

# Bluetooth Serial Adapter

[Multiple SPP]

## 使用手冊



HL-MD08P-C2M



HL-MD08P-C1M



HL-MD08P-C1PM



Bluetooth V2.1+EDR

Ver 3.8.4.00 2012-09

## 目 錄

■ Welcome.....	3
■ 功能簡介 .....	3
■ 產品應用圖 .....	4
■ 產品規格 .....	5
■ 硬體配置 .....	6
➢ LED指示燈.....	6
➢ 按鍵功能.....	7
➢ RS232腳位說明.....	7
■ 出廠預設值.....	7
■ 組態設定 .....	8
➢ 開啟設定軟體 .....	8
➢ 藍芽設備名稱 & 配對驗證碼 PIN Code .....	9
➢ UART參數設定.....	9
➢ 連線模式設定.....	10
(1) Server 模式.....	10
(2) Client 模式 .....	10
(3) 如何取得Server 端的MAC號碼 .....	10
➢ 儲存設定 .....	12
➢ 還原預設值.....	12

- 按鍵快速連線操作步驟.....11
  - 連線設定軟體 .....11
  - 快速配對及連線 .....12
- Warranty Policy .....14

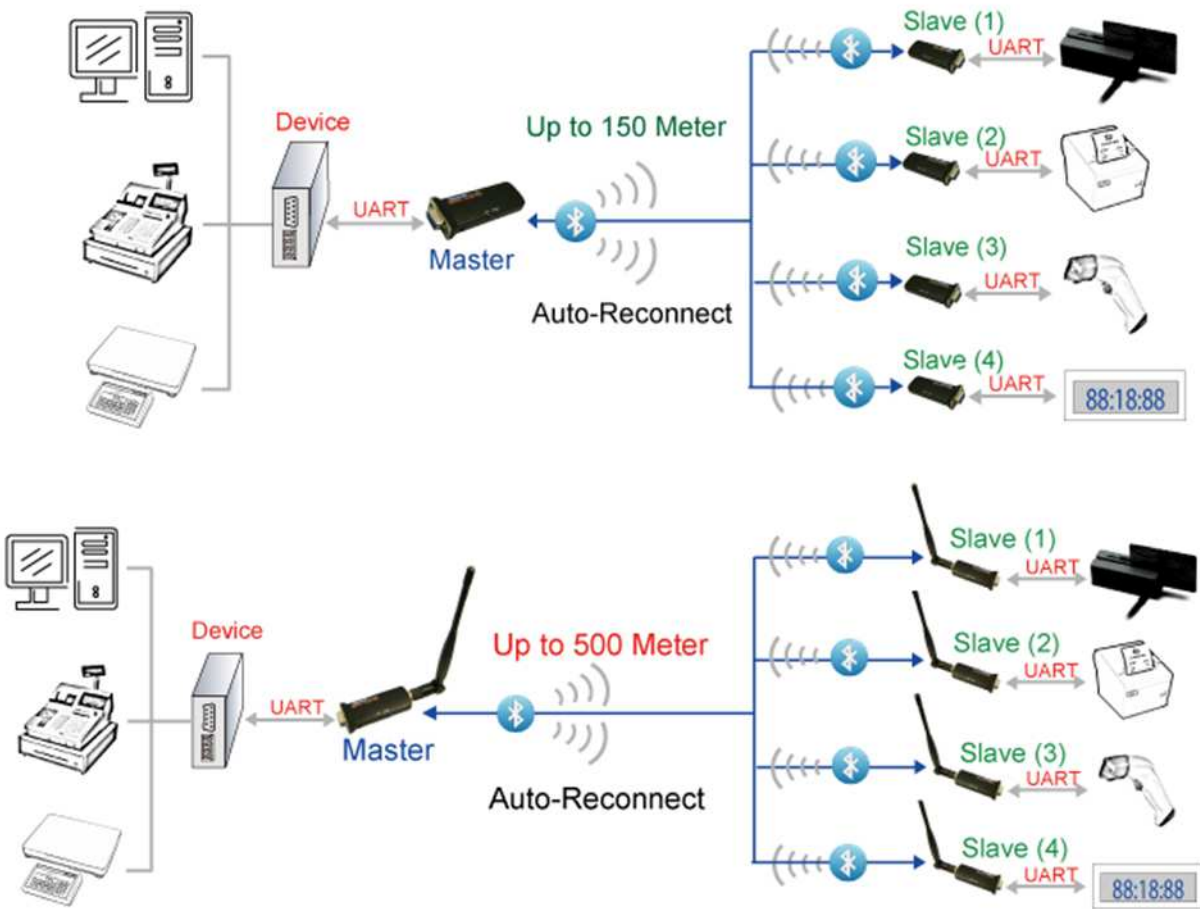
## Welcome

Thanks for your purchase of the Bluetooth Serial Multiple Adapter. Featuring Bluetooth wireless technology, the serial adapter provides cable-free Serial connections between your PC or Server & serial devices. Bluetooth Serial Adapter is compliance to Bluetooth V2.1+EDR and you can connect your computer or server and RS-232 serial devices up to 10 / 150 / 500 meters away without cables in your working environments

### ■ 功能簡介

- Bluetooth Specification V2.1+EDR
- CSR BC04 Chipset
- Bluetooth Multiple Serial Port Profile (MSPP)
- Provides transparent RS232 serial cable replacement.
- Supports Baud Rate 1.2k to 921.6k bps.
- Easy to use Windows configuration tool available.
- Supports UART interface.
- Supports CTS/RTS hardware flow control.
- Customized features support for pairing mode, device name, PIN code.
- Supports Bluetooth Auto Reconnect.

