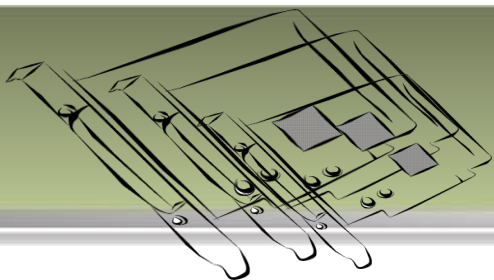


# I/O CARD QUICK START GUIDE

*For PCI-1002 LU/HU  
PEX-1002 L/H*

English/ Jun. 2013/ Version 1.0



## 1 What's in the shipping package?

The package includes the following items:



One PCI/PEX-1002 series board as follows:

PCI-1002LU, PCI-1002HU



PEX-1002L, PEX-1002H



One Software Utility CD (V5.2 or later)



One Quick Start Guide (This Document)



One CA-4002 D-Sub connector

## 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/unidag/dll/driver/>

- The PCI-1002 series classic driver supports Windows 98/NT/2K and 32-bit XP/ 2003/ Vista/7/8. Recommended to install this driver for have been used PCI-1002 series boards of regular user, please refer to :  
<http://ftp.icpdas.com/pub/cd/iocard/pci/napdos/pci/pci-1002/manual/quickstart/classic/>

**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.

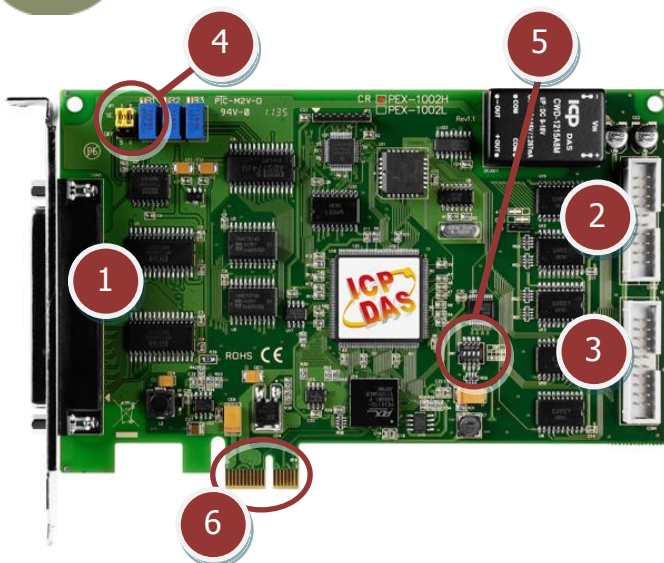
**Step 6:** Click the "**Next>**" button on the **Select Additional Tasks** window.

**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.

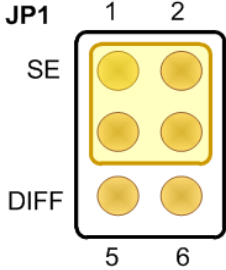
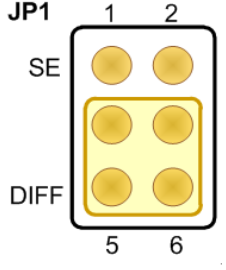
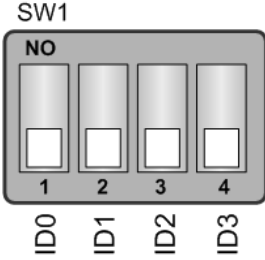
*For detailed information about the driver installation, please refer to Chapter 2.1 "Getting the UniDAQ Driver DLL Installer package" of the UniDAQ SDK user manual.*

## 3 Jumper Setting



1. **CON3:** Analog Input
2. **CON2:** Digital Input
3. **CON1:** Digital Output
4. **JP1:** A/D Input Type Selection
5. **SW1:** Card ID Setting for PEX-1002 only
6. **PCI Bus:** for PCI-1002 only  
**PCI Express:** for PEX-1002 only

Please make sure JP1 jumper and SW1 is kept in default setting before self-test, as follows:

