

5S-P-C01 Engineering Type (Simplified Version) *Writer User Manual*

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Revision History:

Revision	Date	Description
0.01	2021/03/23	1 st version



1. 5S-P-C01 Simplified Writer Description

1.1. Simplified Writer

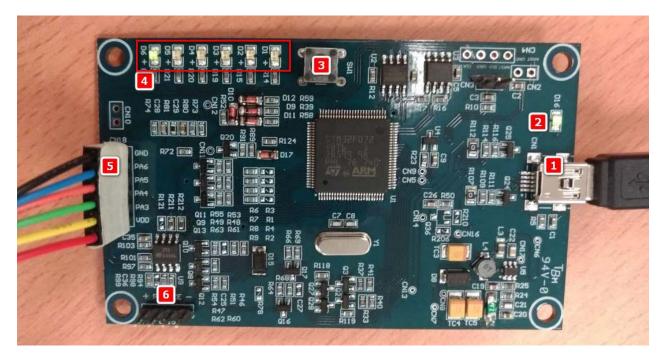


Fig.1

- (1) USB interface
- (2) Power LED
- (3) Boot loader button: Force-entering Boot loader mode only.
- (4) LED set: There are 6 led in total. The LED state represents whether the writing pins are well-connected, which corresponds to VDD, PA3, PA4, PA5, PA6 and GND from right to left.
- (5) Writing interface: There are 6 PIN in total, corresponding to IC's VDD, PA3, PA4, PA5 and GND from bottom to top.
- (6) Software ICE interface: About its related functions, please refer to Software ICE user manual.

1.2. Writing application software and User Manual

You can download the latest version of the application software at the following address (including the latest version of the Writer).

Enter the home page of <u>Padauk</u> to obtain latest Program Writer version from <u>home page> technology application ></u> <u>technology development tool>Program Writer.</u>



2. Function Description

2.1. Writing Mode

- Writing Software (Fig. 2)
 - (1) Program Writer operation

It is similar to 5S-P003 Program Writer operation but there are still some differences between them. After Load File, it will prompt to connect the 5S-P-C01 program interface with the IC pin correspondingly.

If AVDD and AGND pin exist, you need to short circuit VDD/GND and AVDD/ AGND of the IC respectively or connect IC_AVDD/IC_AGND with the VDD_PIN/GND_PIN of writing interface.

M PADAUK : 5S-P-003-S	["VER_XXX]
Load File	PMS150C Check Sum : 0x3A12AB C:\Users\ `` :sktop\IC_Test\2 ?M S150C_3A12mu.rvk :sktop\IC_Test\2 ?M
Blank Check	Convert Verify TestSuit
Auto Program	Date = 2019/10/29 15:36:17 SYSCLK = 16 HHz/8 UDD = No Set LUR = 2.00 Protect = Security 7/8
	Writing pins prompt
Detail Message	Download OK Check Jump : Hone Program Pin: UDD PA3 PA4 PA5 PA6 GHD note: IC exist AVDD/AGHD => VDD-AVDD short, GHD-AGHD short

Fig.2

- (2) When loading PDK, it may cause the writer to update automatically, and the new PDK will be autoloaded after the update.
- (3) Note: The former series IC are not supported.

When loading PDK, the writer auto-identify the supported PDK. When an unsupported PDK is selected, the following prompt appears, as shown in Fig. 3.

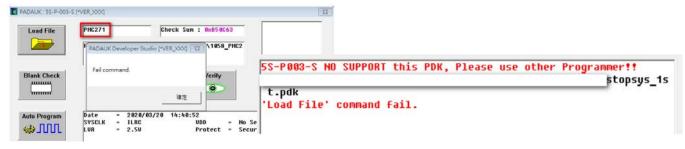


Fig.3



- Writing IC interface(Fig. 4-1/ Fig. 4-2/ Fig. 4-3)
 - (1) The connection mode in whole is shown in figure 4-1.
 - (2) The LED set represents connection status, as shown in figure 4-2.
 - (3) The writer interface pins correspond to VDD / PA3 / PA4 / PA5 / PA6 / GND form the bottom to the top, as shown in figure 4-3. The writer interface is header 2*6 pin with every two pins short-circuited (facilitate signal measurement and the connection of IC Analog power PIN).

When the IC to be written is well-placed, LED keeps on means connection fail and LED keeps off means that all pins are well-connected.

If any LED keeps on, please reconfirm the connection.

When the LED set (D1~D6) is all off, it means that the writer is ready.

Special Note: The corresponding LED only indicates that the pin is connected, and cannot represent a correct connection.

For example, if the writing interface PA3_PIN is carelessly connected to the IC_PA4 pin, the corresponding LED will still off, but errors will happen in subsequent writing operation. (ex: Find different IC, Not to IC...etc.). At this time, please confirm the connection is right.