### ■ 產品應用圖



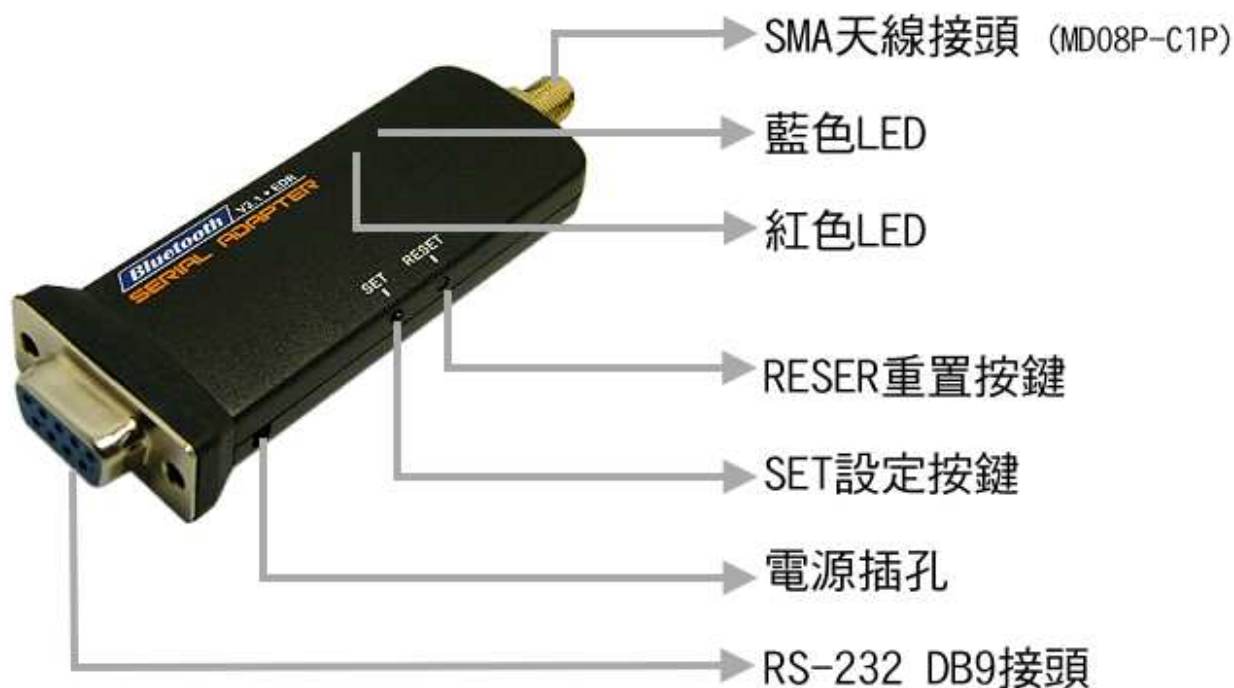
一對多型僅能支援本公司一對多型系列商品



## ■ 產品規格

Model Name	HL-MD08P-C2M	HL-MD08P-C1M	HL-MD08P-C1PM
Bluetooth Profile	<b>Multiple Series Port Profile (Bluetooth MSPP)</b>		
Standard	<b>Bluetooth specification version 2.1+EDR</b>		
Frequency	<b>2.402GHz ~ 2.480GHz unlicensed ISM band</b>		
Hopping	<b>1,600/sec, 1 MHz channel space</b>		
Modulation Method	<b>GFSK for 1Mbps; <math>\pi/4</math>-DQPSK for 2Mbps; 8-DPSK for 3Mbps</b>		
Transfer rates (Max)	<b>Max UART baud rates of 3Mbps</b>		
Spread Spectrum	<b>Frequency Hopping Spread Spectrum (FHSS)</b>		
Signal	<b>TxD, RxD, GND, CTS, and RTS</b>		
RS-232 Interface	<b>D-SUB 9-pin female</b>		
Transfer Baud Rate	<b>Supports 1.2/2.4/4.8/9.6/19.2/38.4/57.6/115.2/230.4/460.8/921.6kbps</b>		
Flow Control	<b>CTS / RTS</b>		
Data Bit	<b>8</b>		
