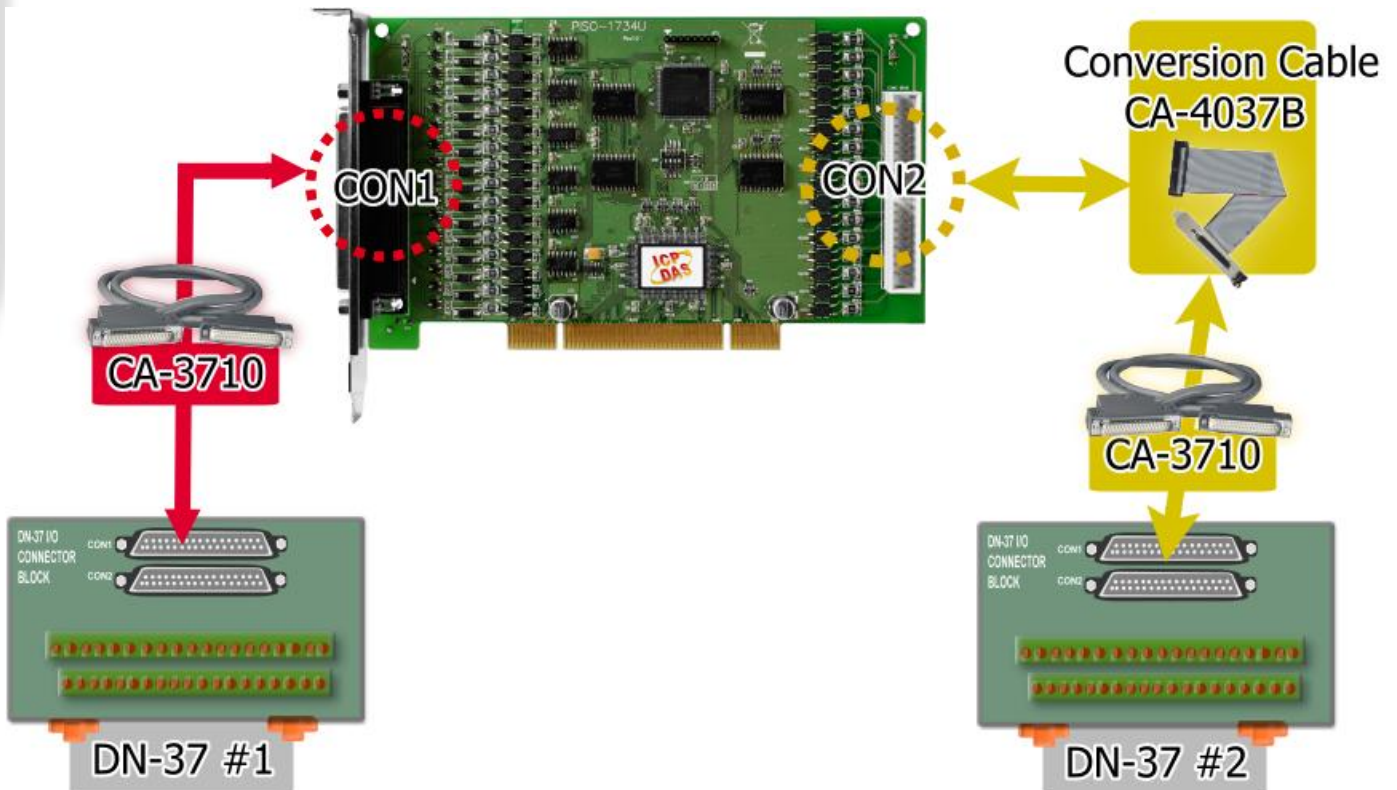DB-40-Pin conversion DB-37-Pin

PCI Bus Digital I/O Boards
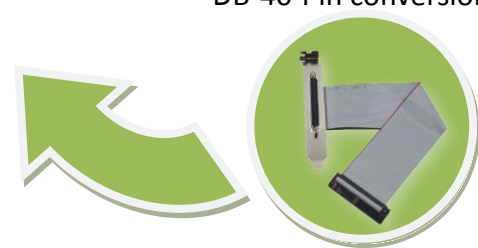
6 Self-Test

■ **Prepare for device:**

☑ Two DN-37 (optional) wiring terminal boards.
☑ Two CA-3710 (optional) cables.
☑ One CA-4037B conversion cable.
☑ Exterior power supply device. For example: DP-665 (optional)