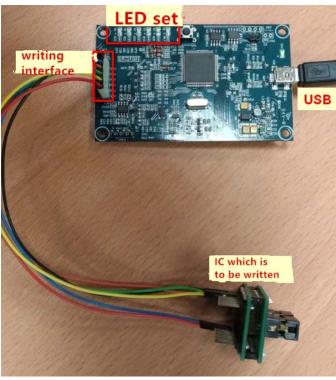






Fig.4-2

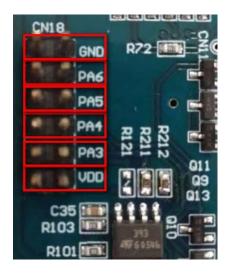


Fig.4-3



LED set State Description (Writing Mode)

Writer state	LED state	Remarks
Waiting loading PDK	LED(D1, D3, D5) keep switching ON and OFF periodically.	
Waiting loading PDK	LED(D2, D4, D6) keep switching OFF and ON periodically.	
(Not Load File)	The two LED groups are blinking in turn.	
	When the connection is wrong, the LEDs keep ON.	
Confirming the connection	When the connection is right, the LEDs keep OFF.	
	When the LED D1~D6 are all off, user can start to write IC.	
Loose contact	Random LEDs keep ON.	
Writing IC	LED D1~D6 are all OFF.	
	LED(D1, D2, D3) keep switching ON and OFF periodically.	
Writer Software Updating	LED(D4, D5, D6) keep switching OFF and ON periodically.	
	The two LED groups are blinking in turn.	
Needing forcing update	LED D1~D6 flash fast synchronously	
(please refer to section 2.1)		

On-board Program Setting

Method one: set through option 『On-board Program』, The operation is as follows: 『Convert』 → 『Check IC…』 → 『On-board Program』

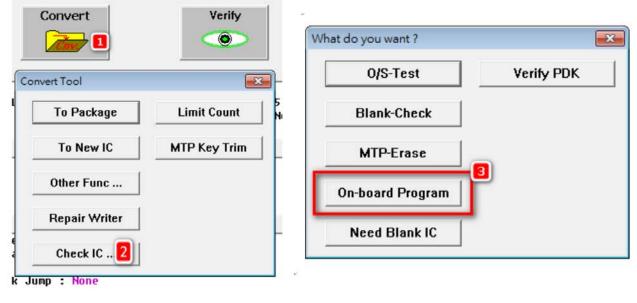


Fig.5



Method two: set through option [To Package],

The operation is as follows: 『Convert』 → 『To Package』 → 『On-board Program』

	Convert	Verify		Package Setting			×
				IC SP1811	•	□ 0/S Any - 1	20 Any - 0/S
				Package S20/D20	•	Ø/S PA3 → 2	19 Any 🚽 🗆 0/S
1				1		1 0/S PA4 - 3	18 Any 🚽 🗆 0/S
2	Convert Tool	×		JUMPER 1		₩ 0/S PA5 👻 4	17 PA6 → 17 0/S
31			51	IC Shift		10/S GND - 5	16 VDD → 17 0/S
	To Package 🙎	Limit Count	Nc	0/S Mask-L 001E		□ 0/S Any - 6	15 Any - C 0/S
				0/S Mask-R 0018		🗆 O/S Any 🚽 7	14 Any - 0/S
	To New IC	MTP Key Trim		075 Mask-R 0010		🗆 O/S Any 🚽 8	13 Any - C 0/S
-			F.	0/S Test Select		🗆 O/S 🗛 🝸 9	12 Any - 🗆 0/S
	Other Func			C Enable All PIN		□ O/S Any _ 10	11 Any 🝸 🗆 0/S
				Only Program PIN		₩ 0/S Any 🔭 0	0 Any → 17 0/S
					3)	₩ 0/S Any 🕆 0	0 Any → 17 0/S
	Repair Writer			🔽 On-board Program	Ľ.	☞ 0/S Any 🔺 0	0 Any → 17 0/S
16	1					₩ 0/S Any - 0	0 Any - 17 0/S
Ĺ	Check IC				ОК	Cancel	



2.2. Forcing Update Mode (Bootloader Button Function)

- When to use it: use this function to force into Bootloader update mode when something unexpected happens, such as update interruption or update error.
- How to enter it: keep pressing the Bootloader button, then connect the USB cable, and release the button after seeing the LED sets start to turn ON.
- How to update: open the IDE and enter the programming software to update. The software auto-returns to writing mode after update. (Fig. 7)

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Support	燒錄器 F	Auto Program	
PADAUK Developer Studio [*VER_XXX]		Bootup Test	
Ok Please remove all OTP from Ok Loss Writer F/W, or F/W or Vou must download now. You must download now.		Detail Message Connect to 55-7-883-5 writer. Serial : 8xd595 Bend & Search	
Type: F/W Ver : 4.010 (Group-4-S)			





• LED Set State Description (Update Mode)

Writer state	LED state	Remarks
	LED(D1~D6)	
	D1 ON	
	D1, D2 ON	
Waiting to update	D1, D2, D3 ON	
	D1, D2, D3, D4, D5, D6 ON	
	The LED will be ON one by one in sequence and cycle	
	LED (D1, D2, D3) keep switching ON and OFF periodically.	
Start to update and check	LED (D4, D5, D6) keep switching OFF and ON periodically.	
	The two LED groups are blinking in turn.	
	LED (D1~D6) are all ON.	
Update error	LED (D1~D6) are all OFF.	
Opuale entit	The two LED groups are blinking in turn (please refer to section 2.1	
	and force update again).	
Update completed	Automatically leave update mode and enter writing mode.	
Opdate completed	Relevant LEDs in this mode, please refer to chap writing mode.	
	LED (D1, D2, D5, D6) are ON.	
Fail to entry writing mode	LED (D3, D4) are OFF.	
	After keeping these states for 0.5s, the writer will enter "waiting to	
	update" mode automatically.	