5S-P-C01

Engineering Type

(Simplified Version)

Writer User Manual

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Revision History:

Revision	Date	Description
0.01	2021/03/23	1st version
0.02	2025/07/16	1. Update URL for Writing application software and User Manual 2. Added Off-line Program Setting

1. 5S-P-C01 Simplified Writer Description

1.1. Simplified Writer

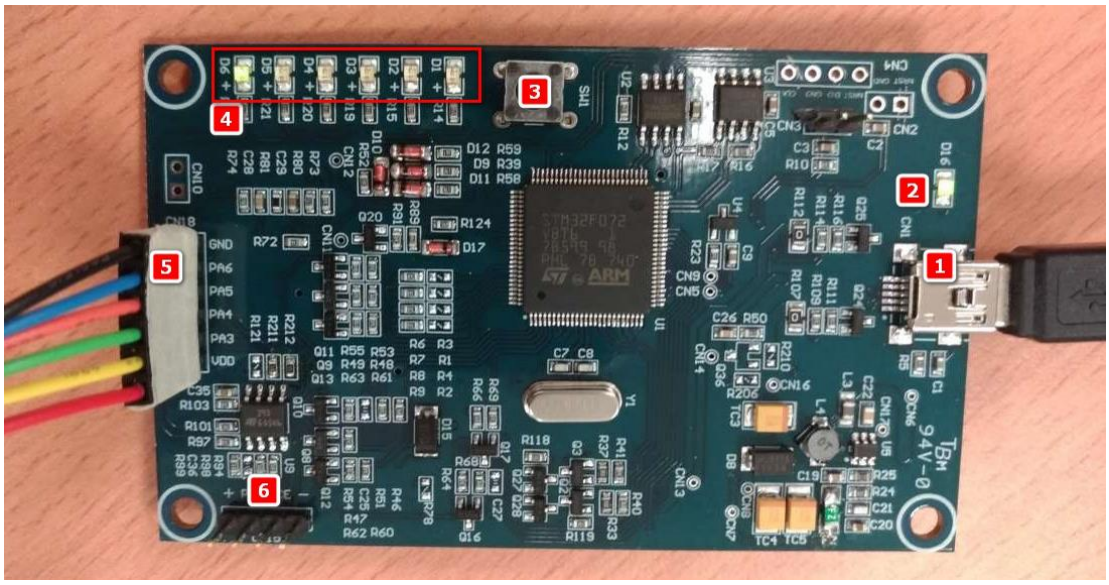


Fig.1

(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 Padauk to obtain latest Program Writer version from home page > technology application > technology development tool > Program Writer.

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.

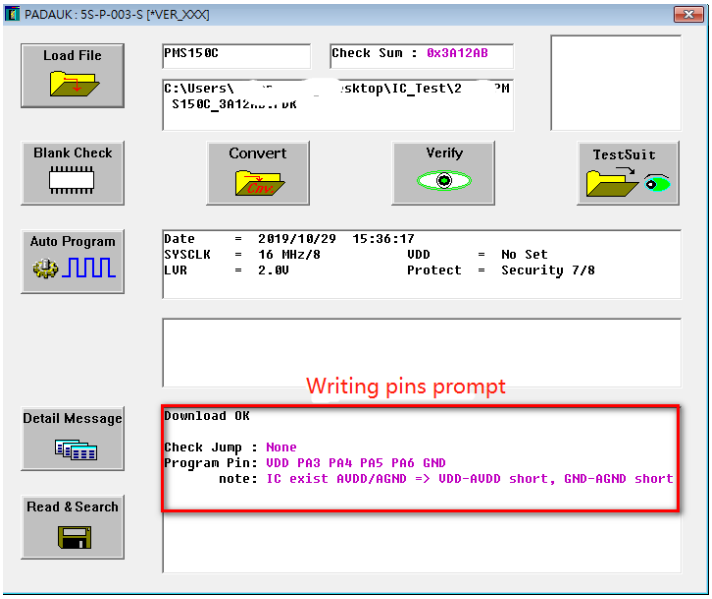


Fig.2

(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.