Jumper	JP1: Analog Input Type Selection																																								
																																									
<input checked="" type="checkbox"/> <b>Single-Ended Inputs (Default)</b>	<b>Differential Inputs</b>																																								
Switch	SW1: Card ID Setting																																								
 <p>(*) Default setting</p>	<table border="1" style="border-collapse: collapse; text-align: center;"> <thead> <tr style="background-color: #4F7942; color: white;"> <th>Card ID</th> <th>1 ID0</th> <th>2 ID1</th> <th>3 ID2</th> <th>4 ID3</th> </tr> </thead> <tbody> <tr style="background-color: #D3D3D3;"> <td>(*) 0</td> <td>ON</td> <td>ON</td> <td>ON</td> <td>ON</td> </tr> <tr> <td>1</td> <td>OFF</td> <td>ON</td> <td>ON</td> <td>ON</td> </tr> <tr> <td>2</td> <td>ON</td> <td>OFF</td> <td>ON</td> <td>ON</td> </tr> <tr> <td>:</td> <td>:</td> <td>:</td> <td>:</td> <td>:</td> </tr> <tr> <td>0xD</td> <td>OFF</td> <td>ON</td> <td>OFF</td> <td>OFF</td> </tr> <tr> <td>0xE</td> <td>ON</td> <td>OFF</td> <td>OFF</td> <td>OFF</td> </tr> <tr> <td>0xF</td> <td>OFF</td> <td>OFF</td> <td>OFF</td> <td>OFF</td> </tr> </tbody> </table>	Card ID	1 ID0	2 ID1	3 ID2	4 ID3	(*) 0	ON	ON	ON	ON	1	OFF	ON	ON	ON	2	ON	OFF	ON	ON	:	:	:	:	:	0xD	OFF	ON	OFF	OFF	0xE	ON	OFF	OFF	OFF	0xF	OFF	OFF	OFF	OFF
Card ID	1 ID0	2 ID1	3 ID2	4 ID3																																					
(*) 0	ON	ON	ON	ON																																					
1	OFF	ON	ON	ON																																					
2	ON	OFF	ON	ON																																					
:	:	:	:	:																																					
0xD	OFF	ON	OFF	OFF																																					
0xE	ON	OFF	OFF	OFF																																					
0xF	OFF	OFF	OFF	OFF																																					

# 4

## 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/PCI Express slot.**
- Step 4: Carefully insert your I/O card into the PCI/PCI Express 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.**

# 5

## Pin Assignments

Pin Assignment	Terminal No.	Pin Assignment
AI_0	01	20 AI_16
AI_1	02	21 AI_17
AI_2	03	22 AI_18
AI_3	04	23 AI_19
AI_4	05	24 AI_20
AI_5	06	25 AI_21
AI_6	07	26 AI_22
AI_7	08	27 AI_23
AI_8	09	28 AI_24
AI_9	10	29 AI_25
AI_10	11	30 AI_26
AI_11	12	31 AI_27
AI_12	13	32 AI_28
AI_13	14	33 AI_29
AI_14	15	34 AI_30
AI_15	16	35 AI_31
A.GND	17	36 N.C.
N.C.	18	37 D.GND
Ext_Trg	19	

CON3

Pin Assignment	Terminal No.	Pin Assignment
DI 0	01	02 DI 1
DI 2	03	04 DI 3
DI 4	05	06 DI 5
DI 6	07	08 DI 7
DI 8	09	10 DI 9
DI 10	11	12 DI 11
DI 12	13	14 DI 13
DI 14	15	16 DI 15
GND	17	18 GND
+5V	19	20 +12V