Stop Bit	<b>1 , 2</b>		
Parity	<b>None , Odd , Even</b>		
RF Output Power	<b>Class 1</b>		
Tx Power	<b>Max.18 +/-2 dBm</b>		
Rx Sensitivity	<b>-80 dBm typical</b>		
Antenna	<b>PCB Antenna</b>	<b>PCB Antenna</b>	<b>5dBi RP-SMA Antenna</b>
Coverage	<b>Up to 10 meter</b>	<b>Up to 150 meter</b>	<b>Up to 500 meter</b>
Current Consumption	<b>Max. 65 mA</b>	<b>Max. 95 mA</b>	<b>Max. 125 mA</b>
Input Power	<b>5V DC</b>		
Operating Temperature	<b>0 ~ +60°C</b>		
Storage Temperature	<b>-10 ~ +70°C</b>		
Dimensions	<b>78 x 31 x 12.5mm (without antenna)</b>		

■ 硬體配置



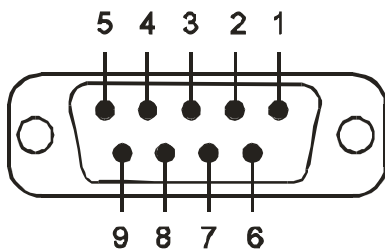
➤ LED 燈號說明

LED Name	LED Color	Situation	Function
待機	紅	快閃 2 下	Client 模式
	藍	快閃 2 下	Server 模式
Server 端連線狀態	紅	閃爍	連線成功
	藍	恆亮	
Client 端連線狀態	紅	恆亮	連線成功
	藍	閃爍	
Setting	紅&藍	互閃	設定模式 Config: Device is in the Setting Mode.

