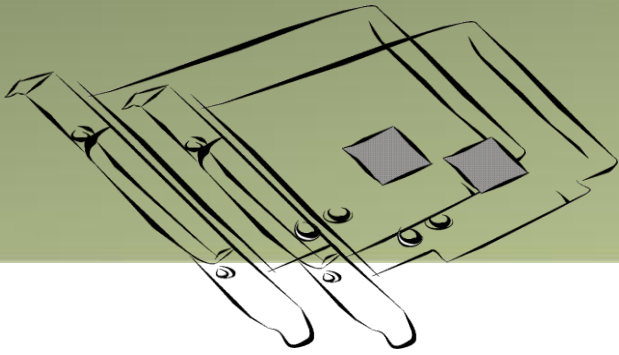


I/O CARD QUICK START GUIDE

For PCI-P16C16U

English/Oct. 2015/Version 1.0



1 Check the Supplied Items

The shipping package includes the following items:



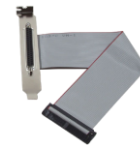
PCI-P16C16U



Software Utility CD
(V6.2 or later)



Quick Start Guide
(This Document)

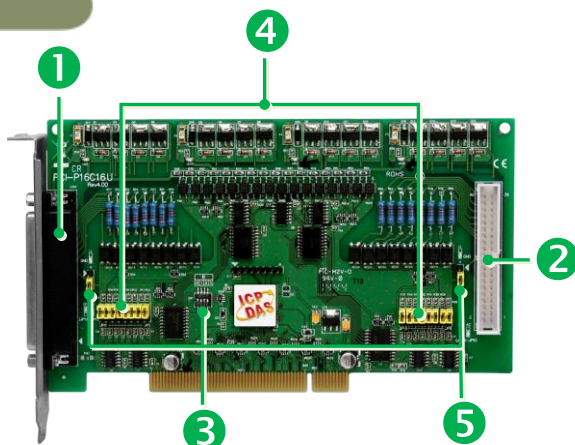


CA-4037W
Cable x 1



CA-4002 D-Sub
Connector x 2

2 Board Layout



1. **CN1 Connector**
(See Section 5 Pin Assignments)

2. **CN2 Connector**
(See Section 5 Pin Assignments)

3. **SW1: Card ID Switch**
(The default setting is 0x0.)

4. **JP1 ~ JP8, JP9 ~ JP16: Input
Signal Type Jumper**

5. **J1, J2: Set the Ground Isolation
Protection**

Note: For more details regarding the Card ID and Jumper settings, refer to the PCI-P16C16 Series User Manual.

3

Installing the Windows Driver

The UniDAQ driver supports Windows 2000 and 32/64-bit versions of Windows XP/2003/2008/7/8. The driver installation package for PCI-FC16U board can be found on the companion CD-ROM, or can be obtained from the ICP DAS FTP web site. The driver is located at:

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

<http://ftp.icpdas.com/pub/cd/iocard/pci/napdos/pci/unidag/dll/driver/>

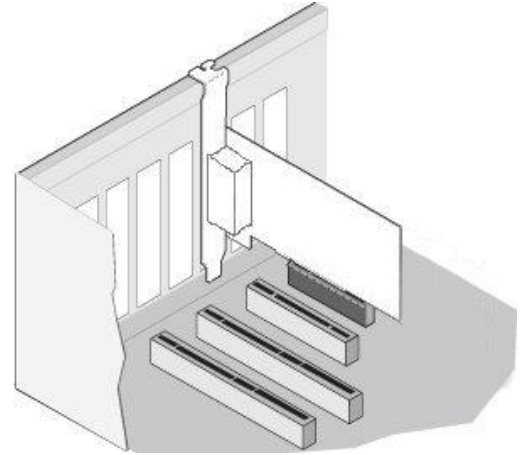
To install the UniDAQ driver, follow the procedure described below.

