SU-56A Gang Programmer User Manual

力浦電子實業股份有限公司
LEAP ELECTRONIC CO., LTD.

Catalogue

Chapter 1. Product introduction

SU-56A integrates programming with existing machine architecture. In addition to quickly supporting existing programming components (by transferring or modifying PCB), it can also create dedicated module boards for specific components to achieve diversity of support.

In addition to the replaceable socket board of this machine, the driver board underneath can also be replaced. When supporting certain IC device with more special and complex designs, the driver board can be replaced to achieve the purpose of support. To save the complexity in the design of the socket adapter (which can reduce the cost of replacement).

This type of programmer can use single-site software to connect and programming data to a single IC to perform more complex parameter settings, and then package it into a project after confirmation.

During gang programming, you can also open the gang programming software with a simpler interface and load the project into it, so that you can flash multiple ICs at the same time for gang programming. This software does not have complicated operating procedures, and it cannot change the relevant settings of the project. , which can minimize the risk of gang programming.

(The following is only a functional description of the gang programming software.For single-site programming software, please refer to the documentation of Universal IC Writer II.)

Chapter 2. Precautions for use

All operations, maintenance, and repair services must observe the following safety precautions and safety warnings.
Our company is not responsible for any losses or liability by misusing the instrument without following the precautions in this manual cause the unpredictable phenomena.

2.1. When replacing the Socket/Driver module board, please turn off the power of the product in advance, carefully remove the original module, and then install the new module board. When installing, pay attention to the direction and align the pin holders before installing. If there is excessive resistance during installation, please recheck whether there is any wrong direction or tilted. You can restart the programmer only after confirming that everything is correct.

2.2. The Socket board is a consumables. Factors such as the number of times the IC is picked up and placed, the operating habits of the personnel, the cleanliness of the IC pin surface, whether the IC package meets standard tolerances, etc., will all affect the contact quality between the socket and the IC. When you find that the failure rate of a certain socket board has increased significantly, but there is no obvious improvement after cleaning the socket, you may need to consider to replace it.

2.3. The programmer will provide power to the module board when programming IC. If the IC is placed in the wrong position or the wrong number is selected, the programmed IC may be damaged.

2.4. If the device to be programmed is OTP (one-time programming) or the device has OTP parameter settings, please take a special care to them because the device (or parameters) can only be programmed once and cannot be restored through the clear function afterwards.

2.5. IC information, batch numbers, programming processes and

operating software changing oftenly, so please pay attention to whether data file in master IC, the parameters setting, processes and software version are completely correct when you're operating.

2.6. When a new work order or a new IC comes online for the first time every day, the ICs burned in the first round must be verified first to avoid errors in the master IC, files, machines or operating software, resulting in poor programming. cause unnecessary losses. During gang IC programming, it is necessary to verify and check whether the programmed IC is normal several times, including the setting of software, device parameter, device security protection, specific area settings, bad block (NAND Flash) and other settings.

2.7. Machine operators must be trained and designated personnel. Do not allow untrained personnel to operate the machine.

2.8. Self-repair is prohibited without the consent of our company during the warranty.

2.9. If you find any programming problems that can't be solved, please suspend use.

2.10. It's our pleasure to help you solving programming issue, but please follow the operation statement above.

Our company will not be responsible for any losses caused by machine failure, IC damage, or incorrect data burning caused by any operation that violates the stated matters.

Chapter 3. Precautions for accessories

3.1. Driver board installation

3.1.1. The Driver board is fixed by 4 screws. Please remove the screws before removing the driver board. Then pull up the driver board from left side(Tool required).
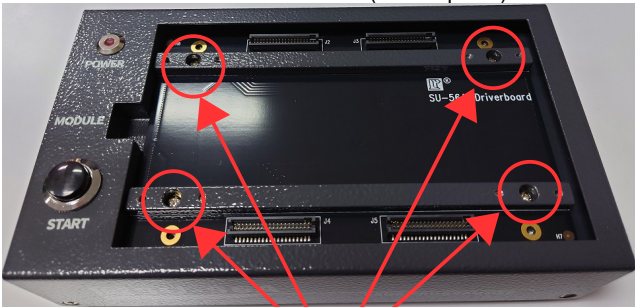
Please loose the four screws in the support bar before remove the diver board