### ➤ 按鍵功能

Button Name	Function
SET	關閉電源,按住 SET 設定按鍵, 再接上電源 1~2 秒後放開 SET 設定按鍵. 藍色 LED1 與紅色 LED2 持續互閃. 即表示進入設定模式
RESET	通電狀態按住 RESET 重置按鍵約 3 秒,紅藍色快閃 2 次即還原至預設值.
按鍵配對	本功能僅適合 Client 端, 雙擊 "SET" 按鍵, 紅色和藍色 LED 指示燈同時閃爍(搜索模式)數次後, 藍色 LED 變換為快速閃當 Client 紅色 LED 恆亮, 藍色 LED 慢閃時, 即連接成功
切換模式 Server / Client	關閉電源,按住 SET 設定按鍵, 再接上電源 1~2 秒後放開 SET 設定按鍵. 藍色 LED1 與紅色 LED2 持續互閃. 雙擊 "SET" 按鍵

### ➤ RS232 腳位說明



Pin	Signal	Direction	
2	TxD	Output	Transmitted data
3	RxD	Input	Received data
5	Gnd	N/A	Ground
7	CTS	Input	Clear to send
8	RTS	Output	Request to send
9	Vcc	Input	Power supply ( +5V )

### ■ 出廠預設值

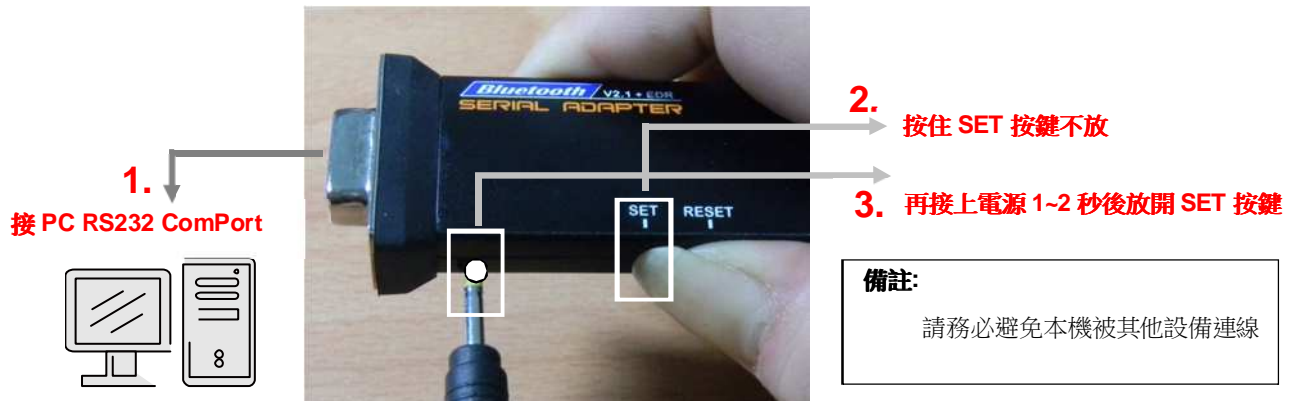
- 藍芽設備名稱 : Hotlife
- 配對驗證碼 PIN Code : 0000
- 藍芽角色Role : Slave Mode
- UART 參數 : 115200, 8, n, 1



## ■ 組態設定

### ➤ 開啟設定軟體

1. 將HL-MD08P接至PC RS232 ComPort, 如COM1
2. 中斷模組電源, 按住SET按鍵不放再接上電源1~2秒後放開
3. 藍色與紅色LED持續互閃時, 即表示進入設定模式

