安裝 PCL-812 & PCL-833 卡使用手冊

1. 本安裝手冊是在作業系統為 Windows XP (SP2)下作業，所有的 Driver 及其他附屬程式也僅配合 Win_XP(SP2)，若有新的作業系統，請先上研華(Advantech)網站 Download 新版的 Driver 及 Device Manager
2. 先將 USB 擴充卡拔除，以避免 IRQ 被 USB 吃掉的問題，再確認 PCL-812 卡上的 jump 設定如下圖 1，PCL-833 卡上的 jump 設定如下圖 2，或參照 812 & 833 的操作手冊調整也可。請注意操作手冊上 Jump 順序與實際卡上面所對應之 Jump 順序並不相同，在設定時要對應其功能性(如 IRQ，Base Address，AD，DA…)而非 Jump 順序，在本安裝手冊後面有附錄可供對照。

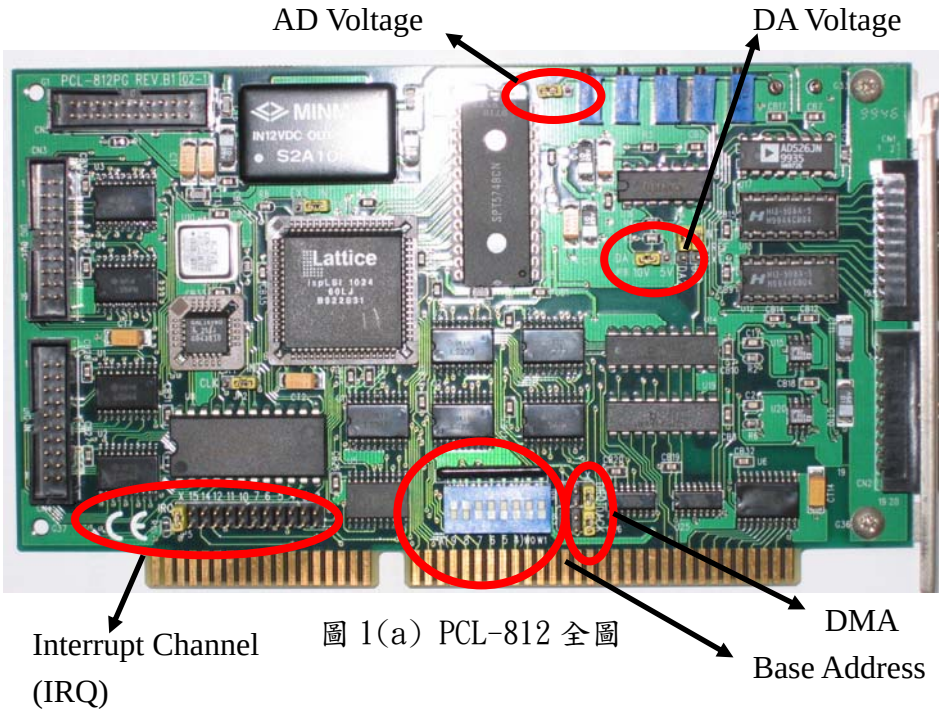


圖 1(a) PCL-812 全圖

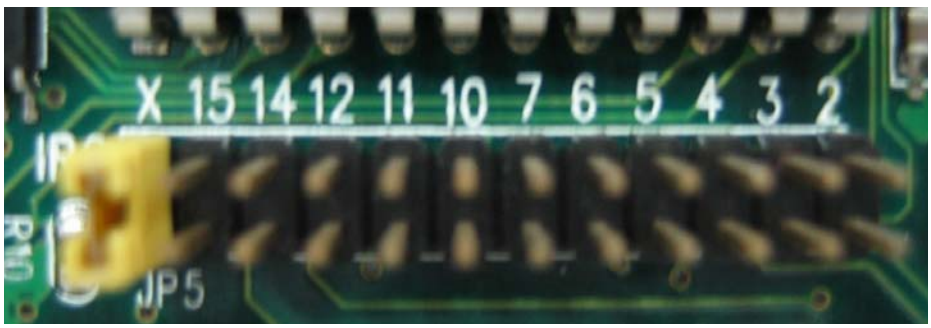


圖 1(b) PCL-812 jump 設定圖-1

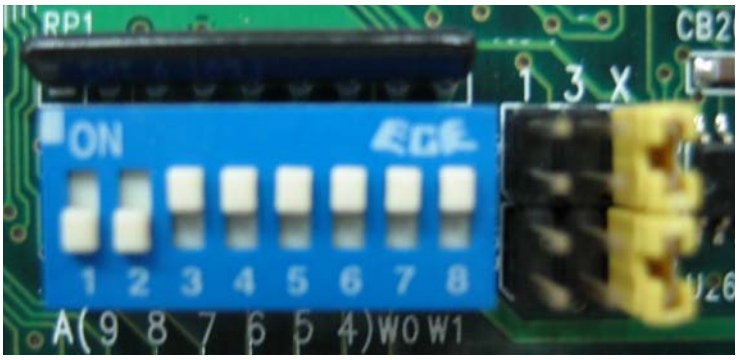


圖 1(c) PCL-812 jump 設定圖-2