■ **Self-test wiring as follows:**

1. **Use the DN-37#1 to connect the CON1 on board.**
2. **Use the DN-37#2 to connect the CON2 on board.**

Conversion Cable
CA-4037B

CON1   CON2

CA-3710

CA-3710

DN-37 I/O CONNECTOR BLOCK   CON1   CON2

DN-37 I/O CONNECTOR BLOCK   CON1   CON2
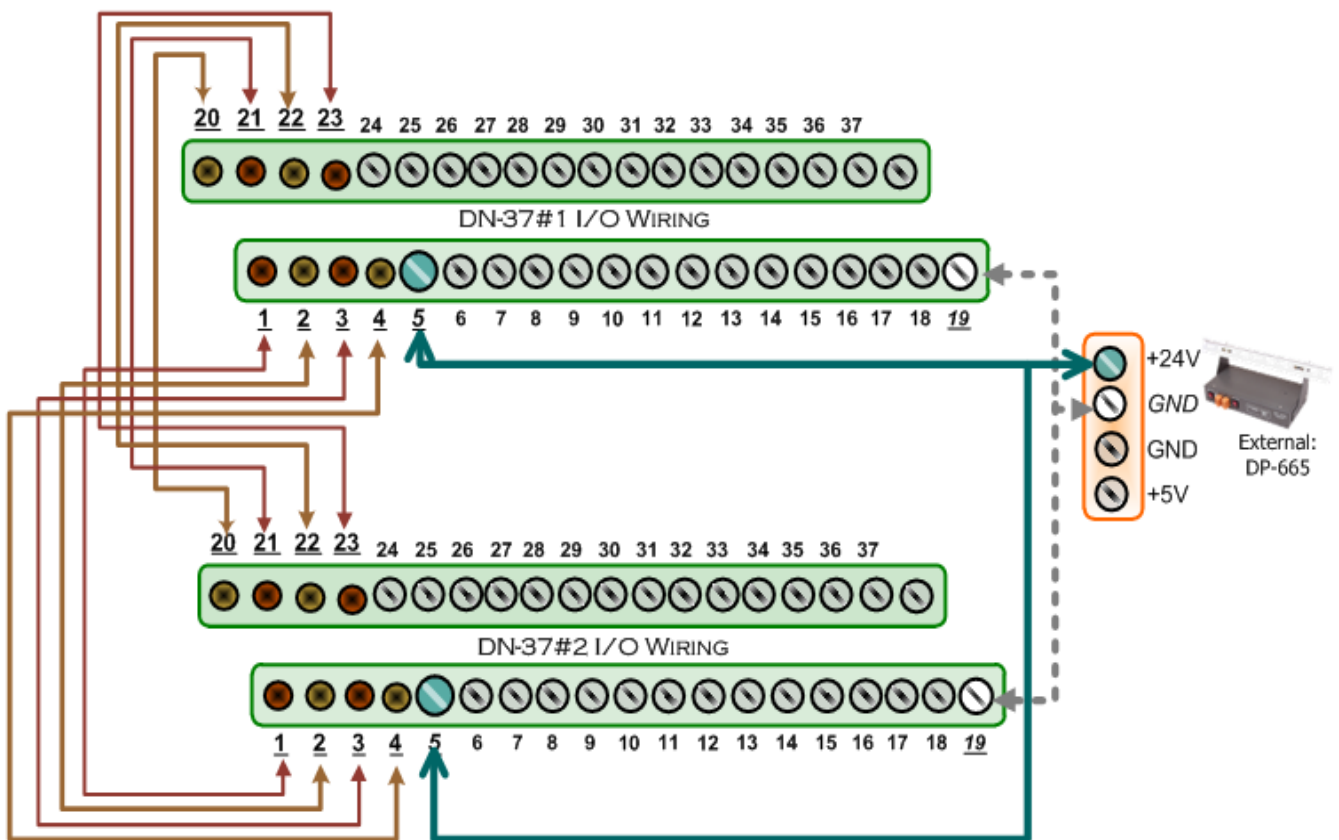
DN-37 #1   DN-37 #2

