## **TWR98**

# Writer

## 使用手冊

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tenx technology inc. Rev 1.7, 2011/04/06

## **AMENDMENT HISTORY**

Version	Date	Description
V1.3	Dec, 2009	增加8-bit TM57 series IC: TM57PA20, TM57FA40
V1.4	May, 2010	1. 增加 4-bit: TM89P55
		8-bit: TM57PE12, TM57FLA80
		USB: TMU3130
		2. 增加 EX_Control: 外部控制訊號
		3. 增加 Error Message 說明
V1.5	Aug, 2010	1. 增加 8-bit: TM57ME20,
		USB: TMU3132
		2. 增加 EXHV ISP mode and Code+serial number 燒錄說明
V1.6	Jan, 2011	1. 增加 4-bit: TM89P51 OTP IC
		8-bit: TM57PE10, TM57PE11A OTP IC
		2. 增加 Mass Production Mode page

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九、EXHV ISP 模式燒錄操作	)
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## **PRODUCT NAME**

TWR98

## TITLE

**USB** Writer

## FEATURES

- 1. USB 介面
- 2. 硬體可以連線由軟體操作燒錄,也可以獨立操作燒錄當作 stand-alone writer.
- 3. 軟體和韌體可更新.

## ー、支援 OTP IC

- 1. 4-bit TM87 series : TM8795, TM87P08, TM87P04
- 2. 4-bit TM89 series : TM89P59M, TM89P55M, TM89P51M.TM89P59
- 3. 8-bit TM57 series : TM57PA40, TM57PA10, TM57PE11, TM57PA20 TM57FA40, TM57FLA80, TM57PE12, TM57ME20 TM57PE10, TM57PE11A,TM57PA10A,TM57ML40 TM56FA40
- 4. USB Low Speed series : TMU3100, TMU3101, TMU3102
- 5. USB Full Speed series : TMU3111, TMU3112, TMU6102, TMU3113 TAU2000, TMU3130, TMU3131, TMU3132

6. OTP IC 燒錄副檔名:

- 6.1 .epm file : TM89P59,TM89P59M, TM89P55M, TM89P51M
- 6.2 .obj file : TMU3100, TMU3101, TMU3102, TAU2000
- 6.3 .otp fil : TM8795, TM87P08, TM87P04
- 6.4 .hex file : TMU3111, TMU3112, TMU3113, TMU3130, TMU3131, TMU3132 TMU6102, TM57PA10A, TM57PA40, TM57PE11 TM57PA20, TM57FA40, TM57FLA80, TM57PE12 TM57ME20, TM57PE10, TM57PE11A, TM57PA10A TM57ML40, TM56FA40

## 二、硬體與 PC 安裝

Step 1: 連接 DC 9V Adapter 和 USB (mini B Type)



Step 2: 打開電源



三、硬體功能說明



- 1. 模式按键:
  - a. Mode1 : CHIP NAME



b. Mode2 : AUTO (Blank check+Program+Verify) function



c. Mode3 : BLANKCHECK function



d. Mode4 : PROGRAM (Program+Verify) function



e. Mode5 : VERIFY function



f. Mode6:CHECKSUM\_E=>顯示 EEPROM buffer Checksum 此項功能是檢查 PC 載入燒錄檔案到 EEPROM 資料的正確性, EEPROM Checksum 值等於軟體上的 Checksum 值才正確。



g. Mode7: CHECKSUM\_O=>顯示 OTP Chip Checksum 此功能是讀取 OTP Chip 資料回來做 Checksum 運算, OTP Checksum 值等於 EEPROM Checksum 值才正確。



h. Mode8:FW\_VERSION=>顯示韌體版本

LCD		×
FW ' Ver	UERSIO 10:	ų

- 2. 執行模式按鍵
- 3. LCD:顯示模式和燒錄結果
- 4. OTP IC 燒錄接腳



4.1: TM87P04, TM87P08, TM8795



4.2: TM89P59, TM89P59M, TM89P55M



4.3: TM89P51M



4.4: TMU3100



4.5: TMU3101, TMU3102



4.6: TMU3111



4.11: TM57PA10, TM57PA40, TM57PE11, TM57PA20, TM57PE10, TM57PE11A, TM57PA10A, TM57PE12



#### 4.12: TM57FA40



#### 4.13: TM57FLA80



PAI

ЧР

- 4.14: TM57ME20
  - (1) non ISP mode



(2) EXHV ISP mode



4.15: TMU3130, TMU3132 (1) non ISP mode





(2) EXHV ISP mode



5. EX\_Control: 外部控制訊號



5.1:接腳名稱和位置

9:N.C.	7:N.C.	5:GND	3:Result0	1:VDD
10:N.C.	8:N.C.	6:GND	4:Result1	2:Start

5.2:功能敘述:

1. VDD=>輸出電壓 3 伏特

2. Start signal=>輸入啟動訊號,高電位有效(啟動訊號有效寬度大於 10 ms),

3. Result0 and Result1 signals=>輸出燒錄結果

Result1	Result0	狀態
0	0	BUSY
1	0	OK
1	1	FAIL

6. LED 說明:

6.1 黃色 LED:下載燒錄檔案資料或燒錄時會閃爍,表示忙碌中.
6.2 紅色 LED:亮紅燈表示燒錄失敗,當 IC 拿走或切換燒錄模式 LED 就會關掉
6.3 綠色 LED:亮綠燈表示燒錄成功,當 IC 拿走或切換燒錄模式 LED 就會關掉