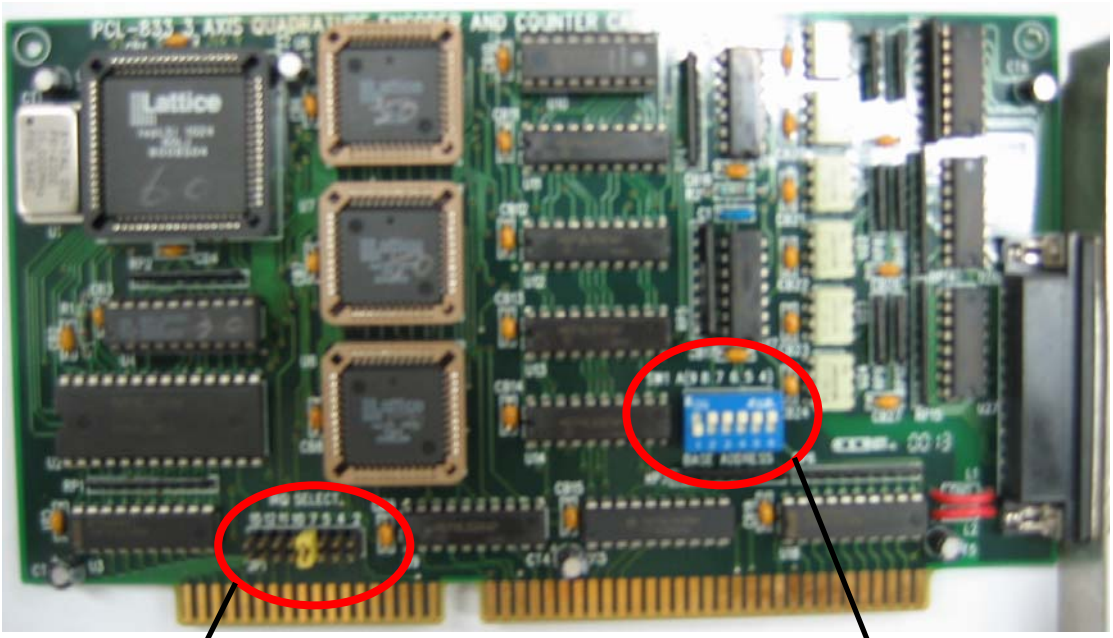


圖 2(a) PCL-833 全圖

圖 2(b) PCL-833 jump 設定圖-1

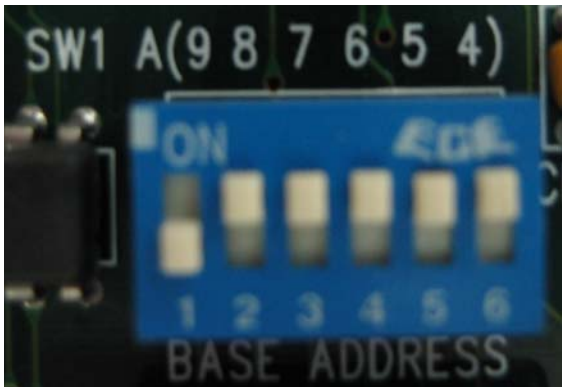


圖 2(b) PCL-833 jump 設定圖-2

3. 在 BIOS 的設定裏，記得將”Assign IRQ for VGA”的選項設為 Enable，這樣才能成功的安裝顯示卡。
4. 在工業電腦 PCA-6176 的環境下，其 IRQ 只有給到 15，因此有可能 IRQ 會不足，請在 BIOS 內將 COM1 和 COM2 的 IRQ 設為 Disable，即將 IRQ3 和 IRQ4 空出來。
5. 在將工業電腦內的 WinXP 及 LabView7.1 安裝完成之後，請安裝光碟內『1_Device Manager』資料夾。
6. 安裝光碟內『2_812 卡本身 Driver』。
7. 安裝光碟內『3_833 卡本身 Driver』。
8. 在我的電腦上按右鍵→內容→硬體→裝置管理員→檢視→資源(依連線)，如下頁圖 3，再將插斷要求(IRQ)點開，查看 ISA5 及 ISA7 為空的 IRQ，即在該畫面不會出現 ISA5 和 ISA7，以確定將 ISA5 和 ISA7 指定給 812 & 833 不會與其他硬體衝突，如下頁圖 4。