3. **Connect the DI(0-7) with DO(0-7).** (DI0 with DO0 ... DI7 with DO7)
4. Power Supply (+24 V) **connect to** PCOM (Pin05) **of the CON1/CON2.**
   Power Supply GND **connect to** EGND (Pin19) **of the CON1/CON2.**

> **The PISO-1730U suggests input voltage range as follow:**
> **Logic high: +9 ~ +24 V**; **Logic Low: 0 ~ 1V.**
> **(Higher voltage over the limitation will cause the hardware damage.)**

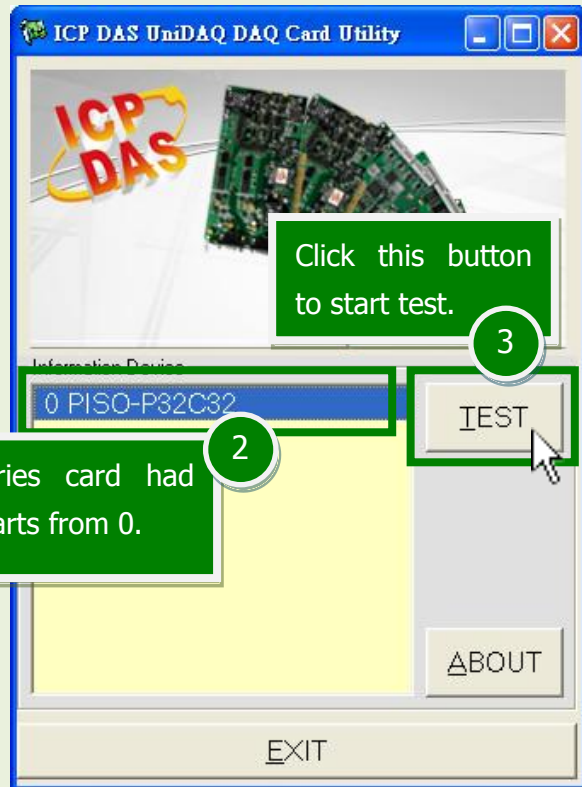5. **The UniDAQ Utility.exe is located in:**

This program (UniDAQ Utility) will be placed in the default path after completing installation.