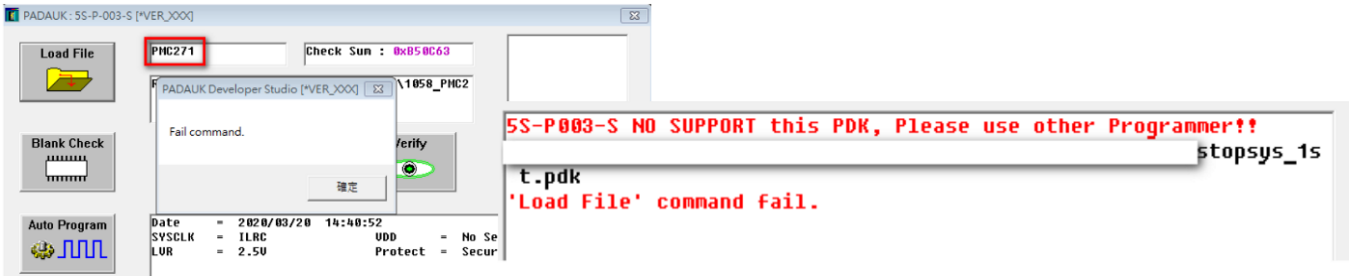


Fig.3

◆ 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.

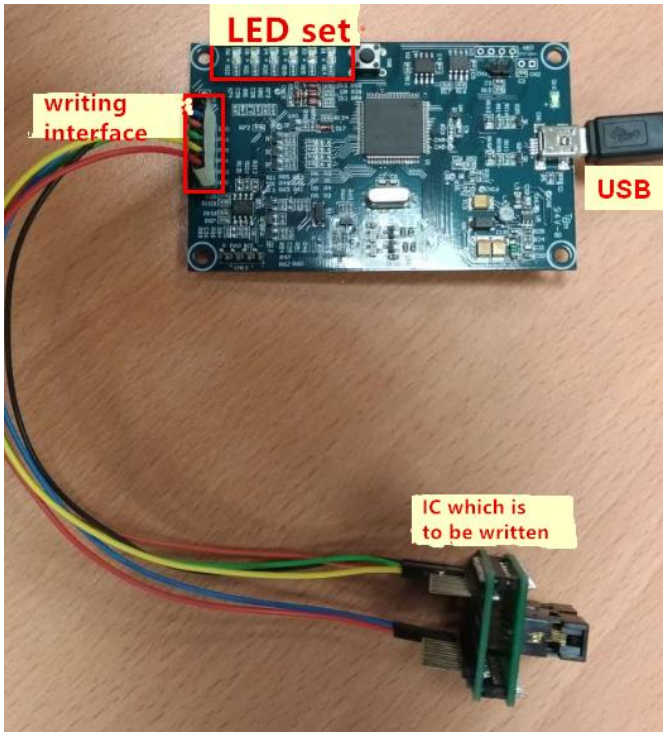


Fig.4-1

Fig.4-2

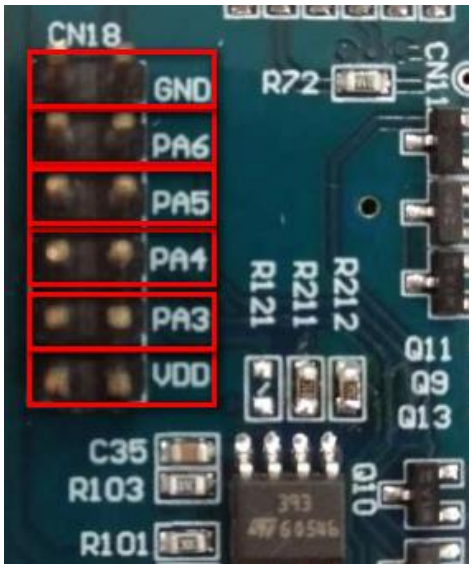


Fig.4-3

◆ LED set State Description (Writing Mode)