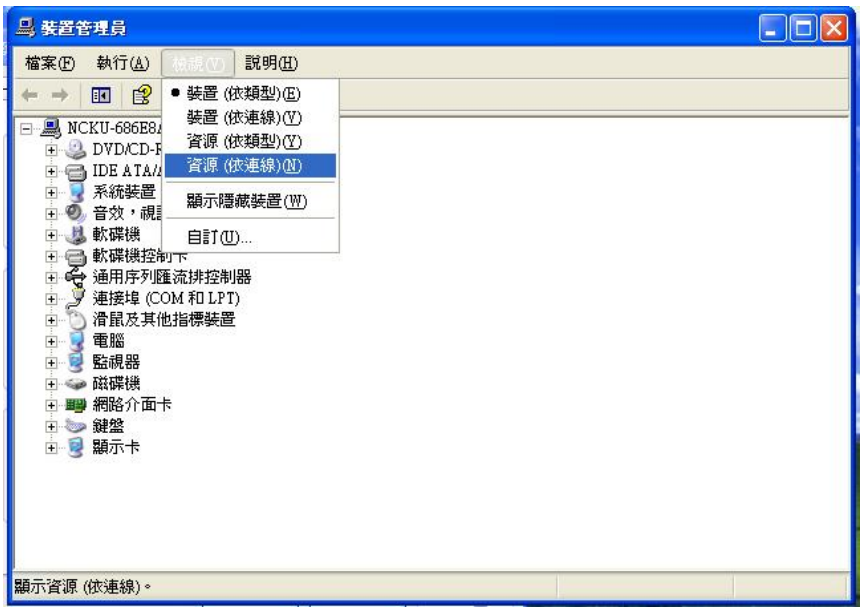


圖 3

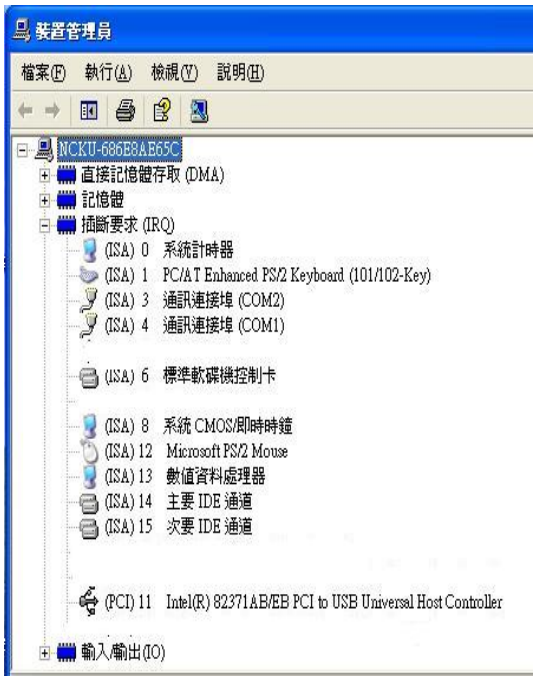


圖 4-1

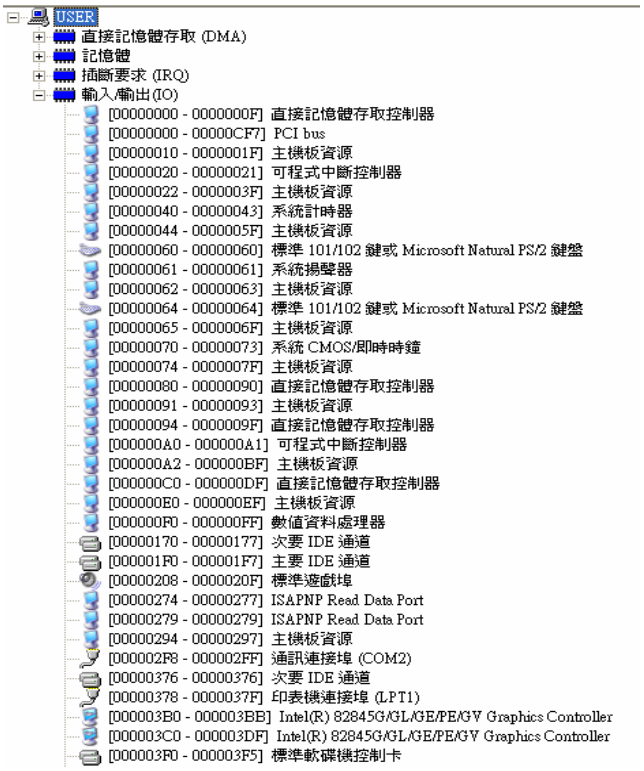


圖 4-2(Base Address)

