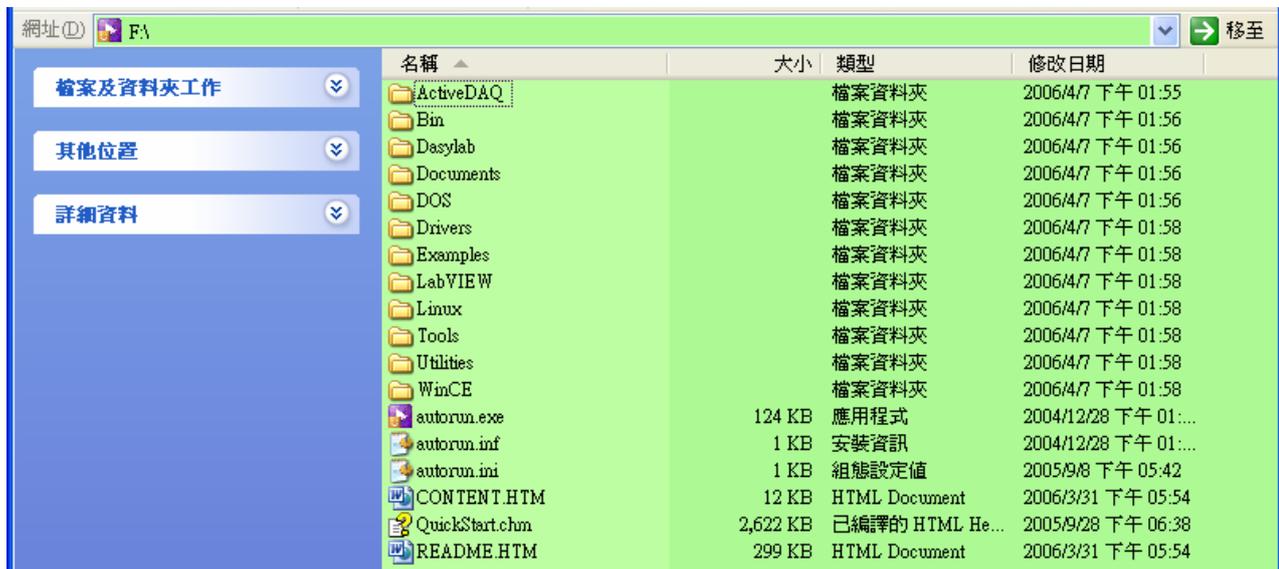


Advantech DLL Driver User Guide

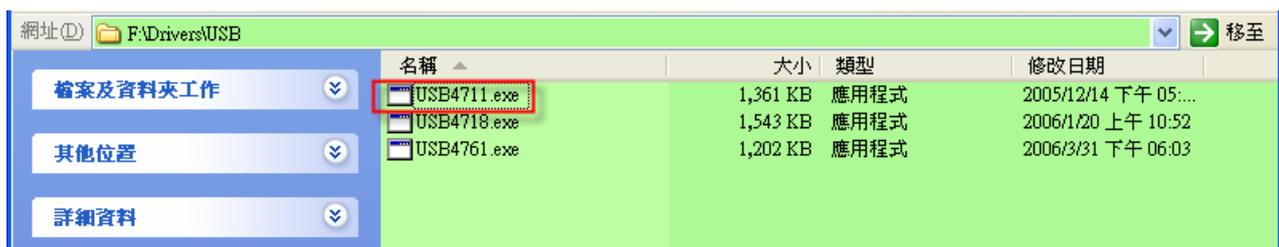
1. The following is the CD content.