Default Path: C:\ICPDAS\UniDAQ\Driver\
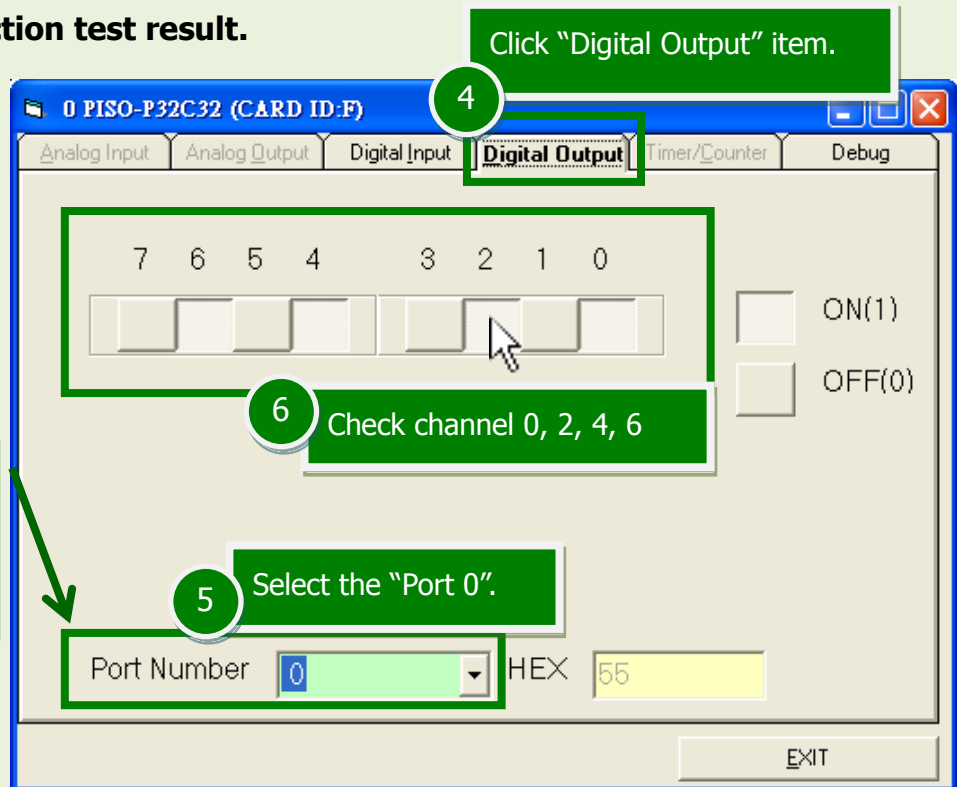Double click the "UniDAQUtility.exe"

Double-Click

1

UniDAQUtility

6. Execute the UniDAQ Utility Program.

⚠️ **_The PISO-1730U software is fully compatible with the PISO-P32C32 series software._**

ICP DAS UniDAQ DAQ Card Utility

Click this button to start test.

③

0 PISO-P32C32

TEST

②

Confirm the PISO-P32C32 series card had successfully installed to PC. It starts from 0.

ABOUT

EXIT

7. Get DIO function test result.

Click "Digital Output" item.

0 PISO-P32C32 (CARD ID:F)

④

| Analog Input | Analog Output | Digital Input | **Digital Output** | Timer/Counter | Debug |

7 6 5 4   3 2 1 0

ON(1)

OFF(0)

⑥ Check channel 0, 2, 4, 6

Port0: DO0-7
Port1: DO8-15
Port2: DO16-23
Port3: DO24-31

⑤ Select the "Port 0".

Port Number 0   HEX 55

EXIT

Click "Digital Input" item.

7

0 PISO-P32C32 (CA...)

Analog Input | Analog Output | **Digital Input** | Digital Output | Timer/Counter | Debug

7 6 5 4 3 2 1 0

ON(1)
OFF(0)

9 The corresponding D/I becomes black for channel 0, 2, 4, 6 of D/O is ON.

Port0: DI0-7
Port1: DI8-15
Port2: DI16-23
Port3: DI24-31

PASS

8 Select the "Port 0"

Port Number [0 ▼] HEX [AA]

EXIT

⚠ **All the D/I should become red because all the D/O is OFF (uncheck).**

7 Related Information

- PISO-1730U Card Product Page:
  http://www.icpdas.com/root/product/solutions/pc_based_io_board/pci/piso-1730u.html
- DN-37, CA-3710 and DP-665 page (optional):
  http://www.icpdas.com/products/DAQ/screw_terminal/dn_37.htm
  http://www.icpdas.com/products/Accessories/power_supply/dp-665.htm
  http://www.icpdas.com/products/Accessories/cable/cable_selection.htm
- Documentation and Software:
  CD:\NAPDOS\PCI\UniDAQ\
  http://ftp.icpdas.com/pub/cd/iocard/pci/napdos/pci/unidaq/

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