9. 安裝及確認 IRQ 完成之後，請進入 Advantech Device Manager 主程式畫面，如下圖 5 及圖 6。

圖 5

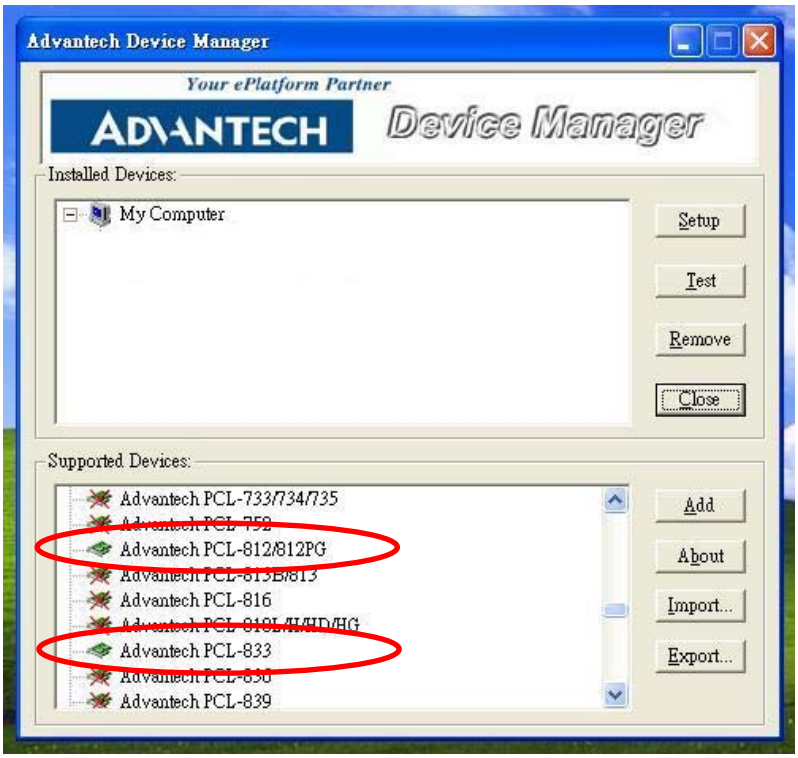


圖 6

10. 點選圖 6 下方 PCL-812/812PG 選項，按下右方”Add”鍵後，會出現 812 設定畫面，按照下頁圖 7 加以設定，完成後按”OK”。注意，Interrupt Channel 與 Base Address 之設定需與卡上之 Jumper 設定相符。以下圖為例，若 Interrupt Channel 設為 5，則在卡上之 Jumper 也必須插至 5 的腳位上，而 Base Address 若設為 300，則卡上之 Base Address 腳位也必須參照附錄調整至 300 所對應之位置。

