

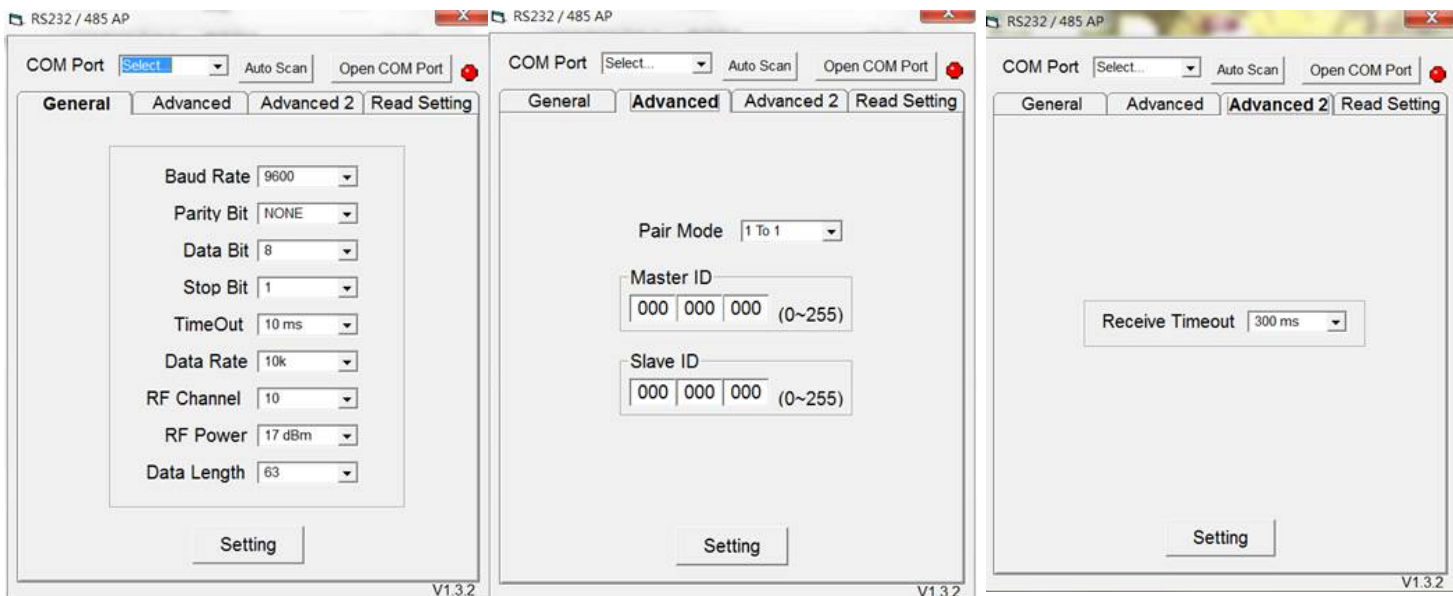
Pin17 Pairing /Mode switch/RESET

	Function	Description
RESET Restore	Restore RF Module to factory default setting Baudrate:9600bps, Data bit: 8; Parity bit: None; Stop Bit:1 RF data rate: 10kbps, Timeout :300ms, Mode: 1 Master 1 Slave	Hold Pairing/Reset Key 6 second(low trigger) and release Success : TX,RX LED will flash 5 times alternation (P9,P10 output low 5 time alternation)
Mode Switch	<u>1 Master 1 Slave mode ==>1 Master Multi Slave mode</u>	Hold Pairing/Reset Key 3 second (low trigger) and release ; Success : TX,RX LED will flash 3 times(P9,P10 output low 3 time)
	<u>1 Master Multi Slave mode ==>1 Master 1 Slave mode</u>	Hold Pairing/Reset Key 3 second (low trigger) and release ; Success : TX,RX LED will flash 1 times(P9,P10 output low 1 time)
Pairing	Master module release RFID to Slave module; Under the Condition in advance: 1.Set Each module to same mode(1 Slave mode or Multi Slave mode) 2. Set Each module P20 to Master or Slave device	Push Pairing/Reset Key(low trigger) and release Pairing in progress : TX,RX LED will continue light 10sec (P9,P10 continue output low 10sec) Pairing Success : TX,RX LED will flash 5 times(P9,P10 output low 5 time)