3.1.2. When assembling a new driver board, please first check whether there are mechanical components for locking and supporting at the top，If not, the PCB may be deformed and damaged due to excessive extrusion during use.
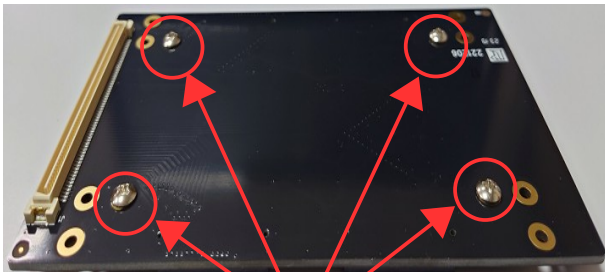
Please loose the four screws in the support bar before remove the diver board

Driver board and supporting mechanism screw locations

3.1.3. When installing, just lay it flat, align the pins on driver board with the pins on the programmer of the machine and press down.Make sure there is no problem with the combination and then tighten the screws

3.2. Socket board installation

3.2.1. When you want to remove the socket board, we suggest that lift the left side of it to the right(Please notice the angle should not be too large, otherwise the pins may be damaged), then pull up the right side directly.

3.2.2.

The steps to remove: first lift the left side, then lift the right side

3.2.3. To install a new socket board, just align it and press it down.

Chapter 4. Description of hardware and appearance

4.1. Power

4.1.1. Use a 5V DC power supply (DC, positive inside and negative outside). Wrong voltage and polarity may cause damage to the machine.

4.2. USB

4.2.1. USB type B connect to PC

4.3. Start button

4.3.1. The function is as same as the start button in the software. Press it to start programming.

4.3.2. It only works after loading the project file.

4.4. Power LED

4.4.1. When it's light up mean power on.

Power OFF

Power ON

4.5. LED on socket board

4.5.1. WORK LED： Usually only 1 on the board, yellow color. It will light up during the programming and light off after the programming.

4.5.2. PASS LED： The number will as same as the socket.

4.5.2.1. Light up： Programming Pass.

4.5.2.2. Flash： Programming Fail.

4.5.2.3. Light off： The IC is not putted on or the IC has been removed after programming. 。

The work LED will light up during the programming

The pass LED will light off during the programming

The work LED will light off after the programming

The pass LED will light up or flash after the programming

Chapter 5. PC software operating instructions

5.1. Software installation

5.1.1. Install the Universal IC Writer II software.

5.1.2. Install the SU-56 software (For gang programming)

5.1.3. Install the DataBase.

5.2. Driver installation

5.2.1. Before the installation, please connect the USB cabe and power cable first, then turn on the power.

5.2.2. The Device manager will shows a USB device when you connect the programmer with PC(You can connect multiple programmers).You need to install the driver if it's the first time connection. Please choose the file path as same as your software and select the file"USBDrv" (Windows will automatically search for the appropriate version of driver)

5.2.3. After the installation, the name will become'Universal IC Writer II'(The number of devices here would be as same as the units you connect to PC)

5.3. Gang programming software interface (Home screen)
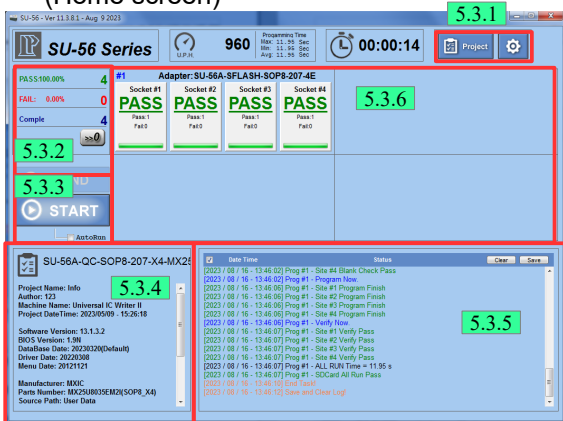
5.3.1. "Project Manage" & "System setting".For detailed instructions, please refer to Chapters 5.5 and 5.6

5.3.2. Record the current programming result. Press [>>0] to reset the count value to zero.

5.3.3. Programming Button

   5.3.3.1. START：Start programming. It also can start by pressing the button on the programmer

   5.3.3.2. END：The order will end when you click it(Saving Log at the same time) but it will wait for the IC which is programming.