四、軟體簡介

4	USB_Writ	er Tl	M891	259		C	<b>)</b>																			_	
F	ile <u>D</u> evice	Op	eratio	m	<u>A</u> bo	ut 🤇	)					7	7									^		6			
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	00000030	32	C8	00	00	00	00	00	00	2D	C8	00	00	10	00	00	00	2E		- E	 cë						
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	000000000	41		00	00	00	00	00	00	JU AC		70	50	00	CI EA	AU E1	20	AE ⇒ ô	 E- Á	s∈p,. ⊒λ	. A⊐A â ·		9	Checksun	n  401	D2	
	000000000	06	C1	AC	C0	56	50	00	EA.	71	20	06	C1	AC	C0	65	50	υ ά-λ	с, . <i>г</i> г	ia: Á	. U. , - Ào			Program I	Pin Pla	cement:	
	00000070	00	F4	B1	38	06	C1	60	F5	40	FA	AC.	Č0	25	FQ	00	F4	. O 'C 	ς Δ`	191 - 0 161 - À'	γ			VDD	1 2	VDDO	
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	00000080	00	F4	82	D6	2A	CO	24	EA	21	6C	5F	AO	7B	CO	24	58	. ô. Č	*À\$.	11 4	(À\$X				• •		
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	000000F0	6F	48	76	AO	00	F4	6F	47	7B	A0	10	F5	10	F5	10	F5	оHv	. ôoC	×					• •		
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X:	=520 ¥=326																				2	ZI	÷	USB S	TAND	ALONE WI	RITER

- 1. 顯示燒錄資料
- 2. 顯示 USB Writer 是否有連接
- 3. 顯示 OTP IC 燒錄接腳 (對應到硬體的燒錄接腳)
- 4. 顯示燒錄檔案路徑
- 5. 顯示燒錄 CHIP 名稱
- 6. 顯示 OTP IC Fuse 資訊
- 7. Auto, Blank check, Program, Verify 功能跟硬體一樣,當 USB Writer Device 跟 PC 連接時,可以直接由軟體下燒錄指令
- 8. 功能表列:
  - 8.1: File =>載入燒錄檔
  - 8.2: Device=> 選擇燒錄 CHIP
  - 8.3: Operation=>更新韌體,滾動碼燒錄,檢查新軟體版本
  - 8.4: About=>顯示軟體版本
- 9. Checksum:顯示燒錄檔案的 checksum 值
- 10. Smart Option: 顯示 System configuration 定義

## 五、燒錄軟體操作

Step1:打開軟體

## Step2:確認 TWR98 Device 是否有跟 PC 連接

💠 USB_Writer	
<u>File Device Operation About</u>	
Auto Blank check Program Verify	Fuse
Chip Name : Smart Op	rtion
	-
	Checksum
	Program Pin Placement:
	not
	liot
	connect
X=546 Y=148	uSB was not connected

💠 USB_Writer TM89P59	
<u>File Device Operation About</u>	
Auto Blank check Program Verify	Fuse
Chip Name : TM89P59 Smart Option	
	L Oubrotect L Frotect
	Checksum
	Program Pin Placement:
	BAK 1 2 VBAT
	RESET 5 6 GND
	10 VI 5
	•
	• 14 INT
	•••
	••
	connect
X=549 Y=189	🖙 USB STANDALONE WRITER

Step3:執行 Device (選擇燒錄 OTP CHIP)

File Device Operation About         Auto       Blank check       Program       Verify       Chip Name :       TM89P59       Smart Option       Fuse         IC Type Selecte       X       X       X       Chip Name :       TM89P59       Cancel         Series :       MCU: 4 Bit TM89 series       OK       Checksum       Checksum       Checksum         Series List :       Type List :       Trogram Pin Placement:       BAK       1 2 VBAT       VPP 3 0       RESET 5 6 GND       10 VL5       10 VL5       11 VL5       14 INT	🛟 USB_Writer TM89P59	
Auto       Blank check       Program       Verify       Chip Name :       TM89P59       Smart Option         IC Type Selecte       IC       Series :       MCU: 4 Bit TM89 series       OK       OK       Checksum       Checksum <td< th=""><th><u>File Device Operation About</u></th><th></th></td<>	<u>File Device Operation About</u>	
Chip Name : TM89P59 Smart Option Chip Name : TM89P59 Smart Option Chip Name : TM89P59 Cancel Series : MCU: 4 Bit TM89 series Cancel Series List : Type List : MCU: 4 Bit TM87 series MCU: 4 Bit TM87 series MCU: 8 Bit TM57 Series USB: Low Speed Series USB: Low Speed Series USB: Full Speed Series	Auto Blank check Program Verify	Fuse
IC Type Selecte         Series : MCU: 4 Bit TM89 series         IC Type : TM89P59       Cancel         Series List :       Type List :         MCU: 4 Bit TM87 series       Program Pin Placement:         MCU: 4 Bit TM89 series       TM89P59         MCU: 4 Bit TM87 series       TM89P59         MCU: 8 Bit TM57 Series       TM89P59         USB: Low Speed Series       10 VL5         USB: Full Speed Series       14 INT	Chip Name : TM89P59 Smart Option	🗖 Unprotect 🔲 Protect
Series : MCU: 4 Bit TM89 series       OK         IC Type : TM89P59       Cancel         Series List :       Type List :         MCU: 4 Bit TM87 series       Program Pin Placement:         MCU: 4 Bit TM87 series       TM89P59         MCU: 8 Bit TM57 Series       TM89P59         USB: Low Speed Series       10 VL5         USB: Full Speed Series       10 VL5         USB: Full Speed Series       14 INT	IC Type Selecte	
IC Type : TM89P59       Cancel         Series List :       Type List :         MCU: 4 Bit TM87 series       TM89P59         MCU: 4 Bit TM87 series       TM89P59         MCU: 8 Bit TM57 Series       USB: Low Speed Series         USB: Full Speed Series       10 VL5         10 VL5       14 INT	Series : MCU: 4 Bit TM89 series OK	
Series List :       Type List :       Program Pin Placement:         MCU: 4 Bit TM87 series       TM89P59       BAK 1 2 VBAT         MCU: 4 Bit TM57 Series       USB: Low Speed Series       Image: Series         USB: Full Speed Series       10 VL5         Image: Series       14 INT	IC Type : TM89P59 Cancel	Checksum
MCU: 4 Bit TM87 series MCU: 4 Bit TM89 series MCU: 8 Bit TM57 Series USB: Low Speed Series USB: Full Speed Series	Series List : Type List :	Program Pin Placement:
· · · · · · · · · · · · · · · · · · ·	MCU: 4 Bit TM87 series MCU: 4 Bit TM89 series MCU: 8 Bit TM57 Series USB: Low Speed Series USB: Full Speed Series	BAK 1 2 VBAT VPP 3 • RESET 5 6 GND • 10 VL5 • 14 INT
	X=61 V=0	IISB STANDALONE WRITER