2. First, we have to install the Advantech DeviceManager.

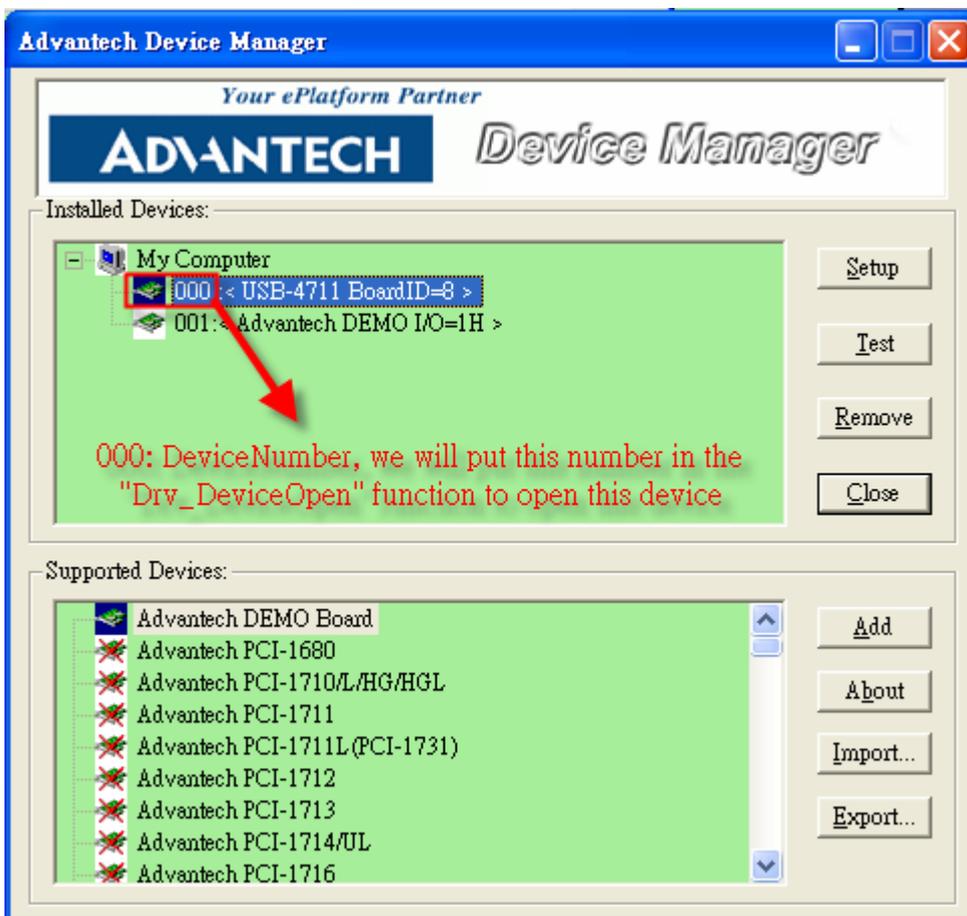
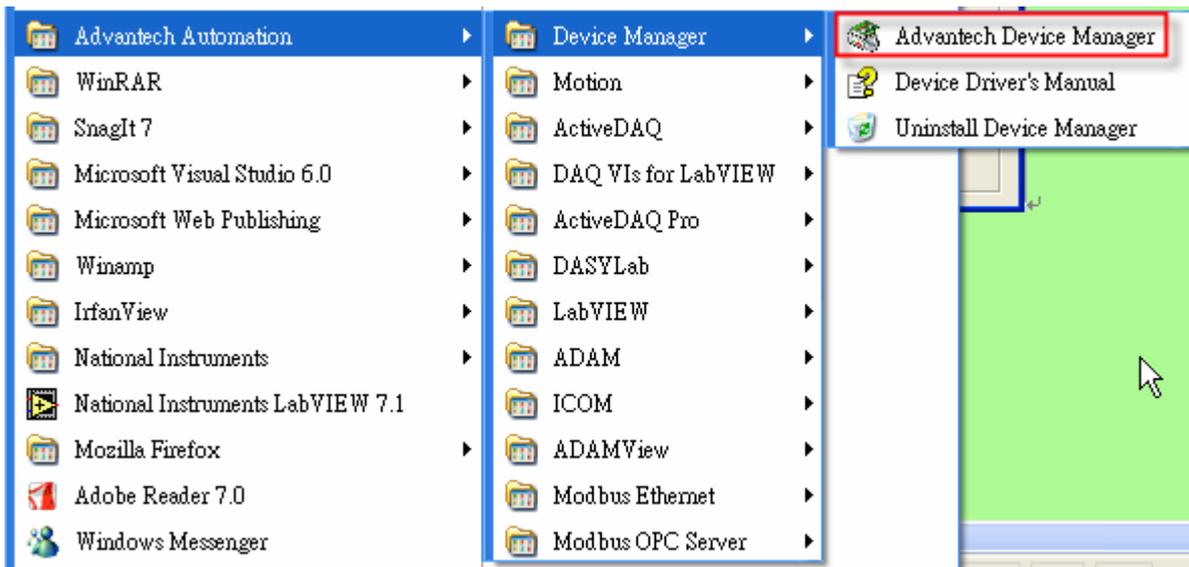