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

◆ On-board Program Setting

Method one: set through option『On-board Program』,

The operation is as follows:『Convert』➔『Check IC…』➔『On-board Program』

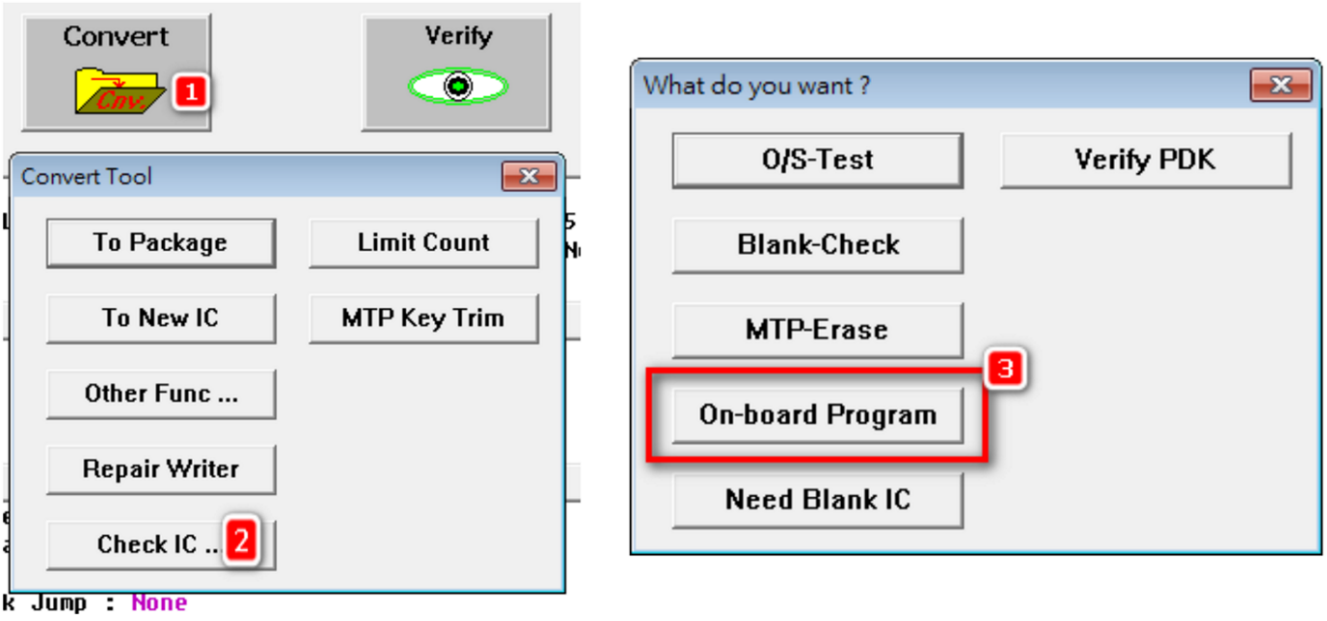


Fig.5

Method two: set through option『To Package』,

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

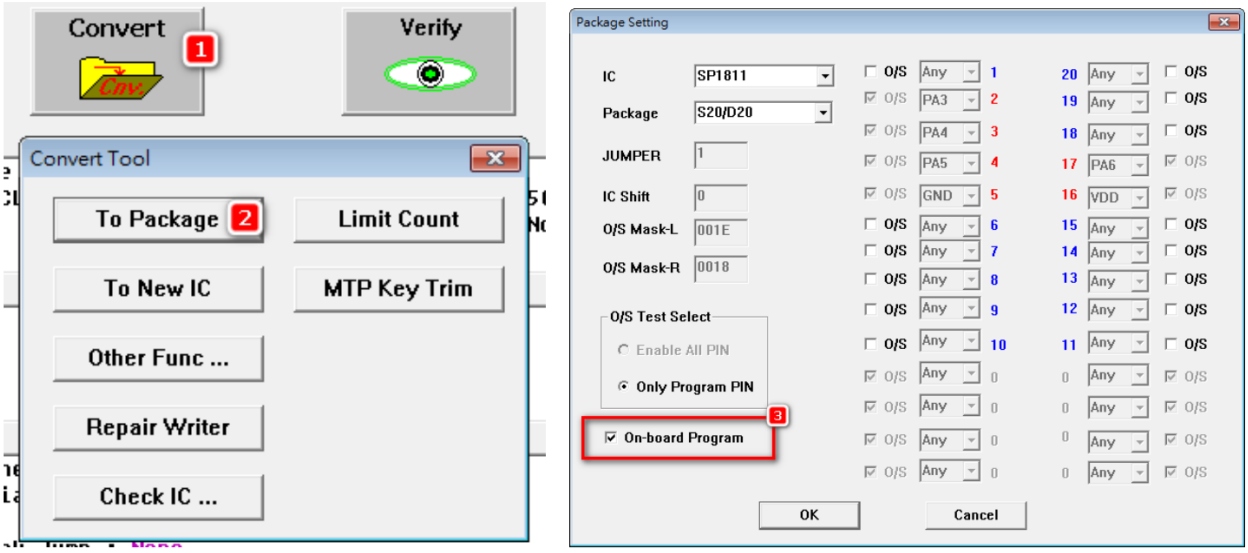


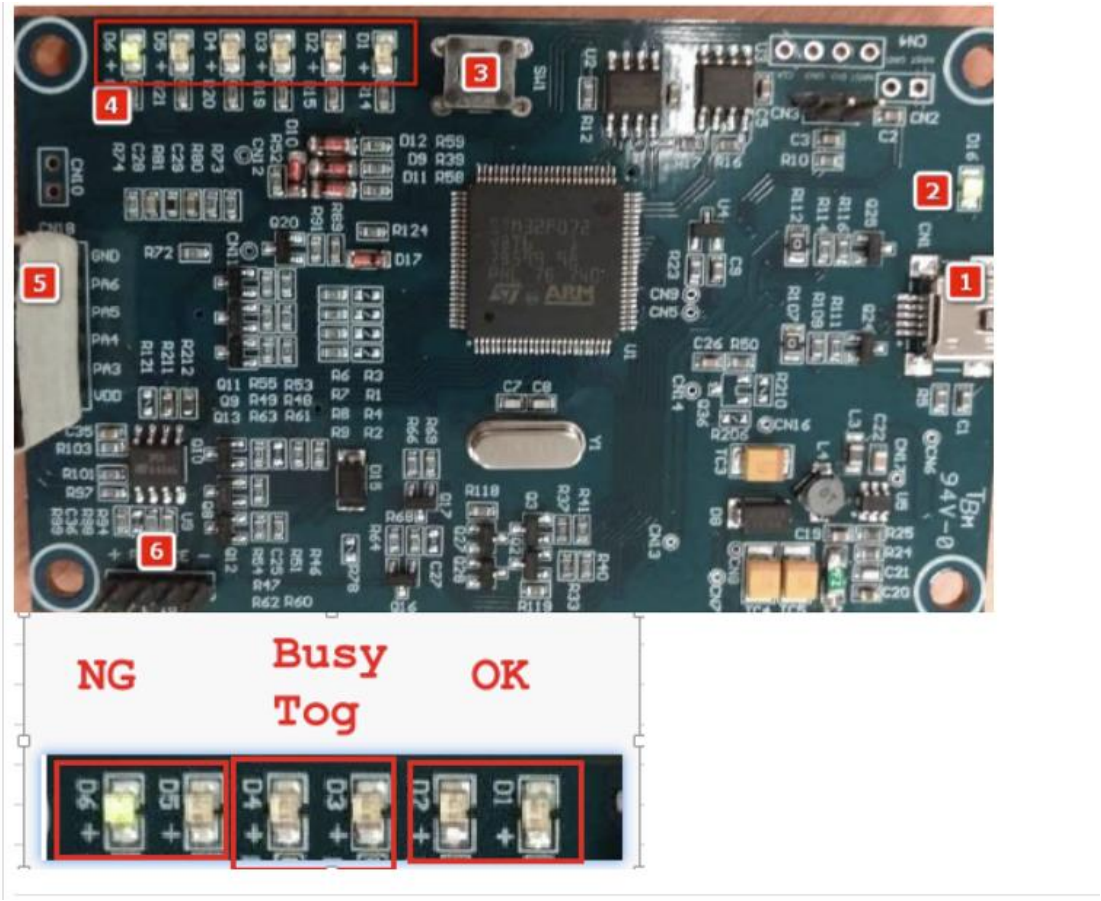
Fig.6

◆ Off-line Program Setting

Load the program to be programmed into the 5S-P-C01. (It supports offline programming for any IC.) When the LED group (D1~D6) is completely off, it indicates that the IC is ready. At this time, press the SW1 KEY to start programming. When the LED group (D1 and D2) is on, it means the IC programming is completed; when the LED group (D5 and D6) is on, it indicates that the programming has failed.

◆ LED Indicator Light Group Signal Description List (Offline Programming Mode)

LED status	Writer Status	Note
LEDs（D1~D6）are all 『OFF』	IC Ready	
LEDs (D3 D4) flash fast synchronously	Programming in progress	
LEDs (D1 D2) are all 『ON』	Programming completed	
LEDs (D5 D6) are all 『ON』	Programming failed	



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)

Fig.7

◆ LED Set State Description (Update Mode)

烧录器状态	LED 状态	备注
Waiting to update	LED (D1~D6) D1 ON D1 D2 ON D1 D2 D3 ON … D1 D2 D3 D4 D5 D6 ON The LED will be ON one by one in sequence and cycle	
Start to update and check	LED(D1.D2.D3) keep switching ON and OFF periodically. LED(D4.D5.D6) keep switching OFF and ON periodically. The two LED groups are blinking in turn.	
Update error	LED (D1~D6) are all ON. LED (D1~D6) are all OFF. 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. Relevant LEDs in this mode, please refer to chap writing mode.	
Fail to entry writing mode	LED (D1.D2.D5.D6) are all ON. LED (D3.D4) are all OFF. After keeping these states for 0.5s, the writer will enter “waiting to update” mode automatically.	