## Step4:執行 OK

💠 USB_Writer TM89P59	
<u>File Device Operation A</u> bout	
Auto Blank check Program Verify	Fuse
Chip Name : TM89P59 Smart Option	Unprotect T Protect
	Checksum
	Program Pin Placement:
	BAK 1 2 VBAT
	RESET 5 6 GND
	• 10 VL5
	• 14 INT
	••
X=438 Y=331	🖙 USB STANDALONE WRITER

## Step5:執行 File=>Load File

💠 USB_Writer TM89P59	
File Device Operation About	
Load File Blank check Program Verify	Fuse
Save As Chip Name : TM89P59 Smart Option	
	i outrouor i ressor
	Checksum
	Program Pin Placement:
	BAK 1 2 VBAT
	RESET 5 6 GND
	• 10 VI 5
	• •
	• 14 INT
	••
	••
,	
X=9 Y=0	😂 USB STANDALONE WRITER

## Step6:選擇燒錄檔案

😽 USB_Writer TM89P59	
Eile     Device     Operation     About       Auto     Blank check     Program     Verify       Chip Name :     TM89P59     Smart Option	- Fuse
課答       ? ×         搜尋位置①:       郭益利       •	Checksum Program Pin Placement: BAK 1 2 VBAT VPP 3 RESET 5 6 GND • 10 VL5 • 14 INT • •
X=37 Y=0	🚓 USB STANDALONE WRITER

Step7:執行開啟 (開始載入硬體)

🛟 USB_Writer TM89P59	
<u>File</u> <u>D</u> evice <u>O</u> peration <u>A</u> bout	
Auto Blank check Program Verify	Fuse
F/DATA1\tenx_OTP information\tm89P59\第益利u_agki.epm Chip Name : IM89P59	urt Option 🔽 Unprotect 🗖 Protect
00000000 7D 4E 04 88 23 48 00 CB 81 D6 4B C3 10 F7 BB C0 }, ^#H. Ë. ČKÃ. +	-»À
00000010 00 CB 00 00 00 00 00 00 00 00 00 00 00 00 00	·· -
00000020 20 6C 4F 80 0A CB 00 00 20 6C 48 80 16 CB 00 00 I.C. E. I. I	
	<u></u>
	- A Checkman 46D2
00000000 41 C8 00 00 00 00 00 00 3C C8 70 3B 00000060 F7 F9 00 F4 D0 3B 06 C1 4C C0 F5 F9 Loading Data Ok âr: á⇒à á	
	Program Pin Placement:
00000080 00 F4 B1 3B 06 C1 60 F5 40 EA AC C0 確定 (二谷、企っÀ%)	ô BAK 1 2 VBAT
00000090 E0 3B 06 C1 00 F5 01 EA AC C0 24 E9	VPP 3 •
000000A0 06 C1 AC C0 20 E9 00 F4 D1 3B 06 C1 AC C0 04 E8 . Á¬À ôÑ; . Á¬À	RESETS 6 GND
000000B0 00 F4 82 D6 2A C0 24 EA 21 6C 5F A0 7B C0 24 58 . ô. Č*À\$. ! I _ {À	\$X • 10 VL5
000000C0 25 E9 24 6C 64 A0 61 C8 00 F4 0C E8 6F 4C 69 98 % \$Id aÈ ô èoL	.i″ ••
000000D0 66 C8 08 EA 6F 4C 00 F4 CB C0 00 E8 2C EA 22 58 fÈoL. ôËÀ.è,.	"X • 14 INT
000000E0 21 6C 73 A0 7B C0 24 58 25 E9 00 F4 EF 46 76 A0 !Is {Å\$X%. ôï F	v
000000F0 6F 48 76 A0 00 F4 6F 47 7B A0 10 F5 10 F5 10 F5 o⊢v .ôoG{	••
	<b>•</b>
	USB STANDALONE WRITER

Step8:此時硬體的 LCD 會顯示如下圖:



Step9:載入成功後硬體的 LCD 會顯示 CHIP NAME



Step10: 執行燒錄功能 (Auto, Blank check, Program, Verify)



## 六、韌體更新操作

Step1:執行 Operation=>Update F/W

🛟 USB_Writer TM89P59	
File Device Operation About	
Auto Update F/W ram Verify Check new version Chip Name : TM89P59 Smart Option	Fuse
	Checksum 46D2 Program Pin Placement: BAK 1 2 VBAT VPP 3 • RESET 5 6 GND • 10 VL5 • 14 INT • •
X=292 Y=53	🚓 USB STANDALONE WRITER

#### Step2:選擇檔案

😽 USB_Writer TM89P59	
<u>File</u> <u>Device</u> <u>Operation</u> <u>A</u> bout	
Auto Blank check Program Verify	Fuse
Chip Name : TM89P59 Smart Option	🔽 Unprotect 🗖 Protect
開啓 ? ★	
搜尋位置①: Carace版本 🔽 🗢 🖻 🗃 🖽 -	
Image: The standalone (1.2).nce     Image: The standalone (1.3).nce     Image: The standalone (1.4).nce     Image: The standalone (1.4).nce	Checksum 46D2
	Program Pin Placement:
	BAK 1 2 VBAT VPP 3 • RESET 5 6 GND
檔案名稱(11): new_standalone(1.4).nce 開啓(0)	• 10 VL5 • •
檔案類型(I): TxIce Nce Files (*.nce)  取消	• 14 INT
	••
X=60 Y=0	🚓 USB STANDALONE WRITER

Step3:執行開啟 (開始載入硬體)