- Step 1:** Double-click the **UniDAQ_Win_Setupxxx.exe** icon to begin the installation process.
- Step 2:** When the “Welcome to the ICP DAS UniDAQ Driver Setup Wizard” screen is displayed, click the “**N**ext>” button to start the installation.
- Step 3:** On the “Information” screen, verify that the DAQ card is included in the list of supported devices, then click the “**N**ext>” button.
- Step 4:** On the “Select Destination Location” screen, click the “**N**ext>” button to install the software in the default folder, **C:\ICPDAS\UniDAQ**.
- Step 5:** On the “Select Components” screen, verify that the DAQ Card is in the list of device, and then click the “**N**ext>” button to continue.
- Step 6:** On the “Select Additional Tasks” screen, click the “**N**ext>” button.
- Step 7:** On the “Download Information” screen, click the “**N**ext>” button
- Step 8:** Once the installation has completed, click “**No, I will restart my computer later**”, and then click the “**F**inish” button.

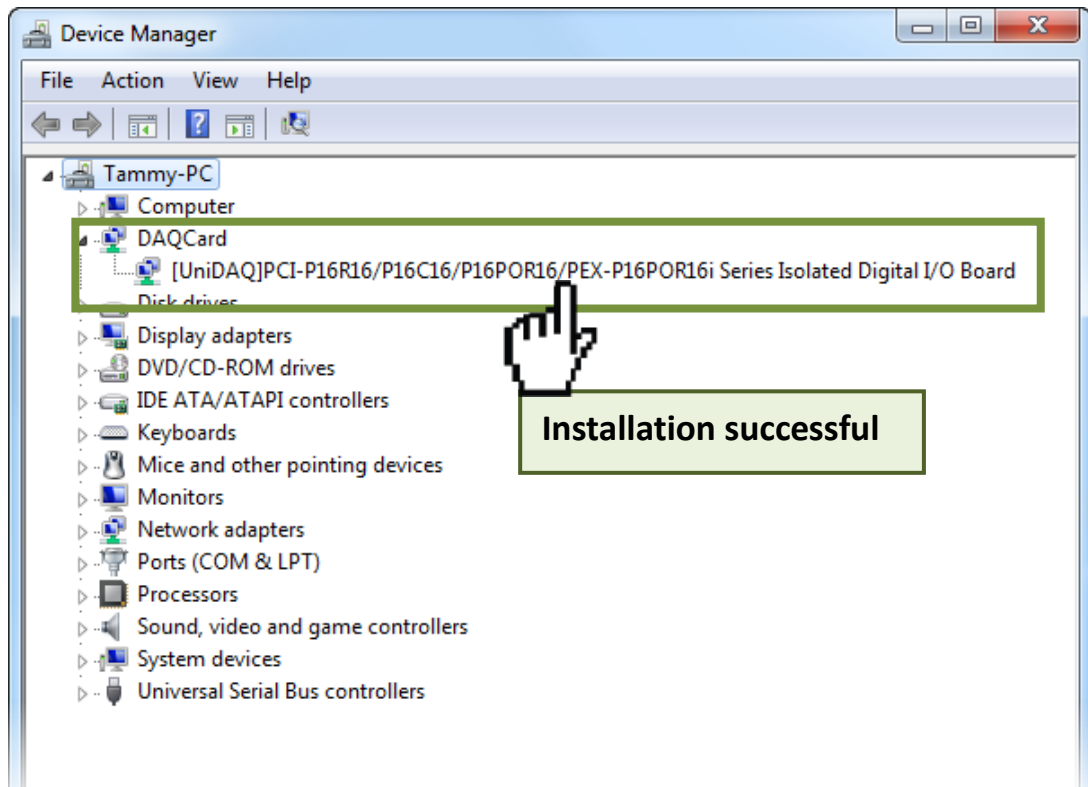
Note: For detailed information about the driver installation, refer to Chapter 2 “Install UniDAQ Driver DLL” of the UniDAQ SDK User Manual.

4 Installing the Hardware

- Step 1:** Shut down and power off the computer.
- Step 2:** Remove all the covers from the computer.
- Step 3:** Select an unused PCI slot.
- Step 4:** Carefully insert the PCI-P16C16U board into the PCI slot and secure the board in place.
- Step 5:** Replace the covers on the computer.
- Step 6:** Reconnect the power supply and power on the computer.




- Step 7:** Once the computer reboots, follow any messages that may be displayed to complete the Plug and Play installation procedure.
- Step 8:** Open the “**Device Manager**” in the Control Panel and verify that the PCI-P16C16U board is listed correctly, as illustrated below.