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6. Set & Read Module setting value AP

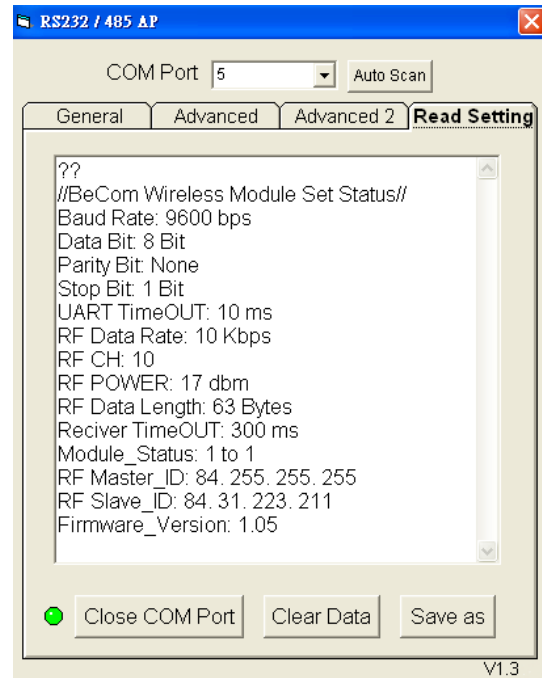
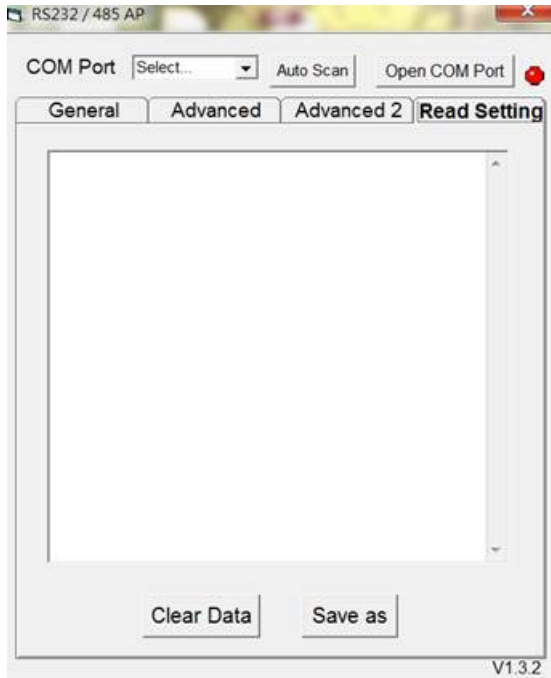


1. Execute the R232/ 485/ USB AP.exe, it shows a window above.
2. Use the RS232(DB9) to USB cable connecting between the RS232 dongle and NB/ PC's USB port.
3. Please check RS232 dongle and NB/ PC connecting or not and then AP window will show "Auto Scan" to select the Com Port.
4. **AP Only support UART baudrate:9600bps,Data bit: 8;Parity bit: None; Stop Bit:1**
5. Baud Rate: Baud rate value.
6. Parity Bit: None / Odd / Even.
7. Data Bit: 6/ 7/ 8 (bit).
8. Stop Bit: 1/ 2 (bit).
9. Time Out: (UART none data input waiting for the time out value), selecting 2ms ~ 1000ms.
10. Data Rate: 2k bps ~ 250k bps.
11. RF Channel: Ch0 to Ch15 (16 channel).
- ※ **If RS232 dongle on 1 to 1 or 1 to multi mode, it must select the same channel.**
12. RF Power: Min -8dBm to Max +17dBm (4 levels is selected).
13. Data Length: RF Packet payload data length 13 bytes to 63 bytes (11 levels selected).
14. 1 Master/ 1 Slave mode and 1 Master/Multi Salve mode switch
15. Master /Slave ID setting
16. RF Receive Time out setting
17. Read Current setting value
18. Press the "Setting" button, if the RS232 dongle was succeed, it Tx/ Rx LED light will be flashing 3 times