😽 USB_Writer TM89P59	_ 🗆 X
<u>File Device Operation About</u>	
Auto Blank check Program Verify Chip Name : TM89P59 Smart Option	Fuse
Chip None	Checksum 46D2 Program Fin Placement: BAK 1 2 VBAT VPP 3 • RESET 5 6 GND • 10 VL5 • 14 INT • • •
	😂 USB STANDALONE WRITER

Step4:此時硬體的 LCD 會顯示如下圖:



Step5:載入成功後硬體的 LCD 會顯示 CHIP NAME

LCD	×
CHIP	NAME
TM29P	5.9

七、滾動碼燒錄設定操作

Step1:請確認 PC 和 TWR98 Writer 是否連線

Step2:選擇 Device (支援 USB:Low speed and Full speed series)

Step3:選擇 Operation->Serial Number Program

💠 USB_Writer TMU3112		
<u>File Device Operation A</u> l	Serial Number Program	4
Auto Blank chee		
	Chip Type : TMU3112 S/N SET	rotect 🗖 Protect
	Start Serial NO[Hex] : 00000000000000000000000000000000000	mode 🗖 Dual mode
	End Serial NO[Hex] : 00000000000000000000000000000000000	Hz disable 🗖 32KHz enable
	S/N Start Address[Hex] : 0000	m
	S/N End Address[Hex] : 0000	Pin Placement:
	Counter OK (Hex) : 0 NO (IL ) : 0	
		9 10 VDD
	Total (Hex): 0	1314 PB4
		1516 PB5
	S/N Program Close	• 20 GND
		USB STANDALONE WRITER

Step4:選擇 S/N SET=>設定 Serial Number 參數

💠 USB_Writer TMU3112 👘		
<u>File Device Operation A</u>	Serial Number Program	×
Auto Blank che	Chip Type : TMU3112 S/N SET	rotect 🗖 Protect
	Serial Number Set	🗙 🗖 Dual mode
	S/N Length [Hex]: 10 S/N Start Address (Hex) : 0000 Start Serial NO (Hex) : 00000000000000000000000000000000000	le 32KHz enable
	Direction (MSB in) : 💿 Low Byte 💿 Hight Byte	VDD
	Load Cancel	PB4 PB5 GND
	ංංග ද	USB STANDALONE WRITER

- Step5:設定 S/N Length[Hex] (範圍 0x01~0x10)
- Step6:設定 S/N Start Address[Hex]
- Step7:設定 Start Serial NO[Hex]
- Step8:設定 S/N Amount[Hex] (OTP IC 燒錄的數量)
- Step9:設定 S/N Direction[MSB In]
  - 例如: Serial Number=12345678
  - 選擇 Low Byte 燒錄到 OTP IC 擺放位置: 12345678
  - 選擇 High Byte 燒錄到 OTP IC 擺放位置: 78563412
- Step10:設定完成後,選擇 Load 按鍵 (將滾動碼設定資料載入到 TWR98,請等候) 如果 USB 沒有連線,滾動碼設定的資料是無法載入成功。

💠 USB_Writer TMU3112 👘		
<u>File Device Operation A</u>	Serial Number Program	
Auto Blank che		
	Chip Type : TMU3112 S/N SET	tect 🔲 Protect
	Serial Number Set	🗙 🗖 Dual mode
	S/N Length [Hex]: 8 Step5 S/N Start Address (Hex): 3FF8 step6	de 🗖 32KHz enable
	Start Serial NO (Hex): 12345678 of op 7	ement:
	S/N Amount (Hex): 10 step8	
	Direction (MSB in) :  • Low Byte • Hight Byte step9	VDD
	step10 Load Cancel	PB4 PB5
		GND
	් දේ USI	B STANDALONE WRITER

Step10\_1: 資料載入成功 S/N Program 按鍵會被致能

TMU3112	
File Device Operation Al Serial Number Program	l –
Auto Blank chec	
Chip Type : TMU3112	rotect 🔲 Protect
Start Serial NO[Hex] : 0000000012345678	mode 🔲 Dual mode
End Serial NO[Hex] : 0000000012345687	Hz disable 🔲 32KHz enable
S/N Start Address[Hex] : 3FF8	m
S/N End Address[Hex] : 3FFF	Pin Placement:
Counter OK (Hex) : 0 NG (Hex) : 0 Total (Hex) : 0 Enable S/N Program Close	• • • • • • • • • • • • • • • • • • •
	J USB STANDALONE WRITER

Step10\_2: 資料載入失敗 S/N Program 按鍵會被禁能

SB_Writer TMU3112	_ 🗆 🗙
File Device Operation Al Serial Number Program	1
Auto Blank cher	
Chip Type : TMU3112 S/N SET	rotect 🗖 Protect
Start Serial NO[Hex] : 0000000012345678	mode 🔲 Dual mode
End Serial NO[Hex] : 0000000012345687	Hz disable 🔲 32KHz enable
S/N Start Address[Hex] : 3FF8	m [
S/N End Address[Hex] : 3FFF	Pin Placement:
Counter       OK (Hex) :       O         NG (Hex) :       O       Total (Hex) :         Total (Hex) :       O       Close	• • • • 9 10 VDD • • 1314 PB4 1516 PB5 • • • 20 GND
■102 ¥=0	USB was not connected

以上步驟完成後,使用者可以選擇連線由 PC 控制燒錄或離線由 TWR98 獨立燒錄兩種模式。

- 1. PC 控制燒錄操作說明:
  - a. 按 S/N Program 按鍵就開始燒錄
  - b. 燒錄成功 Start Serial NO, OK, Total 欄位值會自動加一
  - C. 燒錄失敗 NG, Total 欄位值會自動加一