CON2

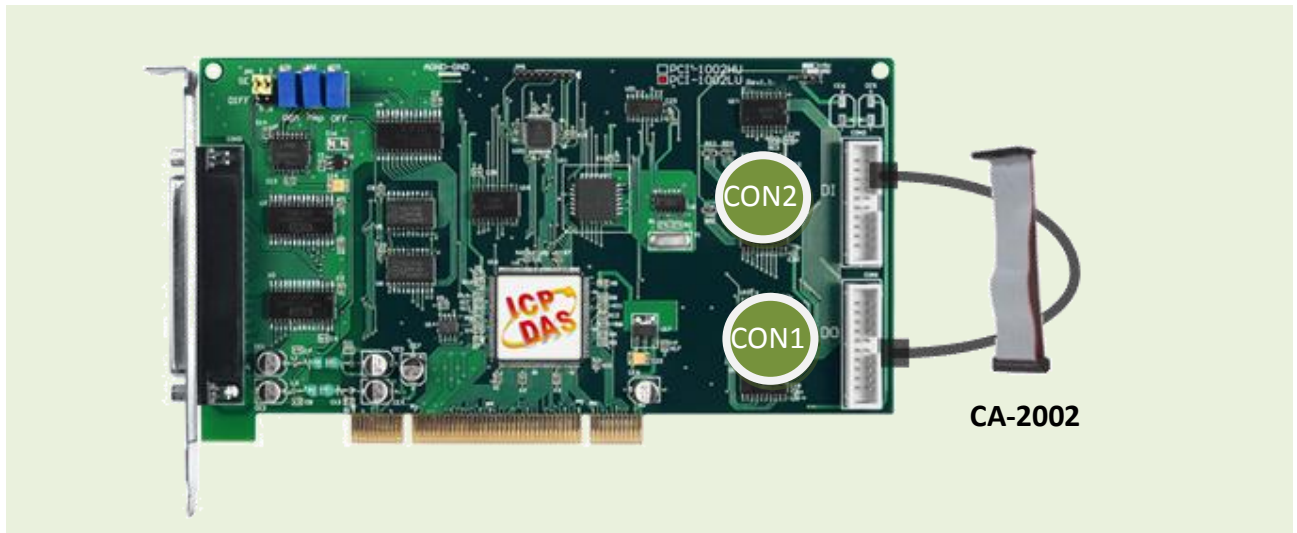
Pin Assignment	Terminal No.	Pin Assignment
DO 0	01	02 DO 1
DO 2	03	04 DO 3
DO 4	05	06 DO 5
DO 6	07	08 DO 7
DO 8	09	10 DO 9
DO 10	10	12 DO 11
DO 12	12	14 DO 13
DO 14	14	16 DO 15
GND	16	18 GND
+5V	18	20 +12V