	Function	Description
RESET Restore	Restore RF Module to factory default setting Baudrate:9600bps, Data bit: 8; Parity bit: None; Stop Bit:1 RF data rate: 10kbps, Timeout :300ms, Mode: 1 Master 1 Slave	Hold Pairing/Reset Key 6 second and release (P17 low trigger over 6 sec) Success : TX,RX LED will flash 5 times alternation (P9,P10 output low 5 time alternation)
UART Baud rate Setting AP	1. Connect Dongle/Module UTX URX pin to PC COM/USB port 2. Open UART Baud rate Setting API Select baud rate, Parity bit, Data Bit, Stop bit..... Click "Setting" button then finish change setting ※Before setting UART, Must reset(restore) RF Module to factory default setting**	Success : TX,RX LED will flash 3 times (P9,P10 output low 3 time) ※Notice: Only can be setting one time, Due to Baud rate setting changed, It must restore to factory default setting

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※Before read ACI908M setting ,Do not Reset/Restore to factory default setting※

1.P20 Master/Slave input

- i. High >100ms then Low>100ms,switch to High >100ms
- ii. Low >100ms then High>100ms,switch to Low >100ms

2. ACI908M will generate current setting value and send by UART port(base on 9600bps,8,N,1, ASCII format)

3. AP SW read current Module FW version and setting value through UART port(base on 9600bps,8,N,1, ASCII format)

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UART setting command section A (12bytes)

Bytes	1	2	3	4	5	6	7	8	9	10	11	12		
Value(HEX)	98	95	93	04	00	2C	01	03	1E	0A	00	3F	Default Value	

Bytes1/2/3:	Preamble	command	98,95,93
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(UART none data input waiting for the time out value),

Bytes6/7	Time Out	High byte	Low byte
	02ms	00	02
	03ms	00	03
	04ms	00	04

	1000ms	03	E8

Bytes4:	UART Baud rate	Value(HEX)
	9600bps	00
	1200bps	01
	2400bps	02
	4800bps	03
	9600bps	04
	19200bps	05
	38400bps	06
	57600bps	07
	115200bps	08
	250000bps	09
	256000bps	0A

Bytes8	RF Data Rate	Value(HEX)
	250Kbps	00
	100Kbps	01
	50Kbps	02
	10Kbps	03..
	2Kbps	04

Bytes5	Parity bit	Data bit	Stop bit	Value(HEX)
	None	8	1	00
	None	7	1	01
	None	6	1	02
	Odd	8	1	04
	Odd	7	1	05
	Odd	6	1	06
	Even	8	1	08
	Even	7	1	09
	Even	6	1	0A
	None	8	2	10
	None	7	2	11
	None	6	2	12
	Odd	8	2	14
	Odd	7	2	15
	Odd	6	2	16
	Even	8	2	18
	Even	7	2	19
	Even	6	2	1A

Bytes9	Fix code (1E)	Value(HEX)
		1E

Success: ACI908M ACK 2bytes "0x55,0xAA"

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Bytes10:	RF Chanel	Value(HEX)
	CH0	00
	CH1	01
	CH2	02
	CH3	03
	CH4	04
	CH5	05
	CH6	06
	CH7	07
	CH8	08
	CH9	09
	CH10	0A
	CH11	0B
	CH12	0C
	CH13	0D
	CH14	0E
	CH15	0F

Byte 11	RF Power	Value(HEX)
	17dbm	00
	10dbm	01
	0dbm	02
	-8dbm	03

RF Packet payload data length		
Byte 12	RF Data Length	Value(HEX)
	13 bytes	0D
	14 bytes	0E
	15 bytes	0F

	63 bytes	3F

Success: ACI908M ACK 2bytes "0x55,0xAA"

UART setting command section B (12bytes)

Bytes	1	2	3	4	5	6	7	8	9	10	11	12		
Value(HEX)	98	95	94	00	54	FF	FF	FF	54	FF	FF	FF	Default Value	

Bytes1/2/3:	Preamble	command	98,95,94
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Byte 4	1 to 1/1 to Multi	Value(HEX)
	1 to 1	00
	1 to Multi	01

Bytes5	Fix code	Value(HEX)
		54

	Master ID	Value(HEX)
Byte 6		00 ~ FF
Byte 7		01 ~ FF
Byte 8		02 ~ FF

Bytes9	Fix code	Value(HEX)
		54

	Slave ID	Value(HEX)
Byte 10		00 ~ FF
Byte 11		01 ~ FF
Byte 12		02 ~ FF

Master Device (Set Master ID only)= Slave 1 Device(Set Slave ID Only)
 = Slave 2 Device(Set Slave ID Only)