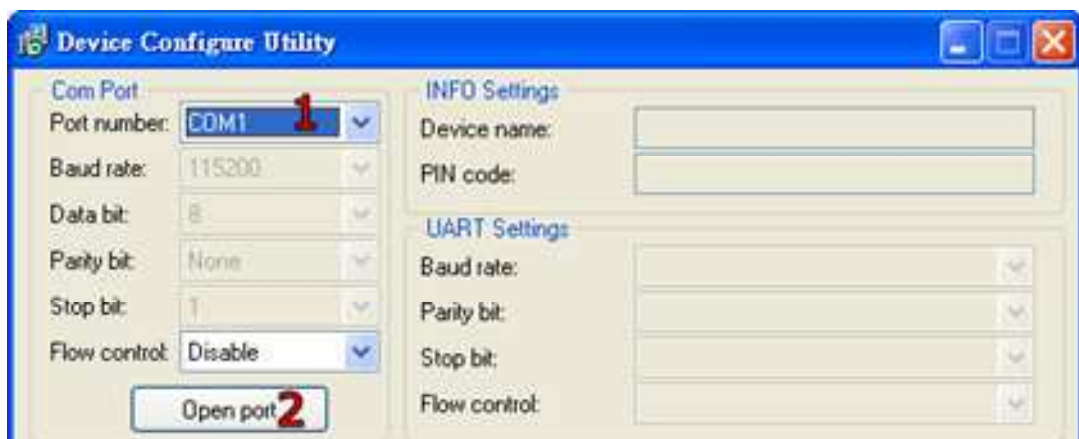


4. 開啟設定軟體 Device\_Configure\_v4.0B



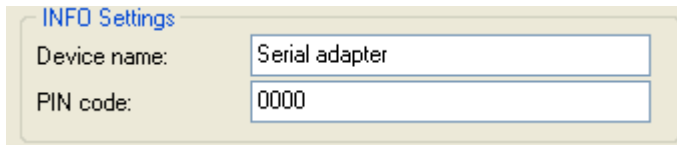
Device-Configure\_v4.0B

5. 開啟Com Port (1) 選擇電腦的 COM Port 如 COM1  
(2) 按Open port即可開啟設定選項



## ➤ 藍芽設備名稱 & 配對驗證碼 PIN Code

選擇 INFO Setting



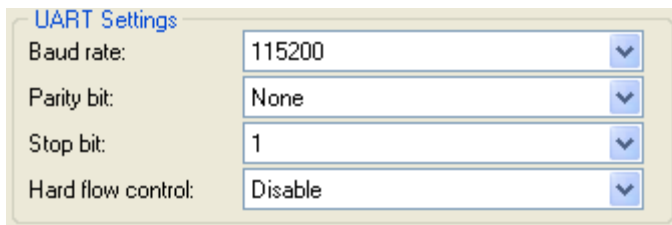
INFO Settings	
Device name:	Serial adapter
PIN code:	0000

Default Device name: 設定本機裝置名稱，最大長度為24個字元。

Default PIN Code: 配對驗證碼，最大長度為8個字元。

## ➤ UART 參數設定

選擇UART Setting



UART Settings	
Baud rate:	115200
Parity bit:	None
Stop bit:	1
Hard flow control:	Disable

鮑率Baud rate: 1200 , 2400 , 4800 , 9600 , 19200 , 38400 , 57600 ,

115200 , 230400 , 460800 , 921600

同位檢查 (Parity Check) : N , O , E

停止位 (Stop Bit) : 1 or 2

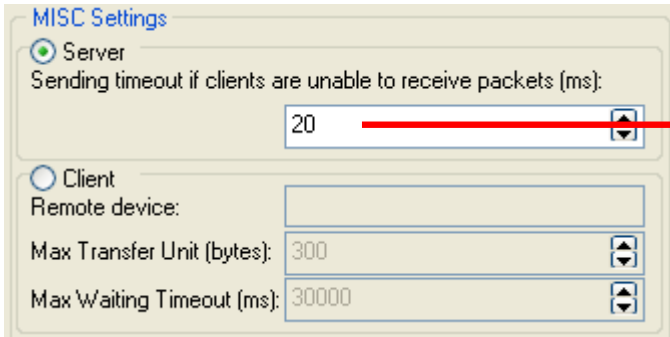
流量控制 (Flow control) : Enable or Disable

**為避免資料錯誤建議使用Hard flow control**

➤ 連線模式設定

(1)Server 模式

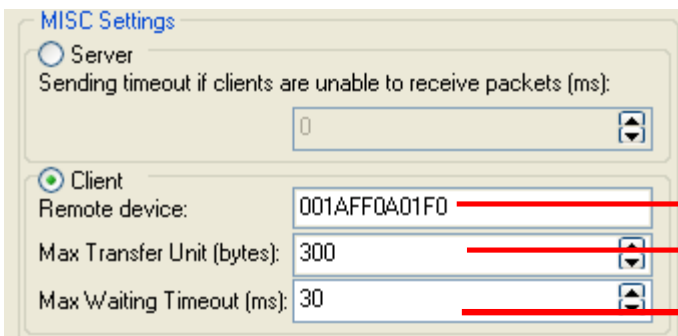
選擇MISC Setting Server



Client端逾時設定: 建議值為20  
當Client超過20ms沒有送出資料時,  
發送資料優先權就讓給其他Client  
設定範圍0~60000 請依據資料型態調  
整

