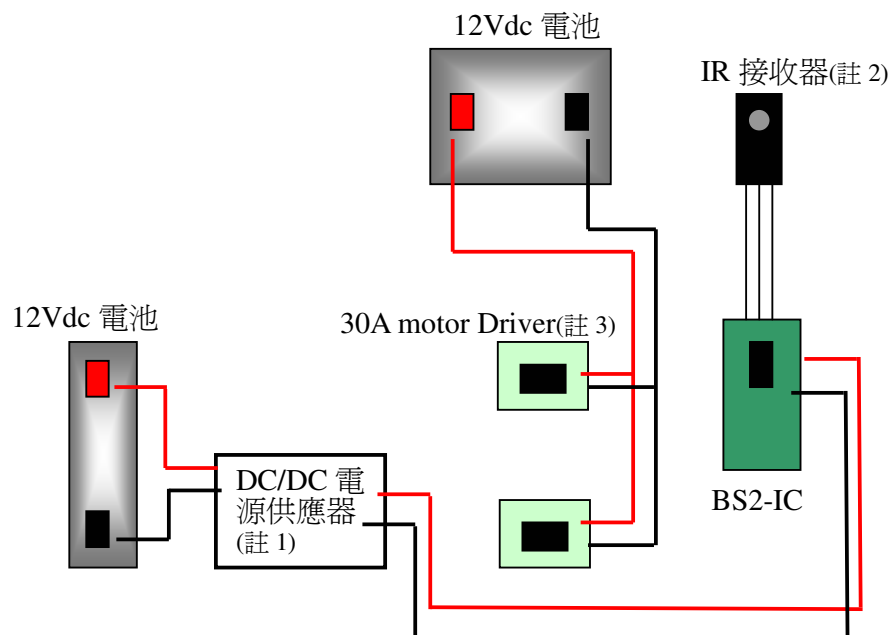


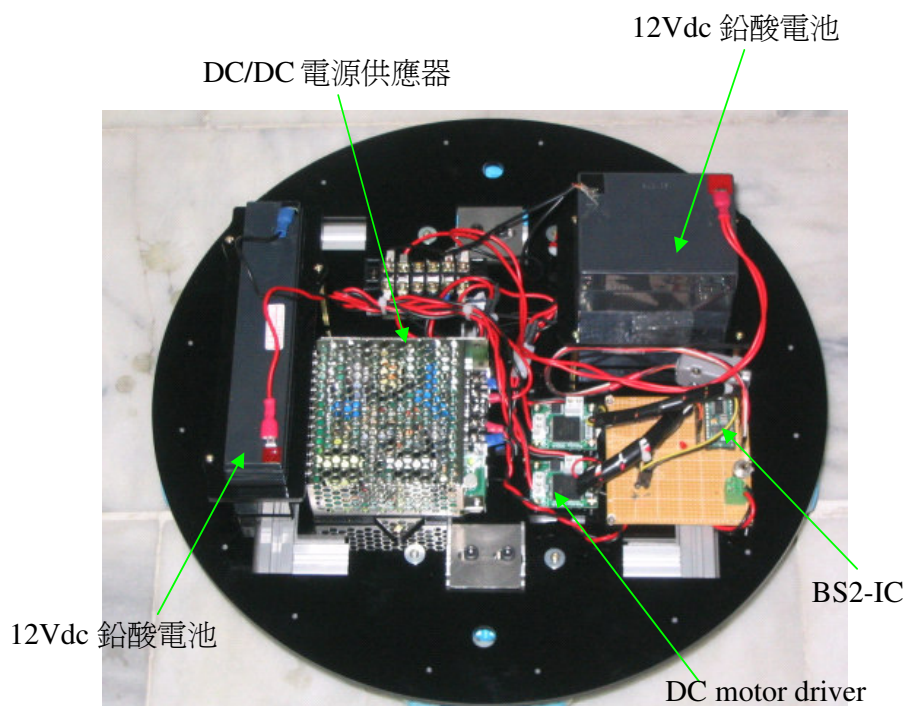
1. 全向輪車電器裝置配置說明：



(註 1) DC/DC 電源供應器規格，詳見附錄

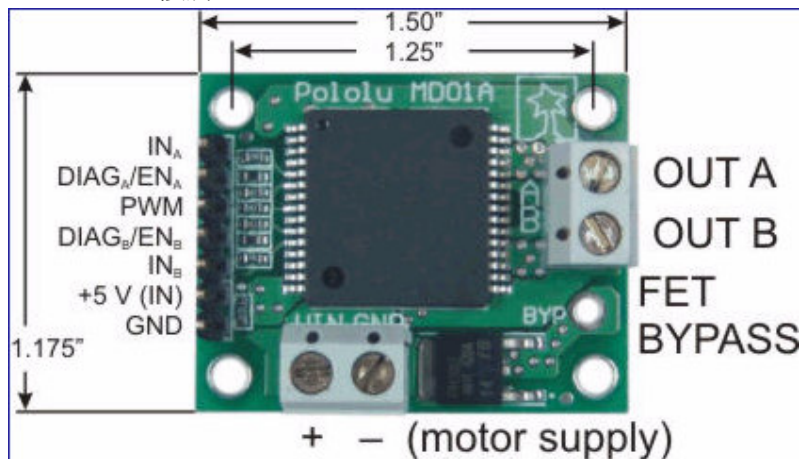
(註 2) IR 接收器規格，詳見附錄

(註 3) 30A DC motor driver 手冊，詳見附錄，接線方法詳見下頁



2. 30A 直流馬達驅動器配線說明

2-1. Driver 接腳



2-2 腳位說明

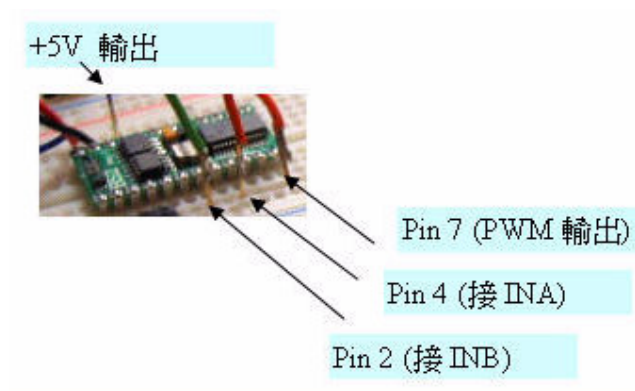
IN _A	利用下表二 1/0 表，作為方向控制
DIAG _A /EN _A	驅動電路診斷，一般若是不需要知道 Driver 的錯誤狀況，則可以不接
PWM	控制馬達運轉與速度
DIAG _B /EN _B	驅動電路診斷，一般若是不需要知道 Driver 的錯誤狀況，則可以不接
IN _B	利用下表二，作為方向控制
+5V(IN)	入力電源
GND	接地線 (driver 與電源 power 共地)
OUT _A , OUT _B	接上馬達的正負極 (無正負之分)

2-3 方向控制：

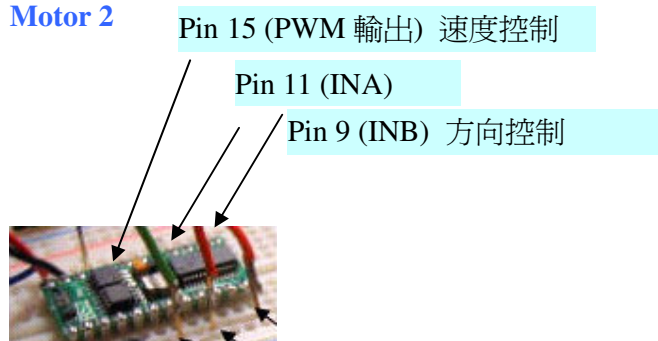
IN _A	IN _B	DIAG _A /EN _A	DIAG _B /EN _B	OUT _A	OUT _B	Comment
1	1	1	1	H	H	Brake to V _{CC}
1	0	1	1	H	L	Clockwise
0	1	1	1	L	H	Counter cw
0	0	1	1	L	L	Brake to GND

2-4 與 BS2-IC 接線說明

Motor 1.



Motor 2



3. 程式範例

```
' {$STAMP BS2}
' {$PBASIC 2.5}
' {$PORT COM5}
```