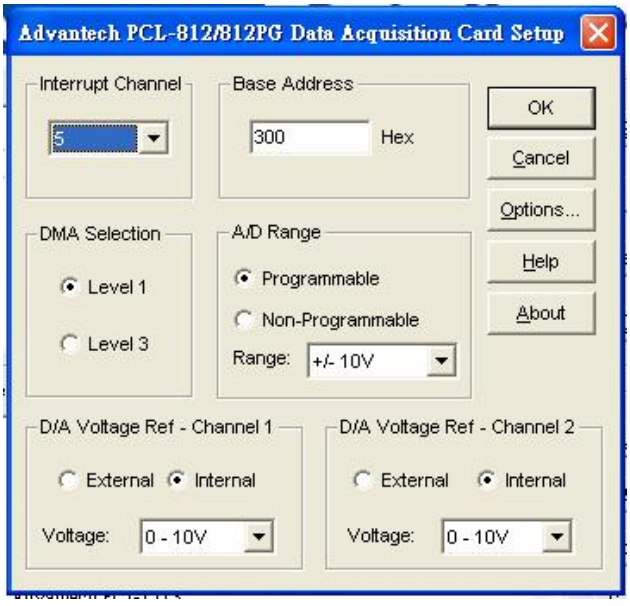


圖 7

11. 按下 OK 後，若安裝成功，應該可出現如下圖 8 畫面，並可以按下右方的 Test 按鍵，出現如下頁測試畫面圖 9。

圖 8

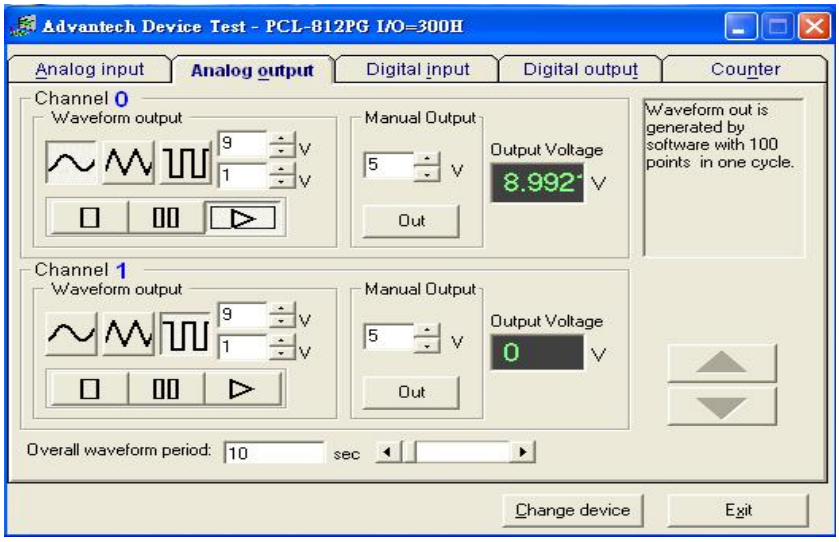


圖 9

12. 測試完成之後，再回到 Device Manager 程式主畫面，點選 PCL-833 選項如圖 10，並按下 Add 鍵，同樣會出現 833 設定畫面，按圖 11 所示加以設定，並按下 OK 鍵。

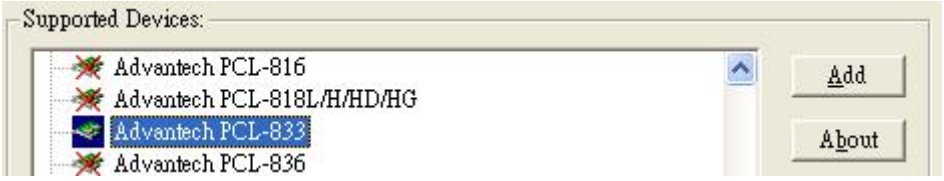


圖 10

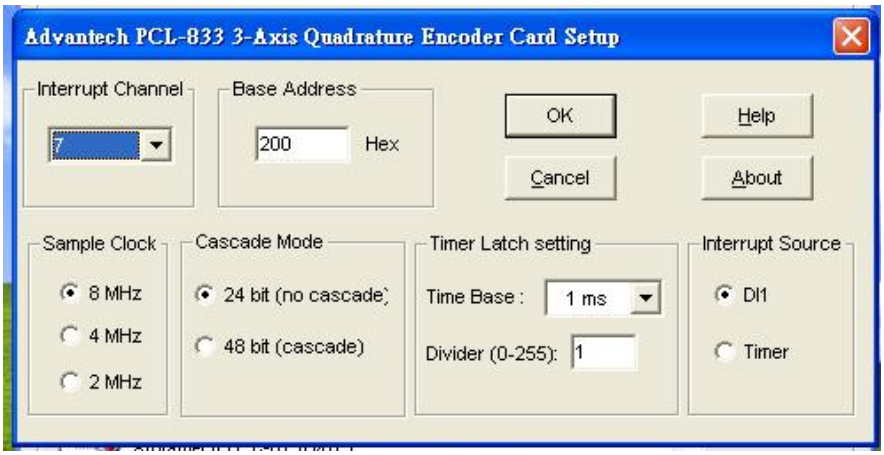


圖 11

13. PCL-812 與 833 皆安裝完成之後，應出現如圖 12 畫面

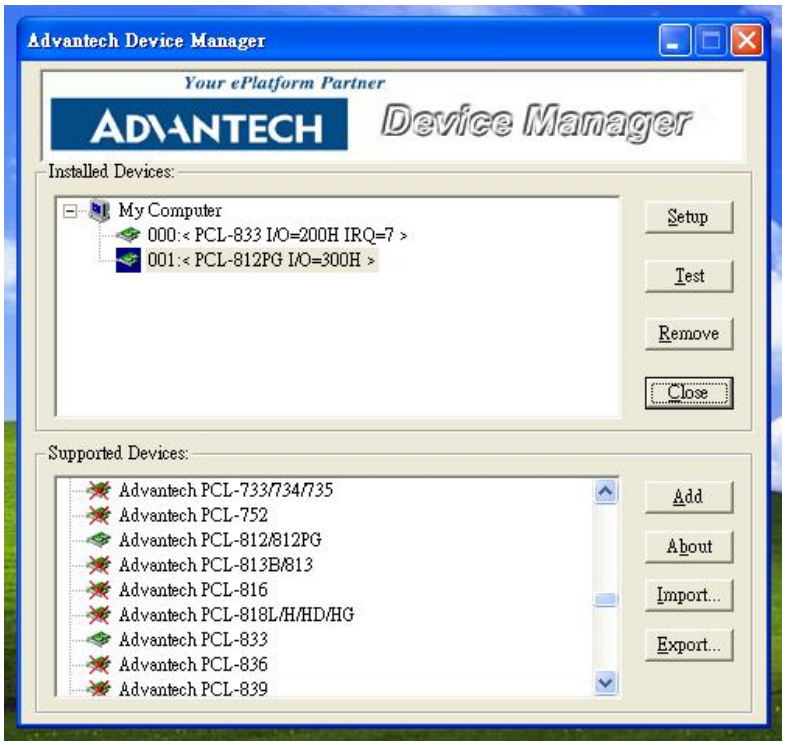


圖 12

14. 重新開機，到裝置管理員，按照步驟 6，確認 IRQ5 為 PCL-812，IRQ7 為 PCL-833，再將 USB 擴充卡安裝完成之後，確認 IRQ5、7 沒有被 USB 卡吃掉，而 IRQ11 則是保留給顯示卡，如下圖 13 所示。