(2)Client 模式

選擇MISC Setting Client



**MAC Address:**  
輸入 Server 端設備網路位址

設定每筆最大的封包量

設定封包等待時間

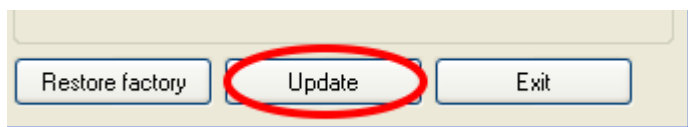
(3)如何取得Server 端的MAC號碼

請參考Server 端的 Device Information BT address 欄位



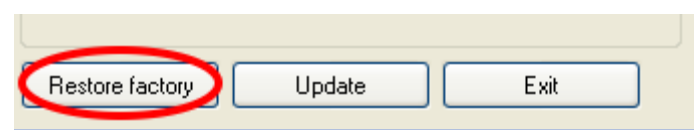
### ➤ 儲存設定

設定完畢必須點選Update儲存.下次開機生效.



### ➤ 還原預設值

還原預設值點選Restore factory. 下次開機生效



\*\* Default Device Name: **Serial Adapter**

\*\* Default PIN Code: **0000**

\*\* Default RS-232 Parameters: **115200, 8, n, 1**

## ■ 按鍵快速連線操作步驟

### ➤ 快速切換Server 與 Client

1. 將本藍芽模組切換至設定模式

按住設定按鍵不要放並接上電源,藍紅燈持續互閃即表示進入設定模式

2. 雙擊Client端 “SET” 按鍵. 藍紅燈持續閃爍3秒後停止即表示已經切換成功

若當前是 Client 模式即會切換為 Server 模式.

若當前是 Server 模式即會切換為 Client 模式.

➤ 快速配對及連線

**這個功能僅適合 HL-MD04M , HL-MD08M , HL-MD09M 系列商品**

◆如: HL-MD08PM 連線至 : HL-MD08P-C1M or HL-MD09P-C1P or HL-MD04P-C1M

1. 準備1台Server模式 ,及多台Client (4台內)
2. 並請預先設定好UART參數如9600,N,8,1
3. 雙擊Client端 “SET” 按鍵
4. 紅色和藍色LED指示燈同時閃爍(搜索模式)數次後, 藍色LED變換為快速閃
5. 當Client紅色LED恆亮, 藍色LED慢閃時, 即連接成功。

這時Server藍色LED恆亮, 紅色LED慢閃時.

Server紅色LED閃爍次數也能表示當前連接Client台數

6. 若失敗請將兩台都重置還原預設值後再測試

還原預設值:

通電狀態按RESET按鍵3秒,紅藍色LED快閃2次即還原為預設值

## ■ Warranty Policy

1. This device is guaranteed against manufacturing defects for one full year from the original date of purchase.
2. This warranty is valid at the time of purchase and is non-transferable.
3. This warranty must be presented to the service facility before any repair can be made.
4. Sales slip or other authentic evidence is required to validate warranty.
5. Damage caused by accident, misuse, abuse, improper storage, and/or uncertified repairs is not covered by this warranty.
6. All mail or transportation costs including insurance are at the expense of the owner.
7. Do not send any product to service center for warranty without a RMA (Return Merchandise Authorization) and proof of purchase. Ensure a trackable method of delivery is used (keep tracking number).
8. Warranty is valid only in the country of purchase.
9. We assume no liability that may result directly or indirectly from the use or misuse of these products.
10. **This warranty will be voided if the device is tampered with, improperly serviced, or the security seals are broken or removed".**