- d. 當 S/N Program 按鍵功能失效表示滾動碼燒錄完成,要重新進入 S/N SET 視窗設定載入
- e. Reset Count 按鍵是將 OK, NG, Total 欄位值歸零
- f. 注意當燒錄方式是由 PC 控制時,禁止操作 TWR98 硬體上的 Enter 按鍵
- 2. TWR98 writer 獨立燒錄操作說明:
  - a. Mode 按鍵功能是選擇顯示 Serial Number, OK, NG, TOTAL 值
    - a-1:SNH=>顯示 Serial Number (9~16 bytes),當 S/N Length 小於 9 這個模式不會顯示



a-2:SNL=> 顯示 Serial Number(1~8 bytes)



a-3:OK=>顯示燒錄成功數量



a-4:NG=>顯示燒錄失敗數量



a-5:TOTAL=>顯示燒錄次數數量



- b. Enter 按键功能是執行燒錄
- C. 烧錄成功 Serial Number, OK, TOTAL 值會自動加一
- d. 燒錄失敗 NG,TOTAL 值會自動加一
- e. 當 Enter 按鍵功能失效,表示滾動碼燒錄完成,要重新設定載入
- f. 注意當 TWR98 電源被關掉再打開,滾動碼會回到最初的設定值

八、程序加滾動碼同時燒錄操作

Step1:點選 Device 按鍵:



Step2:選擇 IC 後請勾選 Display Serial Number 再按 OK 鍵



Step3:進入滾動碼設定 (可以參考 七. 滾動碼燒錄設定操作 step5~step9)

SB_Writer TM57FA40	
File Device Operation About	
Auto Blank check Program Verify Smart Option	Fuse
Chip Name :  TM57FA40	
Serial Number Set	
anu	
S/N Length [Hex]: 10	Charlenne -
S/N Start Address (Hex) : 0000	Checkson
	Program Pin Placement:
Start Serial NU (Hex): UUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUU	
S/N Amount (Hex) : 0	• •
	PA3 7 8 PA2
Direction (MSB inj : • Low Byte • Hight Byte	
	PA11314 PA0
	PA415
Load Cancel	<ul> <li>20 GND</li> </ul>
	STANDALONE WRITER

Step4:設定完滾動碼參數後,再按 Load 鍵

SB_Writer TM57FA40	
<u>File Device Operation About</u>	
Auto Blank check Program Verify Smart Option	Fuse
	1
Chip Name : TM57FA40	
S/N Length [Hex]: 3	Checkman
S/N Start Address (Hex) : 300	Checkson
	Program Pin Placement:
Start Serial NO (Hex): 123456	
S/N Amount (Hex) : 5	• •
Di di Gigni di Chav Data - Chillicta Data	PA3 7 8 PA2
Direction (MSB inj : I Low Byte O Hight Byte	• • •
	PA11314 PA0
	PA415 •
Load Cancel	• 20 GND
	📕 🛱 USB STANDALONE WRITER

## Step5:點選 File->Load File

SB_Writer TM57FA40	
File Device Operation About	
Load File Blank check Program Verify Smart Option	
Save As	
Checksum	-
Program Pin Placemen	t:
VPP 3 •	
PA3 7 8 PA2	
• 10 VDD	
PA11314 PA0	
PA415 ●	
• • • 20 GNF	
USB STANDAL	ONE WRITER

Step6:選擇燒錄檔,再按開啟鍵

🚰 USB_Writer TM57FA40		
Eile Device Operation About		
Auto Blank check Program Verify Smart Option	Fuse	
Chip Name : TM57FA40		
園容 ? 🗙		
搜尋位置(1): 🗁 b2705 🔽 🔶 🖻 😷 🖽 -		
tx2705 software new HW	Checksum	
□ 維新 □ 3kCode PP bex	Program Pin Placement:	
57pa40 bb.hex		
	PA3 7 8 PA2 • 10 VDD	
檔案名稱(M): TX2705_TEST_CODE.HEX 開啓(Q)	PA11314 PA0	
檔案類型(I): Txlce Hex Files (*.hex) _ 取消	• • • 20 GND	
	📕 🚔 🛛 USB STANDALONE V	VRITER

Step7: 等待檔案下載 OK 後,再按確定鍵就會進 Serial Number Program mode

🕂 USB_Writer TM57FA40	_ 🗆 🗙
<u>File D</u> evice <u>O</u> peration <u>A</u> bout	
Auto Blank check Program Verify Smart Option	-Fuse
E:DATA1\tenx_OTP information\tx2705\TX2705_TEST_CODE.bin Chip Name	
00000000 4B 30 05 12 09 14 10 30 49 14 15 30 89 14 1A 30 K00100 🔺	
00000010 C9 14 1F 30 09 15 24 30 49 15 2B 30 89 01 60 00 0. \$01. +0`.	
00000020 01 19 A7 00 32 20 09 10 60 00 02 10 A7 00 32 20 §. 2 ` §. 2	
00000040 87 00 A7 0A C9 10 60 00 Loading Data Ok 14 49 49 51 1. S	Checksum 0AC3
	Program Pin Placement:
000000A0 8C 19 0B 00 05 12 00 00 05 10 52 30 00 19 0C 00 Q:	PA3 7 8 PA2
000000B0 00 19 8A 00 FF 19 0D 00 04 19 0B 00 FF 19 07 00	<ul> <li>10 VDD</li> </ul>
000000C0 FF 19 87 00 00 19 87 00 60 30 07 16 6E 30 47 16 ‡ ‡.`0 nOG.	DA11214 DA0
000000D0 72 30 87 16 76 30 C7 16 7A 30 65 30 00 19 11 00 r0‡.v0Ç.z0e0	PA11514 PA0
000000E0 03 00 71 30 08 19 11 00 03 00 75 30 10 19 11 00q0u0	• •
000000F0 03 00 79 30 18 19 11 00 03 00 7D 30 0F 19 07 00y0}0	<ul> <li>20 GND</li> </ul>
,	
	😽 USB STANDALONE WRITER