5 Pin Assignments

Pin Assignment CN2	Pin Assignment CN1	Terminal No.	Pin Assignment CN1	Pin Assignment CN2
OUT_8	OUT_0	01		
OUT_9	OUT_1	02	20	Ext. Power 1
OUT_10	OUT_2	03	21	Ext. Power1
OUT_11	OUT_3	04	22	GND_1
OUT_12	OUT_4	05	23	GND_1
OUT_13	OUT_5	06	24	Ext. Power2
OUT_14	OUT_6	07	25	Ext. Power2
OUT_15	OUT_7	08	26	GND_2
N/A	N/A	09	27	GND_2
N/A	N/A	10	28	N/A
N/A	N/A	11	29	N/A
DIA_8	DIA_0	12	30	DIB_0
DIA_9	DIA_1	13	31	DIB_1
DIA_10	DIA_2	14	32	DIB_2
DIA_11	DIA_3	15	33	DIB_3
DIA_12	DIA_4	16	34	DIB_4
DIA_13	DIA_5	17	35	DIB_5
DIA_14	DIA_6	18	36	DIB_6
DIA_15	DIA_7	19	37	DIB_7



CN1(Female DB-37)

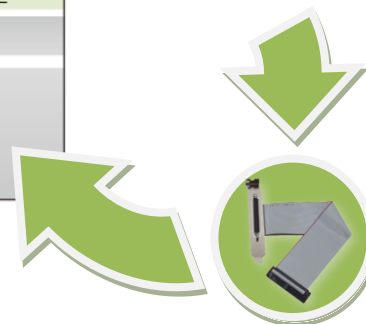
Pin Assignment	Terminal No.	Pin Assignment
DO_8	01	02 Ext. Power3
DO_9	03	04 Ext. Power3
DO_10	05	06 GND3
DO_11	07	08 GND3
DO_12	09	10 Ext. Power4
DO_13	11	12 Ext. Power4
DO_14	13	14 GND4
DO_15	15	16 GND4
N/A	17	18 N/A
N/A	19	20 N/A
N/A	21	22 DIB_8
DIA_8	23	24 DIB_9
DIA_9	25	26 DIB_10
DIA_10	27	28 DIB_11
DIA_11	29	30 DIB_12
DIA_12	31	32 DIB_13
DIA_13	33	34 DIB_14
DIA_14	35	36 DIB_15
DIA_15	37	38 N/A
N/A	39	40 N/A

CN2(40-pin box header)



Notes:

- Ext. Power:** External Power Input
- GND:** External Power Ground
- OUT:** Open Collector Output
- DIA:** Digital Input (Point A)
- DIB:** Digital Input (Point B)