```
IR_IN          PIN      1          'IR Remote 接收遙控器
的 PIN
time VAR Word(4)          'For IR signal storage
direction      VAR      Byte
```

DO

DO

RCTIME IR_IN, 1, time(0) ' 此段程式用來接收 TV 遙控器送過來的調變訊號, 此段程式只適用在 SONY 遙控器

LOOP UNTIL time(0) > 1000 ' 只需抓前 4 個 data 就夠用來區別遙控器的 0~9, 所以在此只有設 time(0~3), 4 組 ARRAY

PULSIN IR_IN, 0, time(0) ' Measure/store data pulses.

PULSIN IR_IN, 0, time(1)

PULSIN IR_IN, 0, time(2)

PULSIN IR_IN, 0, time(3)

IF (time(3) < 650 AND time(3) > 550) AND (time(2) < 400) AND (time(2) > 300) AND (time(1) < 400) AND (time(1) > 300) AND (time(0) < 400) AND (time(0) > 300) THEN '9' Heading to 4 O'clock

'pw0 = 900

'pw2 = 773

'pw1 = 520

'GOSUB ServoMove

DEBUG "9",CR

'GOSUB go_forth

'ELSEIF (time(3) < 400 AND time(3) > 300) AND (time(2) < 400) AND (time(2) > 300) AND (time(1) < 400) AND (time(1) > 300) AND (time(0) < 400) AND (time(0) > 300) THEN '1'