Step8:按 S/N Program 鍵就開始燒錄

💠 USB_Writer TM57FA40	_ 🗆 🗙
File Device Operation About	
Auto Blank check Program Verify Smart Option	n Fuse
E:DATA1\tenx_OTP information\tc2705\TX2705_TEST_CODE.bin Chip Name : TM57FA40	1
00000000 4 Serial Number Program	<b>n</b>
00000010 C	
00000020 0 Chip Type : TM57FA40 S/N SET	
00000030 4	
00000040 8 Start Serial NO[Hex] : 123456	Checksum OAC3
00000050 4	
00000060 8 End Serial NO[Hex] : 12345A	Program Pin Placement:
00000070 A	• •
00000080 0 S/N Start Address[Hex] : 0300	VPP 3 •
00000090 8 S/N End Address[Hey] : 0302	
	• •
Reset Count	PA11314 PA0
	PA415 •
NG (Hex): 0	20 CND
	- P
	USB STANDALONE WRITER
S/N Program Close	

注意:燒錄完成後,如果想要在燒錄 code+serial number 要回到 Step1 重新設定

## 九、EXHV ISP 模式燒錄操作

Step1:選擇 Device

💠 USB_Writer TM571	PE12			
File Device Operation	n <u>A</u> bout			
Auto Blanl	k check Program Verify		Smart Option	
		Chip Name : TM5	57PE12	
10	Type Selecte	×		
	Series : MCU: 4 Bit TM87 s	eries OK		
	IC Type : TM87P04	Cancel	Checksum 0961	
	🗖 Display Serial Number	EXHV ISP program	Program Pin Placement:	
	Series List :	Type List :	VPP 3	
	MCU: 4 Bit TM87 series	TM87P04	PA3 7	
	MCU: 8 Bit TM55 Series	TM8795	PA11314 PA0	
	USB: Low Speed Series		PA415	
1	USB: Full Speed Series		• 20 GND	
			USB STANDALONE WR	ITER

Step2:選擇 IC 和勾選 EXHV ISP program 再按 OK



## Step3:主畫面就會出現"EXHV ISP Program"

💠 USB_Writer TM57FLA80	_ 🗆 🗙
File Device Operation About	
Kuto         Blank check         Program         Verify         Smart Option         Fuse	
Chin Name TM57EI 490	
EXHA I:	SP Program
Checksu	m 📃 🔰
Program	Pin Placement:
vpp	3•
	• •
	10 VDD
Dill Dill	• •
PAIL	3 14 PAU ● ●
	20 CND
	JSB STANDALONE WRITER

Step4:選擇 File->Load File

🕂 USB_Writer TM57FLA80	
<u>File Device Operation About</u>	
Auto Blank check Program Verify Smart Option	Fuse
Chip Name : TM57FLA80	
IRP ? X	
搜尋位置①: 🗀 b.2708 software new H W 🔽 🌾 🗈 📸 -	EXHV ISP Program
Debug  in-rc_0F.HEX  Release  In-rc_1F.HEX	Checksum
	Program Pin Placement:
Image: Contract of the second seco	VPP 3
	10 VDD
檔案名稱(11): [touch_key_timer1_vol.HEX 開啓(2)]	PA11314 PA0
檔案類型(I): TxIce Hex Files (*.hex)	
	• 20 GND
	🖙 USB STANDALONE WRITER

## Step5:等待檔案下載OK

File Device Operation About	
Auto Blank check Program Verify Smart Option	- Fuse
E:DATA1\tenx_OTP information\tz2708\tz2708 software new HW\to1	
00000000 50 30 00 00 48 11 CD 12 14 14 16 30 01 08 F2 00 P0⊬.í0 🔺	
00000010 B6 0A 0D 12 C3 00 AA 20 03 16 10 30 BC 20 1A 30 ¶A0½.0	
	EXHV ISP Program
000000000 B6 01 00 10 91 00 0D 10 90 01 CD 10	an a lacen
00000040 D0 01 00 13 01 00 0D 10 03 01 0D 10 13 01 0D 10 03 01 0D 10 19 Loading Data Ok C f (c)	Checksum 200B
00000066 8B 00 CD 10 49 17 32 30 49 11 00 19	Program Pin Placement:
00000070 60 00 00 00 00 00 00 00 00 00 00 00 00	
	VPP 3
000000A0 03 1E B0 01 B1 01 B2 01 B3 01 B4 01 B5 01 B6 01°.±.².³.´.μ.¶.	••
	• 10 VDD
	DA11214 DA0
	FAITJ 14 FAU
	••
	• 20 GND
	🖙 USB STANDALONE WRITER

#### 十、錯誤訊息

- 10.1: VOLTAGE ERROR=>VPP, VDD 燒錄電壓出問題 (送回原廠維修)
- 10.2: EEPROM ERROR=>讀取燒錄資料發生錯誤 (送回原廠維修)
- 10.3: PROTECT=>IC 資料有保護沒辦法作讀寫
- 10.4:BUSY FAIL=>確認 IC 的燒錄訊號是否接好
- 10.5: B FAIL=>空白檢測失敗
- 10.6: P FAIL=>燒錄資料失敗
- 10.7: V FAIL=>比對資料失敗
- 10.8: I FAIL =>4-bit series 進入燒錄模式失敗

8-bit series ID 燒錄失敗

- 10.9: D FAIL =>檢查 ID 失敗
- 10.10:FFAIL=>燒錄 FUSE 或 SYSTEM CONFIG 失敗
- 10.11: NO CHIP=>表示 IC 或連接現有接觸不良請,確認 IC 是否有放好或是連接線是否有接好

## 十一、Mass Production Mode 燒錄操作

此項功能只有 Auto 模式,還有記錄 OK,NG 數量和 Checksum 顯示,沒有其他功能選擇,所以 建議有大量 IC 生產時使用。

Step1:選擇 Device

💠 USB_Writer TM	157FA40			
File Device Opera	ation About			E
Auto	Blank check Program Verify		Smart Option	Puse
		Chip Name :	TM57FA40	
	C Type Selecte		×	
	Series : MCU: 4 Bit TM87 s IC Type : TM87P04 Display Serial Number Mass Production Mode	eries	OK Cancel	Mass Production Mode Checksum 0817 Program Pin Placement:
	Series List : MCU: 4 Bit TM87 series MCU: 4 Bit TM89 series MCU: 8 Bit TM57 Series USB: Low Speed Series USB: Full Speed Series	Type List : TM87P04 TM87P08 TM8795		VPP 3 • PA3 7 8 PA2 • 10 VCC PA11314 PA0 PA415 • • 20 VSS