UART setting command section C (12bytes)

Bytes	1	2	3	4	5	6	7	8	9	10	11	12		
Value(HEX)	98	95	95	2C	01	00	00	00	00	00	00	00	Default Value	

Bytes1/2/3:	Preamble	command	98,95,95
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Bytes4/5	Reciver Time Out	High byte	Low byte
	02ms	00	02
	03ms	00	03
	04ms	00	04

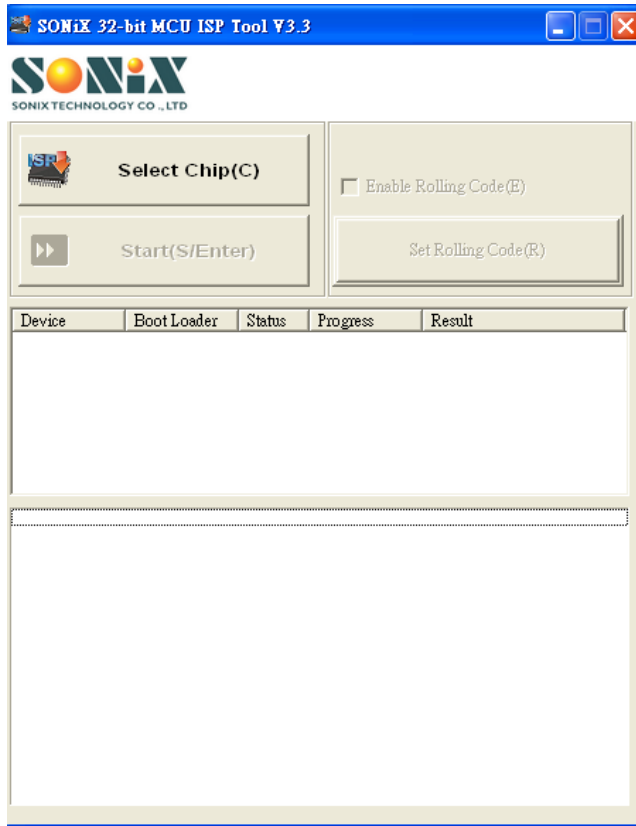
default	300ms	01	2C

	1000ms	03	E8

Success: ACI908M ACK 2bytes "0x55,0xAA"

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7.Support ISP for Fast Software upgrade:



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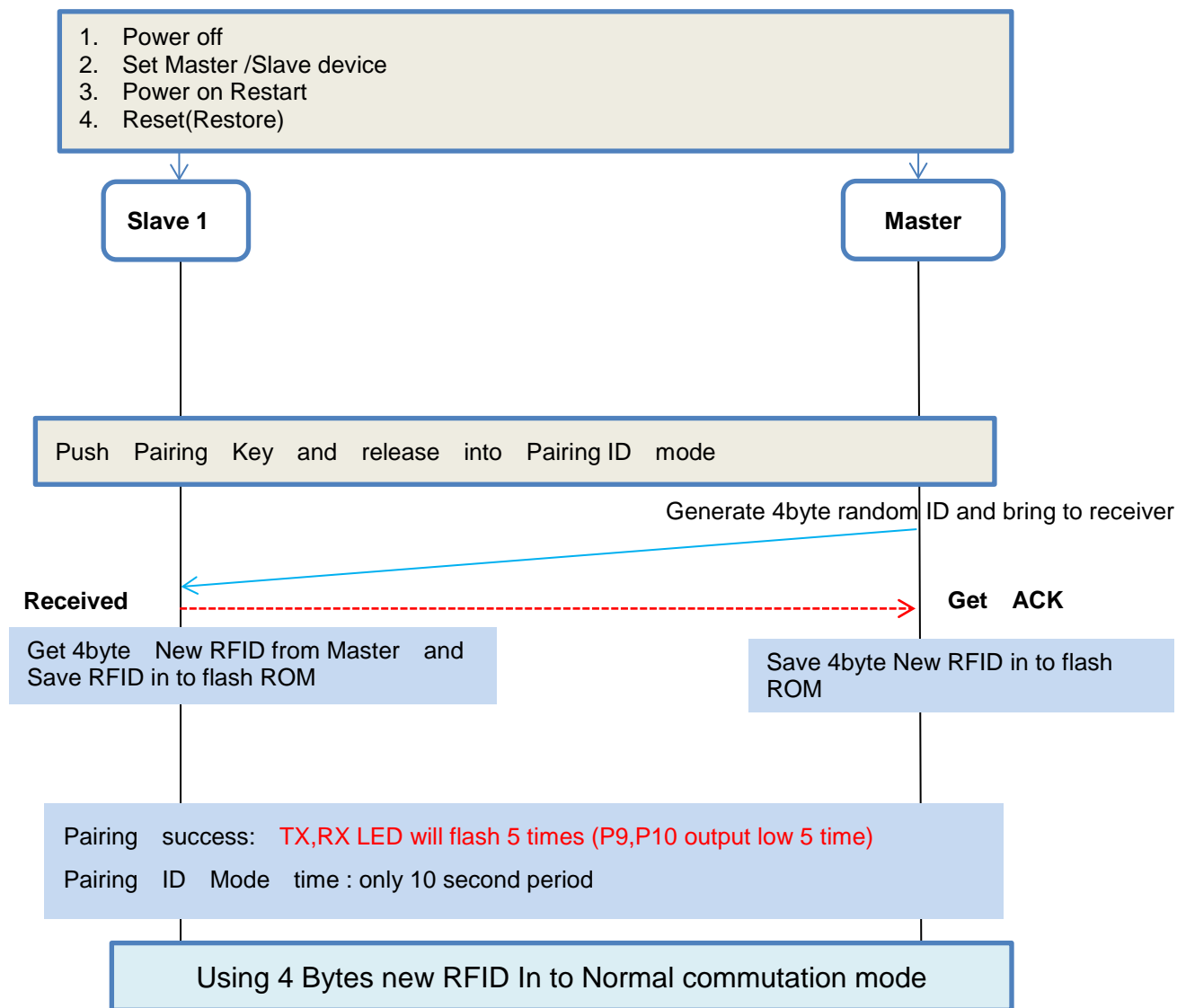
8. Pairing Protocol Specification

Use the following RFID to pairing Master and Slave

- Pairing RFID: 0x54, 0x75, 0xC5, 0x8C
- Pairing Frequency: 433Mhz

Pairing Flow Chart:

1 Master V.S 1 Slave



1 Master V.S multi Slave

1 Master V.S 1 Slave pairing finish

Slave 1 Master

Hold Pairing Key 3 second switch to **1 Master Multi Slave mode**

Push Pairing Key and release into Pairing ID mode

Read 4byte Factory Default RFID and bring to receiver

Received

Get 4byte New RFID from Master and Save RFID in to flash ROM

Get ACK

Pairing success: TX,RX LED will flash 5 times (P9,P10 output low 5 time)
Pairing ID Mode time : only 10 second period

Using 4 Bytes new RFID In to Normal commutation mode

Slave 2 Master

1. Power off
2. Set Slave device
3. Power on Restart
4. Reset(Restore)

Hold Pairing Key 3 second switch to **1 Master Multi Slave mode**

Push Pairing Key and release into Pairing ID mode

Read 4byte Factory Default RFID and bring to receiver

Received

Get 4byte New RFID from Master and Save RFID in to flash ROM

Get ACK

Pairing success: TX,RX LED will flash 5 times (P9,P10 output low 5 time)
Pairing ID Mode time : only 10 second period

Using 4 Bytes new RFID In to Normal commutation mode

Slave 3 Master

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Pairing

1. Power off device
2. Set Master /Slave device
3. Power on Restart
4. Reset(Restore) Hold Pairing/Reset Key 6 second and release(P17 low trigger over 6 sec)

TX.RX LED will flash 5 times alternation(P9.P10 output low 5 time alternation)

Master 端:

5. 按一下 Pairing key 進 Pairing Mode 。
6. Pairing Pass TX/RX LED 會同時閃爍 5 秒。

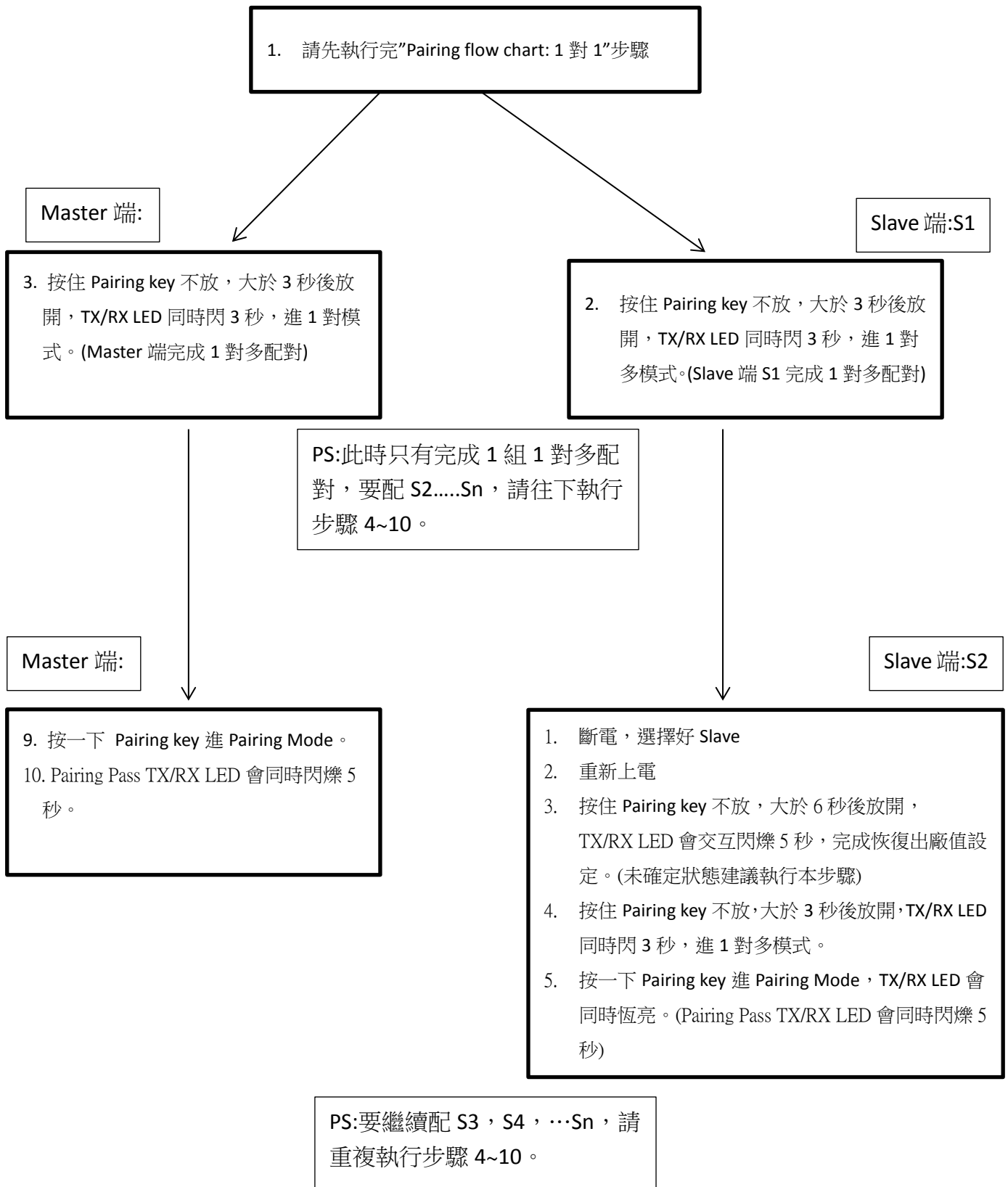
Slave 端:

4. 按一下 Pairing key 進 Pairing Mode ，
TX/RX LED 會同時恆亮。
(Pairing Pass TX/RX LED 會同時閃爍 5 秒)

PS: 進 Pairing Mode 後，10 秒內沒有配對完成會自動退出 Pairing Mode ，
要重新進 Pairing Mode 只要按一下 Pairing key 即可。