Extension Cable (CA-4037W):
Conversion from DB-40-pin to DB-37-pin

6 Self-Test

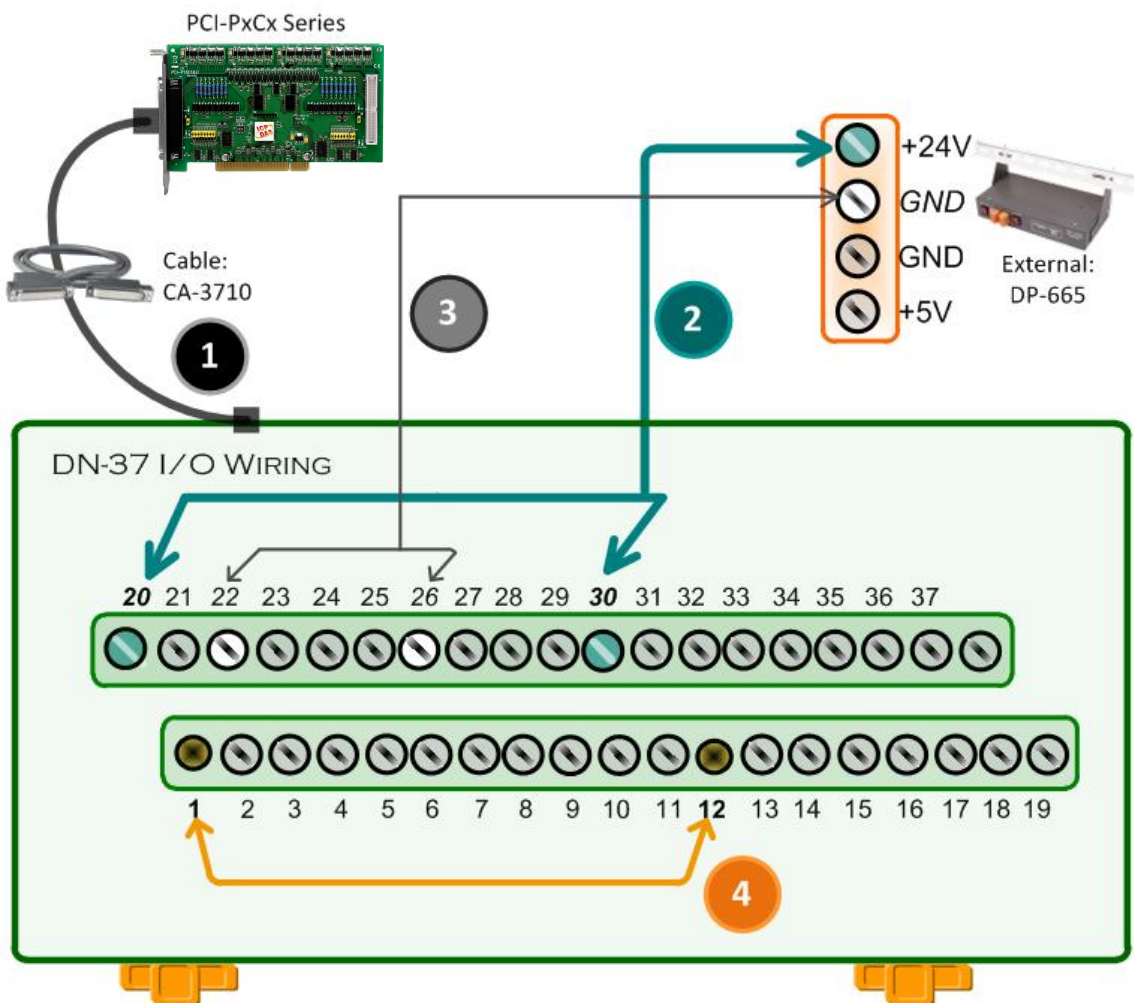
➤ Wiring for the Digital Input/Output Test:

Step 1: Connect the DN-37 to the CN1 connector on the board using the CA-3710 cable.

Step 2: Connect the **CN1.OUT0 pin (Pin 1)** to the **CN1.DIA0 pin (Pin12)**.

Step 3: Connect the **External Power Supply GND** to the **CN1.GND1 pin (Pin22)** and **CN1.GND2 pin (Pin26)**.

Step 4: Connect the **External Power Supply +24V** to the **CN1.Ext.Power1 pin (Pin20)** and **CN1.DIB0 pin (Pin30)**.



➤ **Execute the UniDAQ Utility Program:**

Step 1: In Windows 7, click the “**Start**” button, point to “**All Programs**”, and then click the “**ICPDAS**” folder. Point to “**UniDAQ Development Kits**” and then click the “**UniDAQ Utility**” to execute the UniDAQ Utility Program.