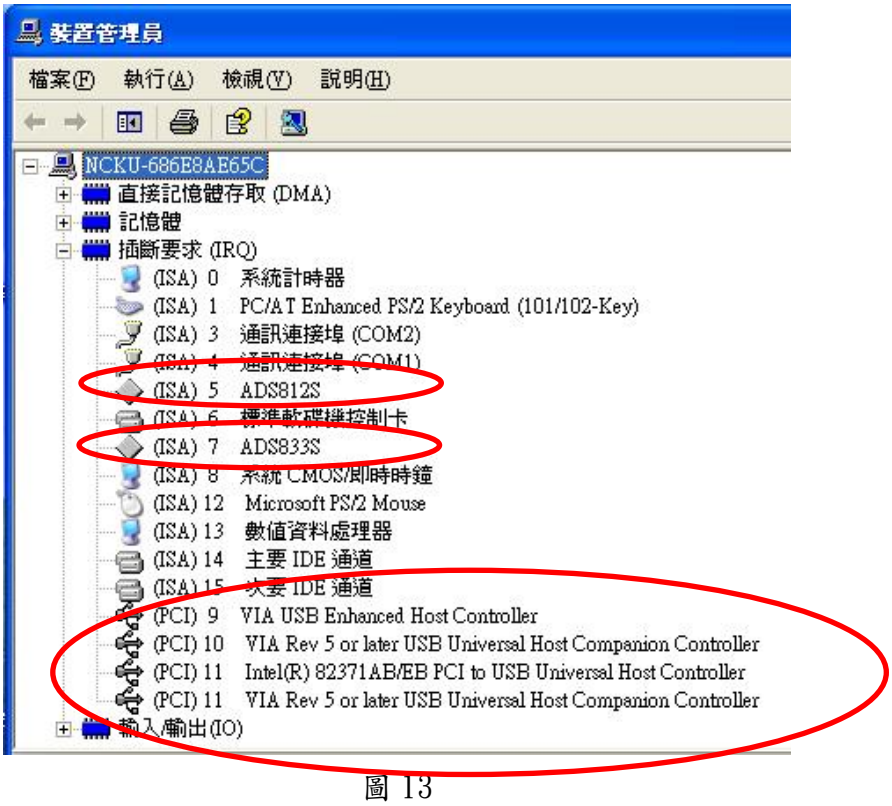


圖 13

15. 安裝光碟內『4_Labview Driver』資料夾。
16. 安裝完成後，將 Labview 主程式開啟，在 Block Diagram 的 Function Pallette 右下角，可看到綠色『AAC』方塊，代表安裝成功，如圖 14 所示。

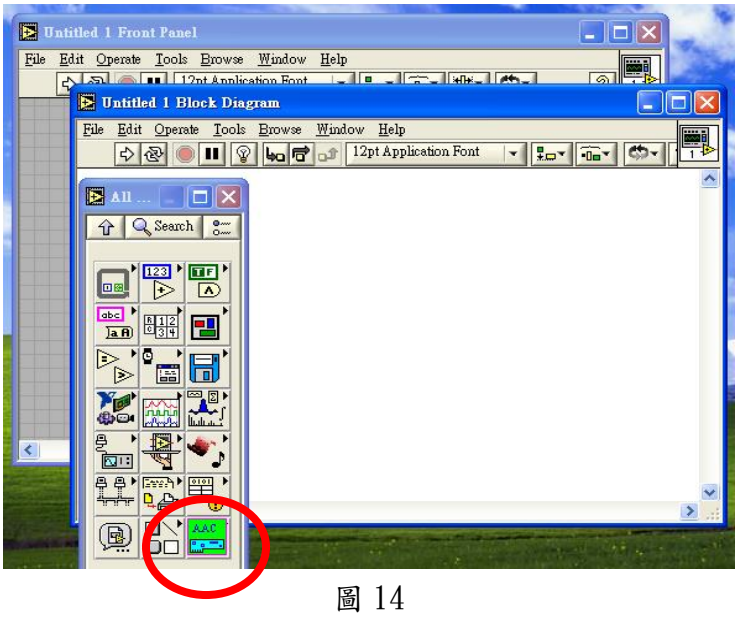


圖 14

附註:

A. IRQ 11 則是給顯示卡，由於工業電腦的 IRQ 不足，插上 USB 介面卡，切勿再插網路卡。

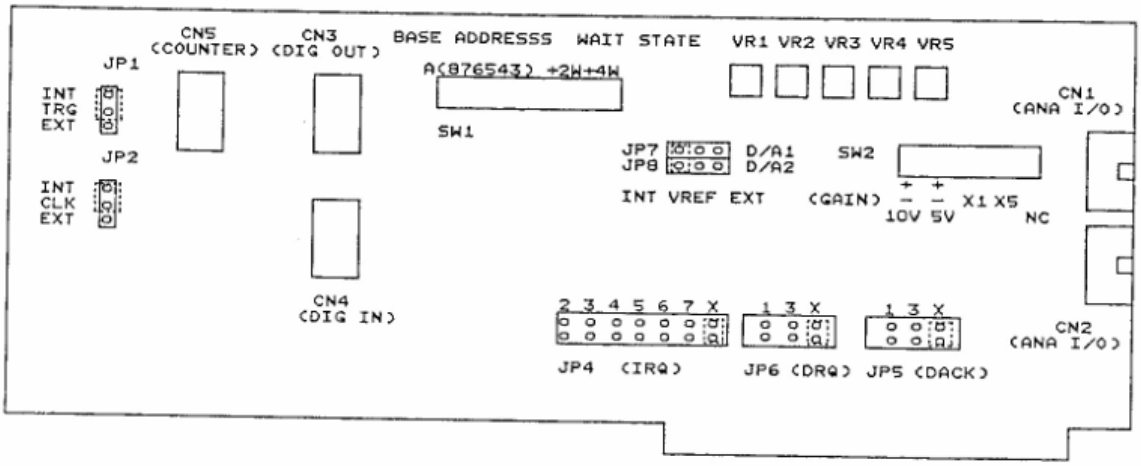
B. 若安裝 812 & 833 時出現 與裝置衝突(Conflict)的訊息
   I. 確認 812 與 833 卡的設定無誤
   II. 確認介面卡上的 jump 之 IRQ 設定是否正確
   III. 確認 Driver 版本為最新版
   IV. 換一張別的卡試試看吧~~

C. 812 不一定要裝在 IRQ5，只要有空的 IRQ 即可安裝，833 也是如此，不過若是要將 833 安裝在 IRQ7 以外的 IRQ，切記將 833 卡上的 IRQ 設定的 jump 改為你要設定的 IRQ。

D. 如果以上方法都不行，那就是你太@#$%!!!

附錄　812、833 中斷以及位址調整對照表

PCL 812 對照表



2.2.1. Base Address Selection

Switch name: SW1

Most PC peripheral devices and interface cards are controlled through the input/output (I/O) ports. These ports are addressed using the I/O port address space. Appendix A provides a PC I/O port address map to help you locate appropriate addresses for different devices.

The I/O port base address for the PCL-812 is selectable via an 8 position DIP switch. The PCL-812 requires 16 consecutive address locations in I/O space. Valid addresses are from Hex 200 to Hex 3F0, however you might have used some of these addresses for other devices. Your PCL-812 base address switch setting is set to Hex 220 in the factory. If you need to adjust it to some other address range, the switch settings for various base addresses are illustrated as below:

I/O Address Range (Hex)	Switch Position					
	1	2	3	4	5	6
	A9	A8	A7	A7	A5	A4	A3
	(Fixed)					
200-20F	1	0	0	0	0	0	X
210-21F	1	0	0	0	0	1	X
220-22F*	1	0	0	0	1	0	X
230-23F	1	0	0	0	1	1	X
300-30F	1	1	0	0	0	0	X
3F0-3FF	1	1	1	1	1	1	X

Note : - ON = 0, OFF = 1
- A4...A9 correspond to PC bus address lines.
- * means factory setting.

2.2.2. Wait State Selection

Some high speed PC's may require that a wait state is added to the PCL-812 to achieve stable data transfer. The PCL-812 can be configured with 0, 2, 4, or 6 wait state delays for each transfer of data. The length of the wait state can be selected with the pins 7 and 8 on SW1, as shown below :

Switch Position 7	8	Time Delay
0	0	0
1	0	2
0	1	4
1	1	6

2.2.3. Bipolar Input Range Selection

Switch name: SW2

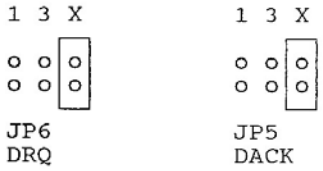
The specific analog input range within the bipolar group is selected by this 5 position DIP switch. The following table illustrates the switch setting and corresponding input ranges.