PS: 以上步驟中 TX/RX LED & Master/Slave & Pairing key 腳位，請參考
Module Pin Description

Pairing flow chart: 1 對 多

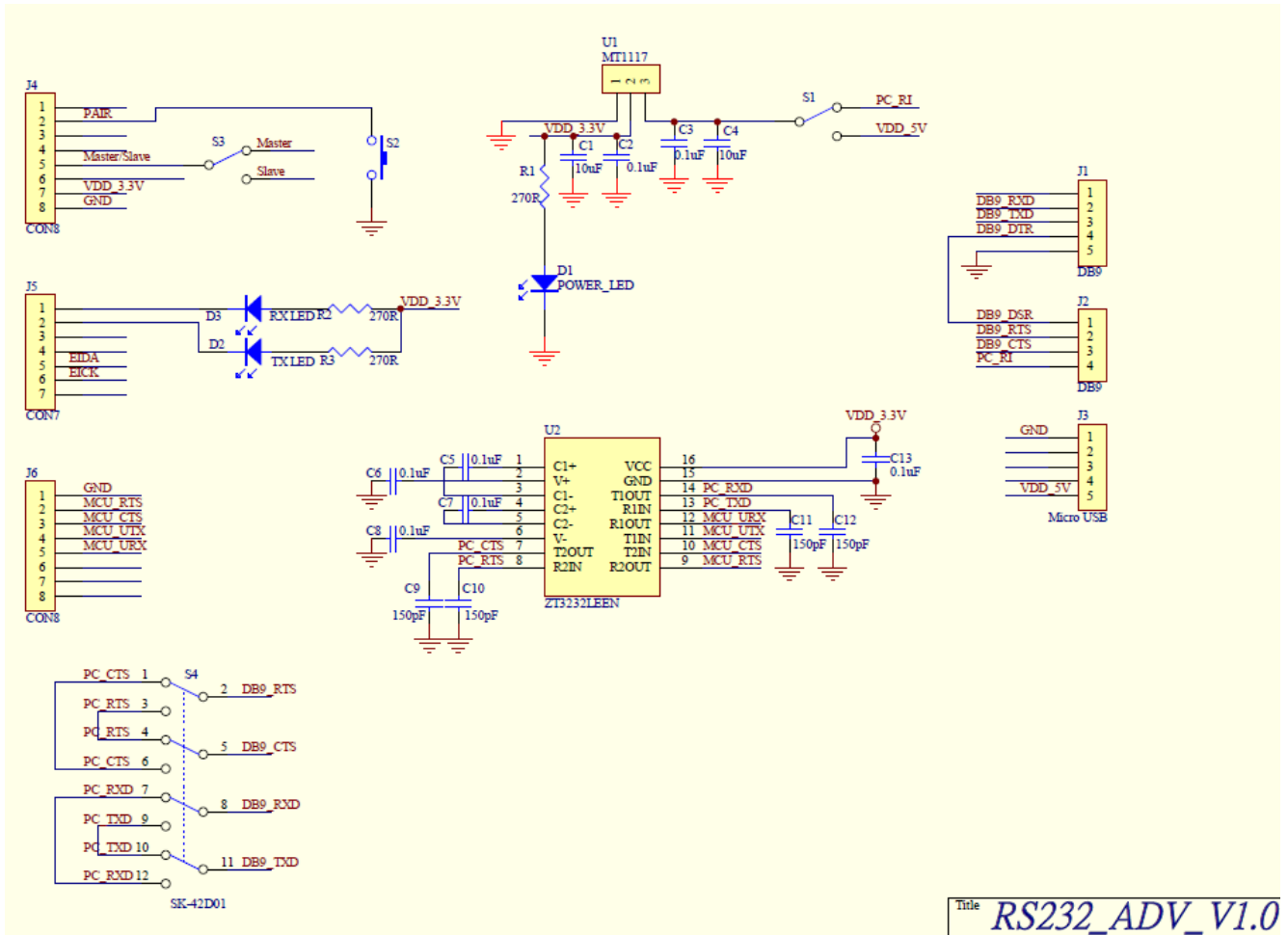


PS: 以上步驟中 TX/RX LED & Master/Slave & Pairing key 腳位，請參考
Module Pin Description

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10.Application Circuit



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