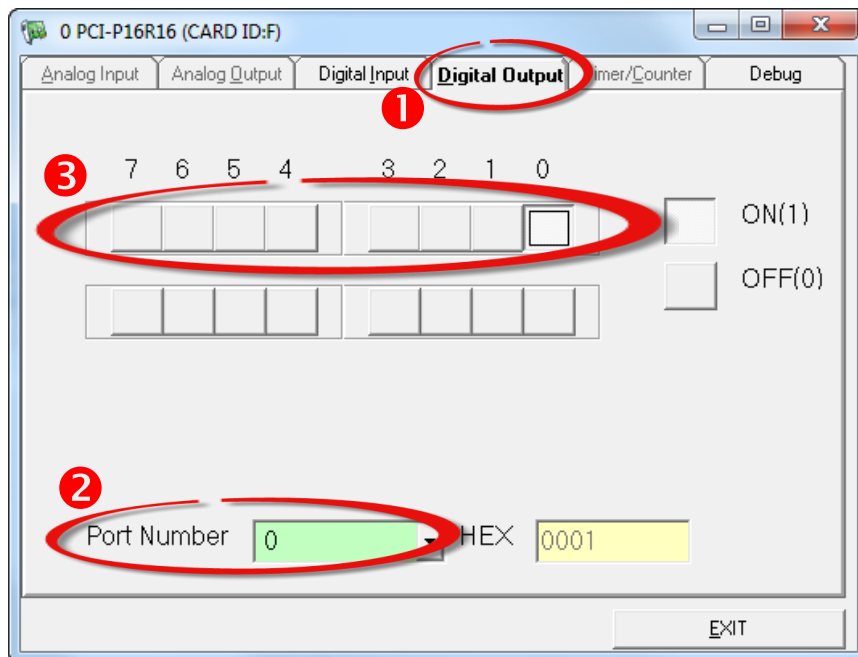
Step 2: Confirm that the PCI-P16C16U board has been successfully installed in the Host system. Note that the device numbers start from 0.

Step 3: Click the “**TEST**” button to start the test.

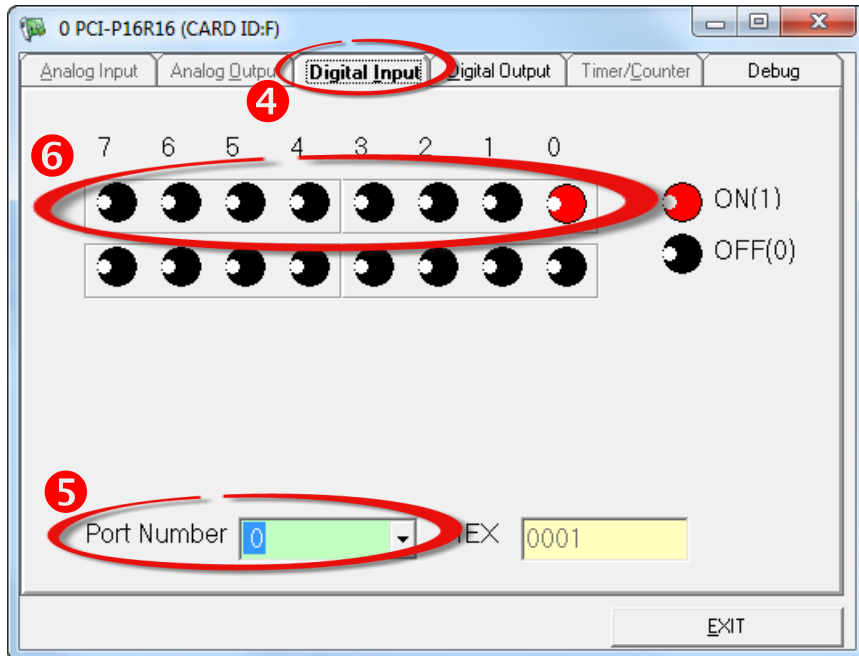


Step 4: Check the results of the **Digital Input/Output** functions test.

1. Click the “**Digital Output**” tab.
2. Select “**Port0**” from the “**Port Number**” drop-down menu.
3. Check the checkboxes for **channels 0**.



4. Click the “Digital Input” tab.
5. Select “Port0” from the “Port Number” drop-down menu.
6. The DI indicators will turn red when the corresponding DO channel 0 is ON.



7 Related Information

- PCI-P16C16U Series Board Product Page:
http://www.icpdas.com/root/product/solutions/pc_based_io_board/pci/pci-p16c16.html
- DN-37, DB-665 and CA-3710 Product Pages (optional):
http://www.icpdas.com/root/product/solutions/pc_based_io_board/daughter_boards/dn-37.html
http://www.icpdas.com/root/product/solutions/accessories/power_supply/dp-665.html
http://www.icpdas.com/products/Accessories/cable/cable_selection.htm
- UniDAQ Documentation and Software:
 CD:\NAPDOS\PCI\UniDAQ\
<http://ftp.icpdas.com/pub/cd/iocard/pci/napdos/pci/unidaq/>