Switch Position 1	2	3	4	5	Bipolar Range
ON	OFF	ON	OFF	X	+/- 10V
OFF	ON	ON	OFF	X	+/- 5V
ON	OFF	OFF	ON	X	+/- 2V
OFF	ON	OFF	ON	X	+/- 1V

2.2.4. DMA Channel Selection

Jumper name: JP5, JP6

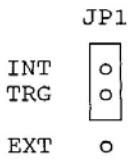
The PCL-812 provides DMA data transfer capability. The selection of DMA level 1 or level 3 is controlled by this jumper.



JP6 DRQ JP5 DACK

2.2.5. Trigger Source Selection

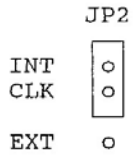
Jumper name : JP1



The PCL-812 provides software trigger, pacer trigger and external trigger for A/D conversion. When using software and pacer trigger, jumper should be put on "INT" side. For external trigger, put it on "EXT" side.

2.2.6. User's Counter Input Clock Selection

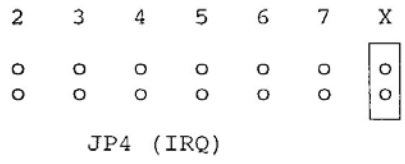
Jumper name : JP2



"INT" side when using internal 2MHz clock.
"EXT" side when connecting to external pulse.

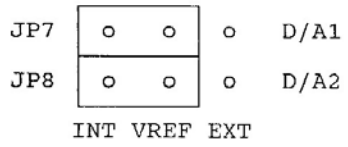
2.2.7. IRQ Level Selection

Jumper name : JP4



2.2.8. D/A Reference Source Selection

Jumper name : JP7, JP8



"INT" side when using internal -5V reference.
"EXT" side when applying external DC or AC reference.

2.3. Connector Pin Assignment

The PCL-812 is equipped with two 20-pin insulation displacement (mass termination) connectors, accessible from the rear plate, and three other 20-pin insulation displacement connectors on-board. All these connectors can be connected to the same type of flat cables, or connected to 37-pin D-type connectors through our PCLK-1050 industrial wiring kit. Please refer to Fig. 2.1 for the location of each connector.

The following diagrams illustrate the pin alignment of each connector.

Legend :

A/D	-	Analog input
A.GND	-	Analog ground
D/A	-	Analog output
D/O	-	Digital output
D/I	-	Digital input
D.GND	-	Digital and power supply ground
CLK	-	Clock input for the 8253
GATE	-	Gate input for the 8253
OUT	-	Signal output of the 8253
VREF	-	Voltage reference

PCL 833 對照表

Initial inspection

In addition to this manual the shipping container should contain the PCL-833 card and a utility diskette. We carefully inspected the PCL-833 mechanically and electrically before we shipped it. It should be free of marks and scratches and in perfect electrical order on receipt.

As you unpack the card, check it for signs of shipping damage (damaged box, scratches, dents, etc.). If it is damaged or fails to meet its specifications, notify our service department or your local sales representative immediately. You will need to contact the carrier so that it can inspect the shipping carton and packing material. We will then arrange to repair or replace the unit.

Remove the PCL-833 interface card from its protective packaging carefully. Keep the antistatic package. Whenever you are not using the board, please store it in the packaging for protection.

Warning! *Discharge any static electric charge on your body by touching grounded metal before you handle the board. You should avoid contact with materials that create static electricity such as plastic, vinyl, and styrofoam. Handle the board by its edges to avoid contacting the board's integrated circuits.*

Switch and jumper settings

DIP switch SW1 sets the card's I/O address and jumper JP1 sets the card's interrupt level.

Base I/O address (SW1)

The PCL-833 requires 16 consecutive I/O addresses. DIP switch SW1 (shown below) sets the base I/O address.

Choose a base address that is not in use by any other I/O device. A conflict with another device may cause one or both devices to fail. The factory address setting (hex 200) is usually free as it is reserved for PC prototype boards.

Jumper settings for various base addresses appear below:

Card I/O addresses (SW1)

Range (hex)	Switch position					
	1	2	3	4	5	6
*200 - 20F	●	O	O	O	O	O
210 - 21F	●	O	O	O	O	●
220 - 22F	●	O	O	O	●	O
230 - 23F	●	O	O	O	●	●
240 - 24F	●	O	O	●	O	O
⋮						
3F0 - 3FF	●	●	●	●	●	●

O = On ● = Off * = default

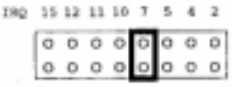
Note: Switches 1-6 control the PC bus address lines as follows:

Switch	1	2	3	4	5	6
Line	A9	A8	A7	A6	A5	A4

Interrupt level (JP1)

The jumper JP1 selects the card's interrupt level (2, 4, 5, 7, 10, 11, 12 15), as shown below:

Card interrupt (default = 7)



Do not select a level that is being used by another device unless you have performed special programming to share several devices on one interrupt.