3. And install the Device Driver.

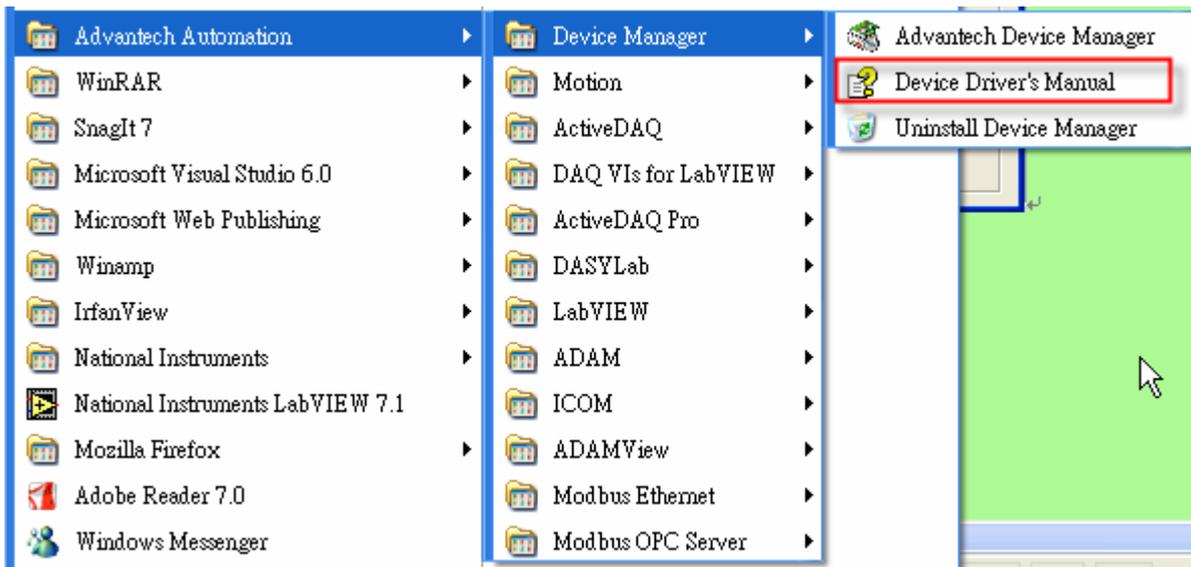


4. Insert the Device, (If PCI or ISA device, turn off the computer and insert the card.), then it will be detected atomically (For PCI or USB, if ISA device, we have to add it in Advantech DeviceManager)

5. Wire the circuit, Configure and Test the Device in the DeviceManager.



6. We have to check what Software function this Device can support. So we check it in the Device Driver manual.



Advantech Device Driver Manual

Function Support Table for PCI

The following tables show DLL functions that are supported by Advantech PCI Series hardware.

Function	Devices				
	PCI-1710	PCI-1710L	PCI-1710HG	PCI-1710HGL	PCI-1710HGL
Device functions					
DRV_DeviceOpen	✓	✓	✓	✓	✓
DRV_DeviceClose	✓	✓	✓	✓	✓
DRV_DeviceGetFeatures	✓	✓	✓	✓	✓
DRV_DeviceGetProperty	✓	✓	✓	✓	✓
DRV_DeviceSetProperty	✓	✓	✓	✓	✓

7. There are full of information here.

Advantech Device Driver Manual

Device Configuration **How to configure in Devicemanager**

USB-4711 device driver provides a device setting dialog box for user to set the driver default device property values, and these values will be saved in system. The device properties will be referenced by the device driver functions.

Board ID :
 USB device has a virtual "Board ID". It is the "ID" of device. When there are multi USB device connected to Host, we can use this ID to identify each device. This ID is exist in EPROM of USB device, so it will not disappeared or changed when power off.
 It can be set form 0 ~ 15. Default is 0.
Note: If multi-devices are connected to the Host, each device must have different "Board ID" or Host will fail to find the device.

Locate :
 When click this button, the LED of USB device(if Board ID=10) will start to blink. When multi-devices is connected, we can find the device with specified Board ID via this "Locate" button.

AO
Channel 0/1 Ref : Set the D/A reference voltage for the A/O output channel 0/1. This value will be saved in system and will be referenced by the device driver functions.
Calibration : Calibrate the AO with the range specified in **Channel 0/1 Ref**.

AI
Calibration : Calibrate the AI with all ranges.

USB-4711 Device Setting

8. It's helpful if we can know what example can be used for our device. And there are hyperlinks to link with the Example instruction and locate the example path. Please note the example package have to be installed first.