Step2:選擇 IC 和勾選 Mass Production Mode 再按 OK



Step3:主畫面就會出現"Mass Production Mode"和 致能"Auto"功能

Ele Device Operation About           Auto         Blank check         Program         Verify         Smart Option         Fuse           Chip Name :         TM57FA40         Mass Production Mode         Checksum         Program Pin Placement.	
Auto       Blank check       Program       Verify       Smart Option       Fuse         Chip Name :       TM57FA40       Mass Production Mode         Checksum       Program Pin Placement	
VPP 3 PA3 7 8 PA2 10 VCC PA11314 PA0 PA415	
• 20 VSS	

## Step4:選擇 File->Load File

SB_Writer TM57FA40	
File Device Operation About	
Load File Blank check Program Verify Smart Option	Fuse
Exit Chip Name : TM57FA40	
	Mass Production Mode
	Checksum
	Program Pin Placement:
	VPP 3
	PA3 7 8 PA2
	• 10 VCC
	PA11314 PA0
	PA415 •
	• 20 VSS
X=183 Y=1	🛠 USB was not connected

Step5:選擇燒錄檔,再按開啟鍵



#### Step7:等待檔案下載 OK



Step8:硬體顯示和操作:

a. 顯示 CHIP NAME (維持 2 秒顯示)



- b. 顯示 Auto 模式: (硬體的 Mode 按鍵只切換 OK 和 NG 顯示)
  - 1. Checksum
  - 2. 燒錄 OK 數量
  - 3. 燒錄 NG 數量



c. Enter 按鍵:執行燒錄

## 十二、Production Limit Mode 燒錄操作

此項功能只有 Auto 模式,還有記錄 OK,NG 數量和 Checksum 顯示,沒有其他功能選擇,所以 建議有大量 IC 生產時使用。

#### Step1:選擇 Device

💠 USB_Writer	TM57PE10			_ 🗆 🗙
<u>File</u> <u>D</u> evice <u>O</u>	peration <u>A</u> bout			
Auto	Blank check Program V	erify	Smart Option	Fuse
		Chin Nam	e · [TM57PE10]	
	IC Type Selecte			
	Series : MCU: 8 Bit TM57	Series	ОК	
	IC Type : TM57PE10	1	Cancel	
	🗖 Display Serial Number	EXHV ISP program		Checksum
	Mass Production Mode			Program Pin Placement:
	Production Limit :			
	Series List :	Type List :		
	MCU: 4 Dit TM97 pariag			VPP 3
	MCU: 4 Bit TM89 series	TM57PE11		PA3 7 •
	MCU: 8 Bit TM57 Series	TM57PE11A		• 10 VDD
	MCU: 8 Bit TM56 Series	TM57PE12		PA11314 PA0
	USB: Low Speed Series	TM57PATU TM57DA10A		PA415 •
	oab. I un apeeu aenes	TM57PA20		20 VSS
		TM57PA40		
		TM57FA40		
		TM57FLA80		
		TM5/ME20		😤 USB STANDALONE WRITER

Step2:選擇 IC 和勾選 Production Limit Mode 設定燒錄次數(1~99999999)再按 OK

💠 USB_Writer 🗎	TM57PE10			
File Device Op	eration <u>A</u> bout			_
Auto	Blank check Program Ve	nify Sma	rt Option	Fuse
		Chip Name : TM57PE	10	
I	Type Selecte		×	
	Series : MCU: 8 Bit TM57 S	Geries OK		
	IC Type TM57PE10	Cancel	-	
	10 1990 1911011 210			
	🔲 Display Serial Number	EXHV ISP program		Checksum
	Mass Production Mode			Program Pin Placement:
	✓ Production Limit : 100			
	Series List :	Type List :		
	MCU: 4 Bit TM87 series	TM57PE10		PA3 7
	MCU: 4 Bit TM89 series MCU: 8 Bit TM57 Series	TM57PETT TM57PE11A		• 10 VDD
	MCU: 8 Bit TM56 Series	TM57PE12		PA11314 PA0
	USB: Low Speed Series	TM57PA10		PA415 •
	USB: Full Speed Series	TM57PATUA TM57PA20		20 VSS
		TM57PA40		
		TM57FA40		
		TM57FLA00		
		TM57ML40		USB STANDALONE WRITER

SB_Writer TM57PE10	
Eile Device Operation About	
Auto         Blank check         Program         Verify         Smart Option	Fuse
Chip Name : TM57PE10	
	Production Limit
	Chaokenn
	Checkson
	Program Pin Placement:
	VPP 3 •
	PA3 7 •
	• • •
	PA11314 PA0
	• •
	• 20 435
	- 4.
	USB STANDALONE WRITER

Step3:主畫面就會出現"Production Limit Mode"和 致能"Auto" 功能

Step4:選擇 File->Load File

🐈 USB_Writer TM57PE10	X
File Device Operation About	
Load File Blank check Program Verify Save As	Fuse
Exit Chip Name : TM57PE10	
	Production Limit
	Checksum
	Program Pin Placement:
	VPP 3 •
	DA2 7
	• 10 VDD
	PA11314 PA0
	PA415 •
	• 20 VSS
,, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	USB STANDALONE WRITER

Step5:選擇燒錄檔,再按開啟鍵



Step7:等待檔案下載 OK



Step8:硬體顯示和操作:

a. 顯示 CHIP NAME (維持 2 秒顯示)



- b. 顯示 Limit 模式: (硬體的 Mode 按鍵只切換 OK 和 NG 顯示)
  - 1.Checksum
  - 2.燒錄 OK 數量

3.燒錄 NG 數量



- c. Enter 按鍵:執行燒錄
- d. 當 OK 數量到達設定燒錄次數, TWR98 將不會再工作.