CON1

# 6 Self-Test

## ■ DIO Test Wiring:

1. Use CA-2002 (optional) to connect the CON1 with CON2.

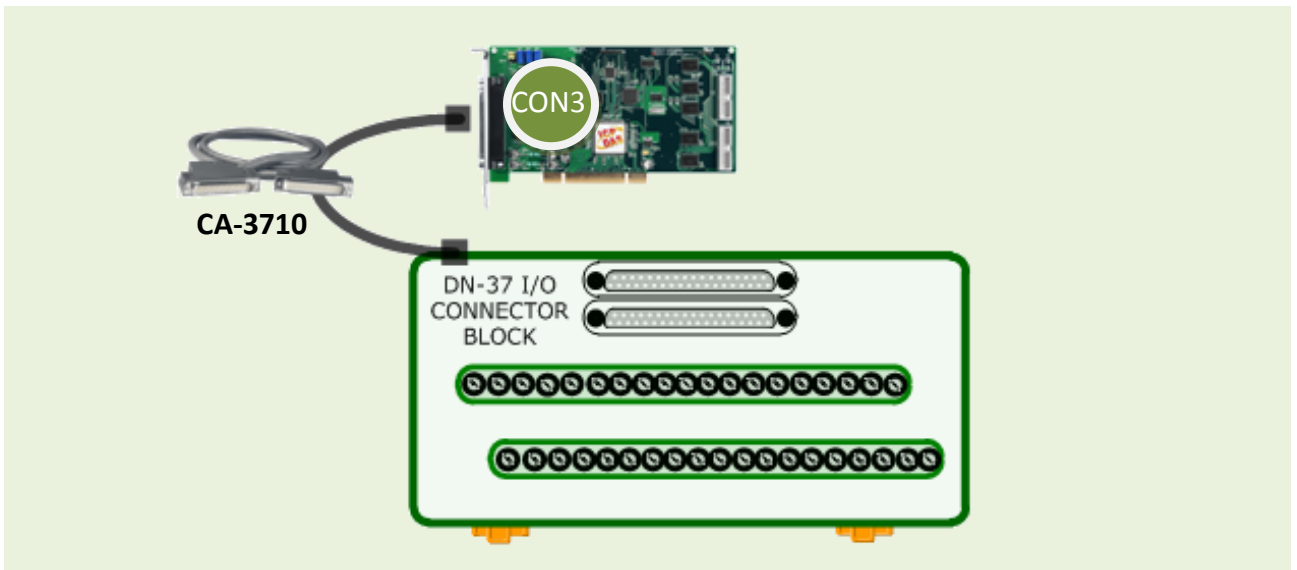


## ■ Analog Input Test Wiring:

2. Prepare for device:

- DN-37 (optional) Wiring terminal board.
- Provide a stable signal source. (For example, dry battery)

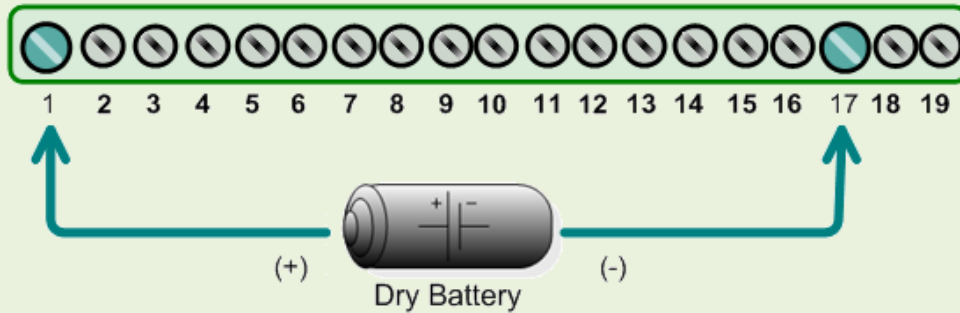
3. Connect a DN-37 to the CON3.



**4. Wire the signal source to channel 0, and then keep set the JP1 jumper to Single-Ended (page 3), and wire the signals as follows:**

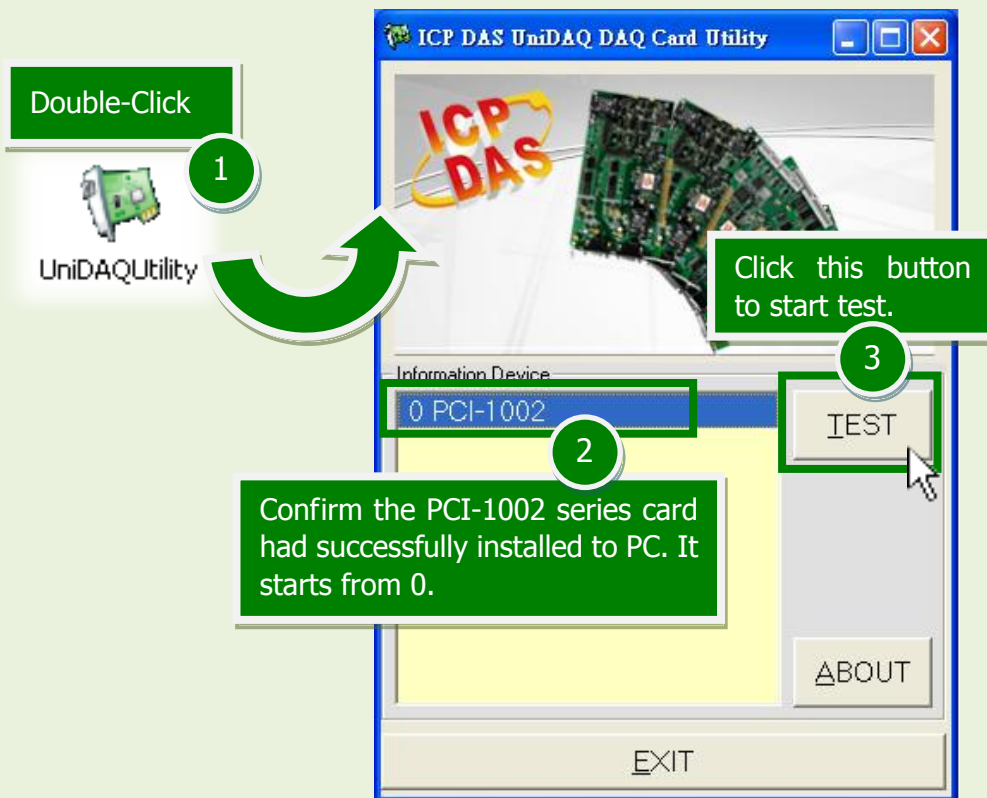
**Connect the AI 0 (Pin01) to signal positive (+)**