Examples - Microsoft Internet Explorer

檔案(F) 編輯(E) 檢視(V) 我的最愛(A) 工具(T) 說明(H)

← 上一頁 → 搜尋 資料夾

網址(D) F:\Examples

名稱	大小
All_Examples.exe	22,806 KB
BCB_Examples.exe	3,808 KB
Console_Examples.exe	2,379 KB
Delphi_Examples.exe	13,033 KB
VB_Examples.exe	2,724 KB
VC_Examples.exe	5,279 KB

Advantech Device Driver Manual

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內容 索引 搜尋

- Welcome to Advantech Device Driver
- Advantech Device Driver Overview
- Getting Started with Advantech Device Driver
- Device Driver Programming Examples
- Device Driver Programming Guide
- Function Reference
- PCI Series
- PCL Series
- USB Series
 - USB-4711 Device Driver User Manual
 - Device Introduction
 - Device Features
 - Device Configuration
 - Device Calibration
 - USB Firmware Download Utility
 - Demo and Test Examples
 - Example Description**
 - Function Description
 - Data Structures
 - Device Event
 - Device Properties
 - Error Codes
 - USB-4718 Device Driver User Manual
 - Advantech Customer Services

Example Description

Following is the list of example programs we offer as a reference of software development.

Here "VC" (Visual C++), "VB" (Visual Basic), "Delphi", "BCB" (Borland C++ Builder) are supporting languages in Windows. "Console" is standard console mode DOS examples.

Example Name	Description	VC	VB	Console
AD_INT	Demonstrates single channel data acquisition use interrupt function. (allow user to enable FIFO)			
AD_SOFT	Demonstrates single channel data acquisition use software trigger			
MAD_INT	(allow user to enable FIFO)			
MAD_SOFT	Demonstrates multi-channel data acquisition use software trigger			

Click it to locate the path of example

Click it to see the instruction of example

8. Then we can operate the selected example and refer to the source code to write our own program.

Advantech Driver Demo : Interrupt Data Transfer

Setting Display Run

Stop Status

openevent

Select Device:

Scan Channel:

FIFO Setting: Enable
Fifo Size:

Gain Option: Overall Gain List

Input Range:

Pacer Rate: Hz

Conv. #:

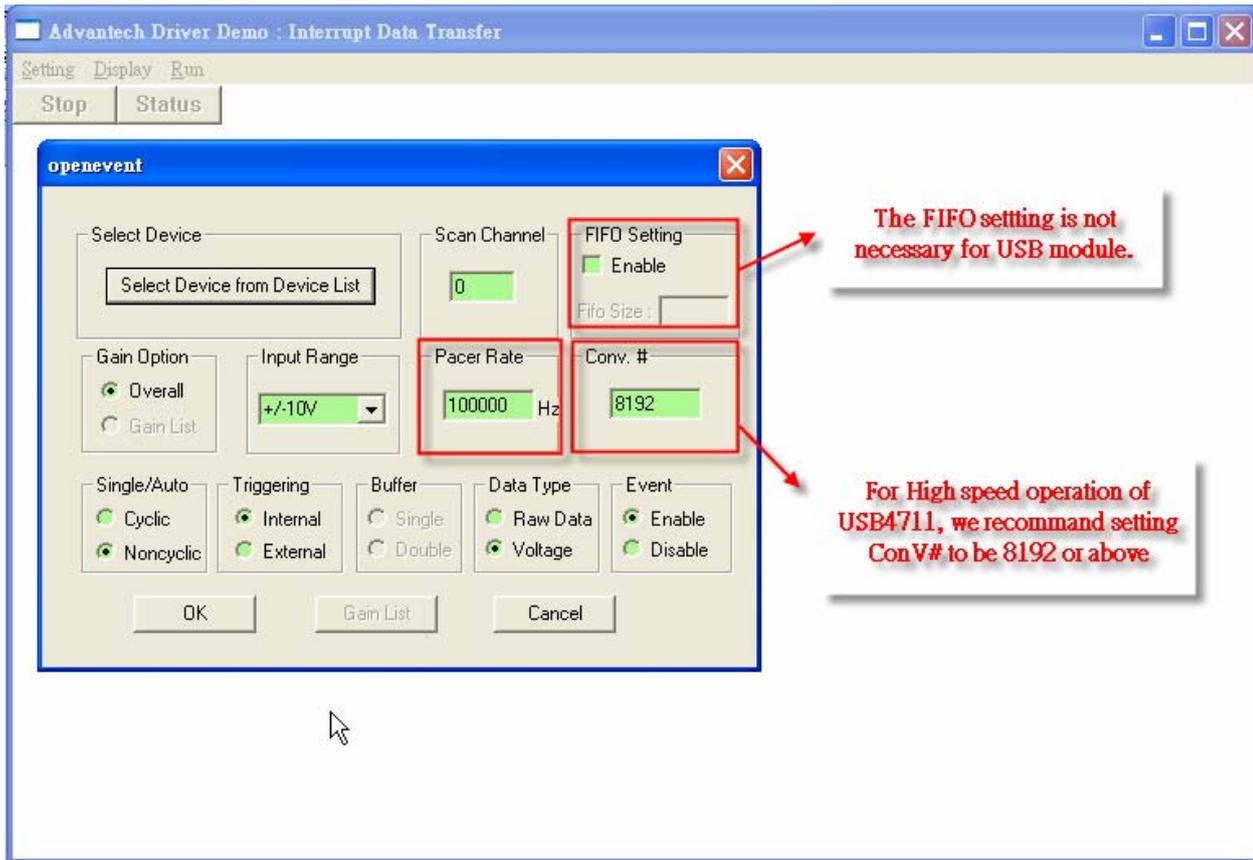
Single/Auto: Cyclic Noncyclic

Triggering: Internal External

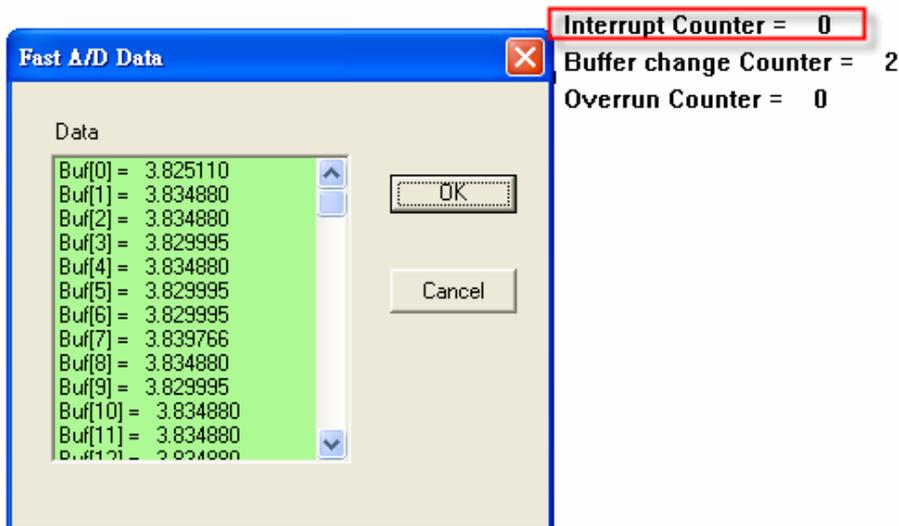
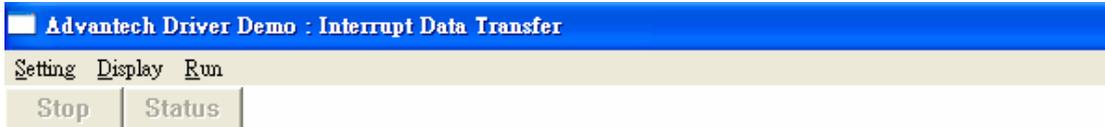
Buffer: Single Double

Data Type: Raw Data Voltage

Event: Enable Disable



The USB module doesn't have the Interrupt Counter count.



The setting of PCI/ISA card is as following. (Suppose using PCI-1710)

openevent

Select Device: Select Device from Device List

Gain Option: Overall

Input Range: +/-10V

Scan Channel: 0

Pacer Rate: 100000 Hz

FIFO Setting: Enable
Fifo Size: 2048

Conv. #: 4096

Single/Auto: Cyclic

Triggering: Internal

Buffer: Single

Data Type: Voltage

Event: Enable

Buttons: OK, Gain List, Cancel

For achieving the High speed AI, the FIFO have to be Enabled for PCI/ISA device, the FIFO Size should be the helf of Hardware FIFO(Hardware FIFO is 4096Ks for PCI-1710)

The Con V# must be set to be the FIFO Size or the multiple of FIFO Size.

The PCI/ISA Device have the Interrupt Counter count.

My signal source is 1Khz Square waveform.

When using 100Khz sampling rate to sample the waveform, there should be 100 data to present one cycle of Square waveform. So 50 points are in Low Level and 50 points are in High Level.

--End—