十三、Compare File 功能操作:

顯示 TWR98 暫存器的資料," IC 名稱","下載檔案時間","比對檔案資料"

Step1:選擇 Operation ->Compare File

SB_Writer TM57PE10	
File Device Operation About	
Auto     Update F/W     Smart Option       Serial Number Program     Check new version     Chip Name : TM57PE10       Compare File     Set Protect     Read Chip Info	Fuse Checksum 32CC
	Promon Pin Placement
	riogiani rui riacement.
	VPP 3 PA3 7 10 VDD PA11314 PA0 PA415 20 VSS
	USB STANDALONE WRITER

Step2: 出現 Download File information 視窗

💠 USB_Writer TM57PE10	×
<u>File Device Operation About</u>	
Auto Blank check Program Verify Smart Option	Fuse
Chip Name : TM57PE10	
Download File Information	
Chip Name : TM57PE10	
Download File Time :2011/3/28 13:52:17	Checksum 32CC
Compare Decult :	Program Pin Placement:
Compare result.	
Compare File Cancel	VPP 3 •
	PA3 7 •
	• 10 VDD
	PA11314 PA0
	PA415
	• 20 VSS
	🖙 USB STANDALONE WRITER

Step3: 按"Compare File"鍵 選擇比較檔案,再按開啟鍵



Step4:等待顯示比對結果:

SB_Writer TM57PE10	
File Device Operation About	
Auto Elank check Program Verify Smart Option Chip Name : TM57PE10	Fuse
Download File Information Chip Name : TM57PE10 Download File Time :2011/3/28_13:52:17	Checksum 32CC
Compare Result : OK Compare File Cancel	VPP 3 PA3 7 10 VDD
	PA11314 PA0 PA415 • • 20 VSS
	STANDALONE WRITER

## **Advance Information**

USB_Writer TM57PE10      File Device Operation About     Auto Blank check Program Verify     Chip Name : TM57PE1	• Option Fuse
Download File Information         Chip Name : TM57PE10         Download File Time :2011/3/28_13:52:17         Compare Result : Fail         Compare File       Cancel	Checksum 32CC Program Pin Placement: VPP 3 • PA3 7 • PA3 7 • 10 VDD • PA11314 PA0 PA415 • • 20 VSS

十四、Set Protect 功能操作:

Step 1:選擇 Operation->Set Protect

💠 USB_Writer_TM57PE10	
Elle     Device     Operation     About       Auto     Update F/W     Verify     Smart Option       Serial Number Program     Check new version     Chip Name : TM57PE10       Compare File     Set Protect       Read Chip Info	Fuse
	Production Limit Checksum 32CC Program Pin Placement:
	PA3 7 10 VDD PA11314 PA0 PA415 20 VSS
	USB STANDALONE WRITER

Step2: Step2: 出現 Option Select 1 視窗

🔆 USB_Writer TM57PE10	
Ele Device Operation About	
Auto Blank check Program Verify Smart Option	-Fuse
Chin Name : TM57PE10	
Option Selecte 1	
O Unprotect O Protect	Production Limit
	Checksum 32CC
	Des servers Dia Discourse to
	riogram rin riacement:
	VPP 3
	PA3 7 •
	• 10 VDD
	PA11314 PA0
	PA415 •
	• 20 VSS
	😽 USB STANDALONE WRITER

Step3:選擇 Unprotect 或 Protectc 後按"OK"鍵,等待設定完成

**Preliminary** 

## 十五、Read Chip Info 功能操作:

(在 Mass Production and Producton Limit mode 不支援)

讀取 Target IC 資訊," system config"," checksum"," ID"

Step1:選擇 Operation->Read Chip Info

VSB_Writer TM57PE10	_ 🗆 X
File Device Operation About	
Auto         Update F/W         Verify         Smart Option           Serial Number Program         Check new version         Chip Name : TM57PE10           Compare File         Set Protect         Read Chip Info	Fuse
	Dan unun Die Die ensemt
	VPP 3 PA3 7 10 VDD PA11314 PA0 PA415 20 VSS
	STANDALONE WRITER

Step2:出現 Read chip information 視窗

💠 USB_Writer TM57PE10	_ 🗆 🗙
Eile Device Operation About	
Auto Blank check Program Verify Smart Option	,
D:\MyData\My Documents\我已接收的檔案\57PE10 NO_REUSE.bin Chip Name: TM57PE10	
00000000 10 30 22 30 FF 3F FF 3F FF 3F FF 3F FF 3F FF 3F , 0" 0. ?, ?, ?, ?, ?, ?	
00000010 FF 25 55 25 55 25 55 25 55 25 55 25 55 25 55 25 2	
00000020 FF Read CHIP Information	
00000030 81	
00000040 00 Chip Name:) 0¿.	
00000050 89	
00000060 FF System commy. ?. ?. ?. ?	okann DCFC
00000070 FF Checksum: ?. ?. ?. ?	cksum joor o
00000080 FF ?. ?. ?. ?	ram Pin Placement:
000000A0 FF 2. 2. 2. 2. 2	
	VPP 3
	PA3 7 •
00000100 FE 3E 7 2 2 2 2 2 2 2 2	<ul> <li>10 VDD</li> </ul>
00000110 FF 3F 7 7 7 7	• •
00000120 FF 3F , 2, 2, 2, 2, 2, 2, 2, 2	PA11314 PAU
00000130 FF 3F . ?. ?. ?. ?. ?. ?. ?. ?.	PA415
00000140 FF 3F , ?, ?, ?, ?, ?, ?, ?, ?,	• 20 VSS
00000150 FF 3F . ?. ?. ?. ?. ?. ?. ?. ?.	
00000160 FF 3F . ?. ?. ?. ?. ?. ?. ?. ?.	
00000170 FF 3F . ?. ?. ?. ?. ?. ?. ?. ?	
Х=140 Y=0 😤	USB STANDALONE WRITER

Step 3: 按"Read"鍵,開始讀取