**Connect the A.GND (Pin17) to signal negative (-)**

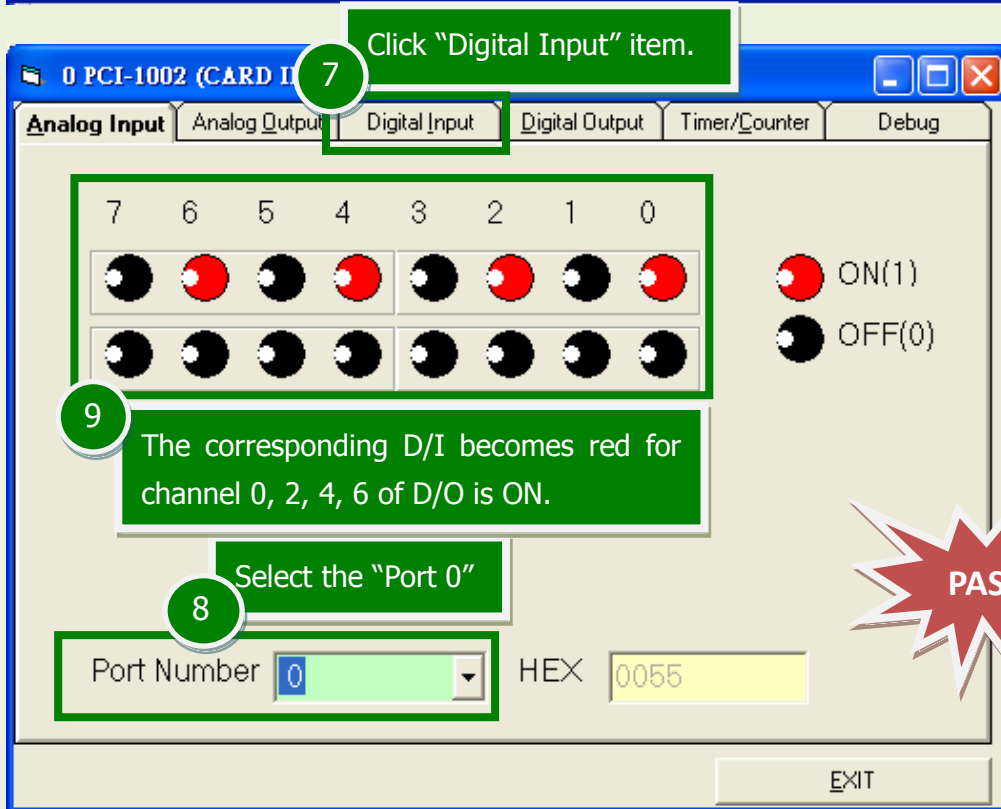
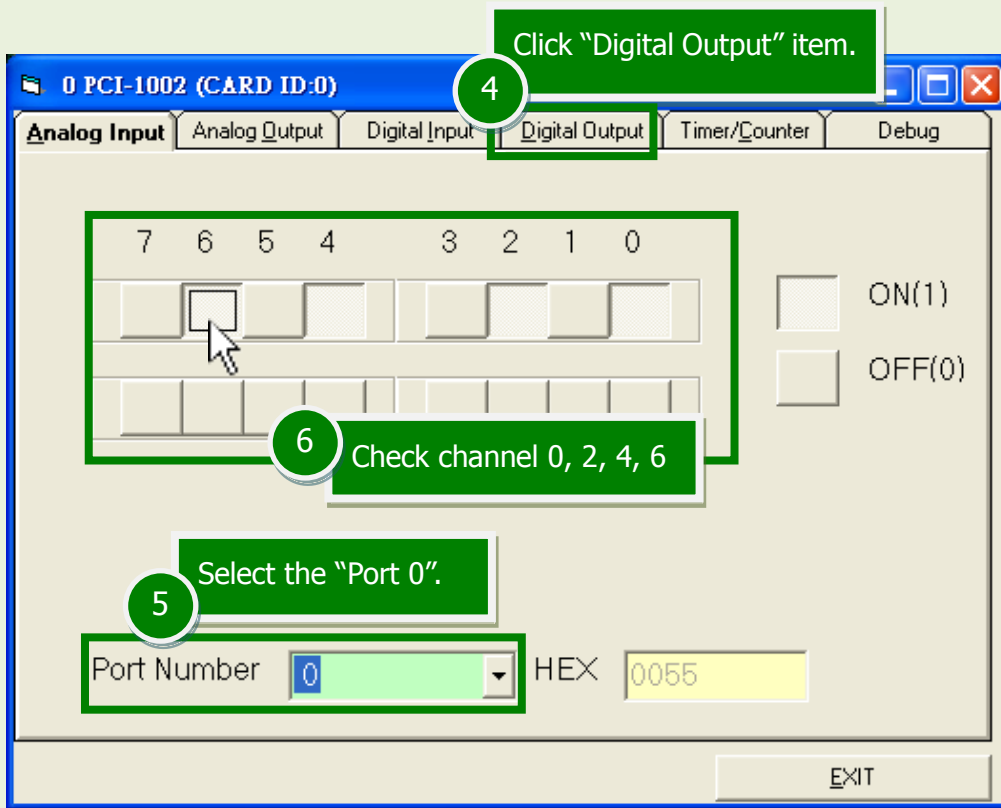