'pw0 = 520

'pw1 = 870

'pw2 = 773

'GOSUB ServoMove

'DEBUG "1",CR

'GOSUB go_w2

ELSEIF (time(3) < 400 AND time(3) > 300) AND (time(2) < 400) AND (time(2) > 300) AND (time(1) < 400) AND (time(1) > 300) AND (time(0) < 650 AND time(0) > 550) THEN '2' Forward

'pw2 = 520

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```
'pw1 = 870  
'pw0 = 773  
'GOSUB ServoMove  
DEBUG "2 go_forth",CR  
direction =2  
'GOSUB go_forth
```

```
'ELSEIF (time(3) < 400 AND time(3) > 300 ) AND (time(2) < 400) AND (time(2) >  
300) AND (time(1) < 650 AND time(1) > 550) AND (time(0) < 400) AND (time(0) >  
300) THEN      '3'
```

```
'pw0 = 900  
'pw1 = 773  
'pw2 = 520  
'GOSUB ServoMove  
'DEBUG "3",CR  
'GOSUB go_w1
```

```
ELSEIF (time(3) < 400 AND time(3) > 300 ) AND (time(2) < 400) AND (time(2) >  
300) AND (time(1) < 650 AND time(1) > 550) AND (time(0) < 650 AND time(0) >  
550) THEN      '4' Turn Left
```

```
'pw0 = 670  
'pw1 = 670  
'pw2 = 670  
'GOSUB ServoMove  
DEBUG "4 go_left",CR  
direction =4  
'GOSUB turn_left
```

```
ELSEIF (time(3) < 400 AND time(3) > 300 ) AND (time(2) < 650 AND time(2) >  
550) AND (time(1) < 400) AND (time(1) > 300) AND (time(0) < 400) AND (time(0)  
> 300) THEN      '5'
```

```
'pw0 = 773  
'pw1 = 773  
'pw2 = 773  
'GOSUB ServoMove  
DEBUG "5 Stop !!",CR  
direction =5
```

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'GOSUB init

ELSEIF (time(3) < 400 AND time(3) > 300) AND (time(2) < 650 AND time(2) >
550) AND (time(1) < 400) AND (time(1) > 300) AND (time(0) < 650 AND time(0) >
550) THEN '6' Turn Right

'pw0 = 870

'pw1 = 870

'pw2 = 870

'GOSUB ServoMove

DEBUG "6 go_right",CR

direction =6

'GOSUB turn_right

'ELSEIF (time(3) < 400 AND time(3) > 300) AND (time(2) < 650 AND time(2) >
550) AND (time(1) < 650 AND time(1) > 550) AND (time(0) < 400) AND (time(0) >
300) THEN '7' Heading to 8 O'clock

'pw0 = 520

'pw1 = 773

'pw2 = 920

'GOSUB ServoMove

'DEBUG "7",CR

'GOSUB go_w2_w3

ELSEIF (time(3) < 400 AND time(3) > 300) AND (time(2) < 650 AND time(2) >
550) AND (time(1) < 650 AND time(1) > 550) AND (time(0) < 650 AND time(0) >
550) THEN '8' Backward

'pw1 = 520

'pw2 = 870

'pw0 = 773

'GOSUB ServoMove

DEBUG "8 go_back",CR

direction =8

ENDIF

SELECT direction

CASE 2 '向前走

LOW 2 'INB

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HIGH 4'INA

LOW 7' 設 P8 接腳為低電壓輸出

HIGH 9 'INB

LOW 11'INA

LOW 15' 設 P8 接腳為低電壓輸出

PULSOUT 7, 2000' 送 1ms 脈衝寬到 P7 , 目前為 $2000 * 2us = 4ms (= 250KHz)$ 頻寬

PULSOUT 15, 2400' 送 1ms 脈衝寬到 P15 , 目前為 $2400 * 2us = 4.8ms (= 208KHz)$ 頻寬

'PAUSE 100' 脈衝每次間隔 20ms

CASE 4 '向左走

LOW 2 'INB

HIGH 4'INA

LOW 7' 設 P8 接腳為低電壓輸出

HIGH 9 'INB

LOW 11'INA

LOW 15' 設 P8 接腳為低電壓輸出

PULSOUT 7, 2000

CASE 6 'turn_right

LOW 2 'INB

HIGH 4'INA

LOW 7' 設 P8 接腳為低電壓輸出

HIGH 9 'INB

LOW 11'INA

LOW 15' 設 P8 接腳為低電壓輸出

PULSOUT 15, 2400

CASE 8 '向後走

LOW 4 'INB

HIGH 2'INA

LOW 7' 設 P8 接腳為低電壓輸出

HIGH 11 'INB

LOW 9 'INA

LOW 15' 設 P8 接腳為低電壓輸出

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PULSOUT 7, 2000

PULSOUT 15, 2400

CASE 5 'Stop

LOW 4 'INB

HIGH 2'INA

LOW 7 ' 設 P8 接腳為低電壓輸出

HIGH 11 'INB

LOW 9 'INA

LOW 15 ' 設 P8 接腳為低電壓輸出

ENDSELECT

LOOP