**5. Execute the UniDAQ Utility Program.**

This program (UniDAQ Utility) will be placed in the default path after completing installation. The UniDAQ Utility.exe is located in (Default path): C:\ICPDAS\UniDAQ\Driver\



6. Get DIO function test result.



## 7. Get A/D function test result.

Click "Analog Input" item.

10

13

Check analog input on Channel 0 textbox. The other channels value for floating number.

Ch	Voltage(V)	Ch	Voltage(V)	Ch	Voltage(V)	Ch	Voltage(V)
0	5.04334	11	1.83746	19	1.00159	27	0.16724
1	4.54437	12	1.66931	20	0.86853	28	0.1004
2	3.99811	13	1.50696	21	0.73547	29	0.06989
3	3.62274	14	1.35559	22	0.60852	30	0.01556
4	3.35053	15	1.17004	23	0.4718	31	-0.02777
5	3.08258						
6	2.83905						
7	2.58514						

Setting  
Card Type 0:Low(JPx=20V) Gain  
Range 00:Bipolar +/- 10V Sample Rate 100 Hz

11

12

Confirm the configuration setting.

Click this button to start test.

Debug  
Voltage(V)  
0  
0  
0  
0  
0  
0  
0  
0  
0  
0

**PASS**

## Related Information

- PCI-1002/PEX-1002 Series Card Product Page:  
[http://www.icpdas.com/root/product/solutions/pc\\_based\\_io\\_board/pci/pci-1002.html](http://www.icpdas.com/root/product/solutions/pc_based_io_board/pci/pci-1002.html)
- DN-37, CA-3710 and CA-2002 page (optional):  
[http://www.icpdas.com/products/DAQ/screw\\_terminal/dn\\_37.htm](http://www.icpdas.com/products/DAQ/screw_terminal/dn_37.htm)  
[http://www.icpdas.com/products/Accessories/cable/cable\\_selection.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/>