   5.3.3.3. AutoRun：When this function is turn on, As long as the socket is filled up with the IC, it will automatically start programming.

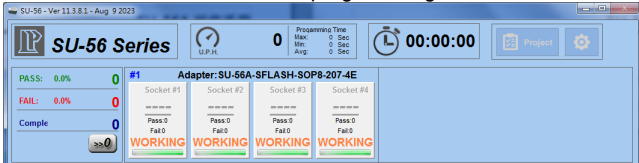5.3.4. Display the information of the project file you loaded.

5.3.5. Record all the detailed information of each action, process and result.

5.3.6. Chip status in the socket board of every programmer
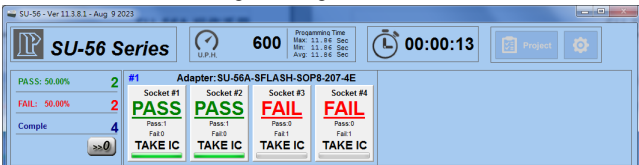
5.4. Programming description

The following explains the meaning of the screen (status) during programming.

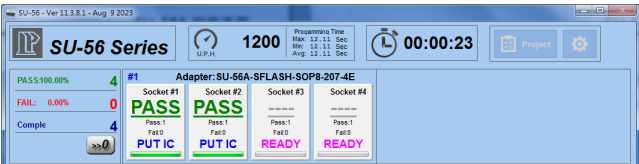### 5.4.1. WORKING : Now programming

5.4.2. PASS : Programming succeed.

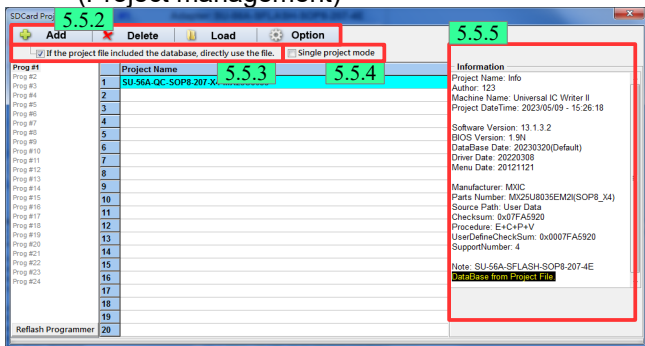### 5.4.3. FAIL : Programming failed.

5.4.4. PUT UP : Waiting for the chip to be removed

5.4.5. READY : Chip is placed. Waiting for programming.

5.5. Gang programming software interface (Project management)

5.5.1. The page that manage the programming project file.

5.5.2. Description of each button

 5.5.2.1. Add：Add the project file into the programmer.It will ask updating the socket board and SSD data when it's necessary(Only for eMMC chips)

 5.5.2.2. Delete：Delete the selected project.

 5.5.2.3. Load：Load the selected project. After successful loading, the page will be closed and returned to the home screen.

 5.5.2.4. Option：Switch to "System Options Settings" (Please refer to Chapter 4.9).
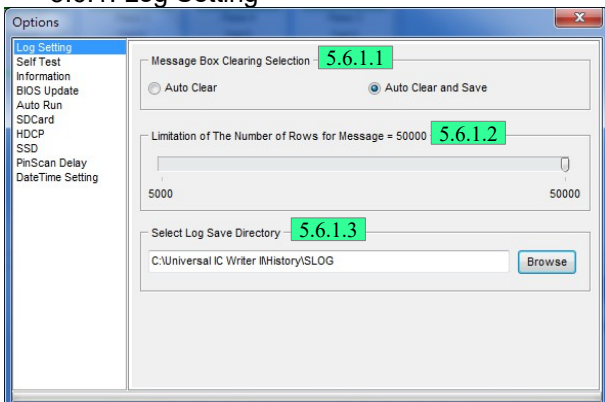
5.5.3. When checked, the project file added (Add) will directly use the internal Database file. If not checked, the file on the hard disk will be used.

5.5.4. When adding project by check will clear all the original projects here

5.5.5. Showing the information you selected.

5.6. Gang programming software interface (Option)

5.6.1. Log Setting

5.6.1.1. Message Box Clearing Selection
Setting auto clearing or saving "Log" in the home screen.
Auto Clear: Clear the Log when the set number of rows is exceeded.
Auto Clear and Save: Save before Clear the Log when the set number of rows is exceeded.
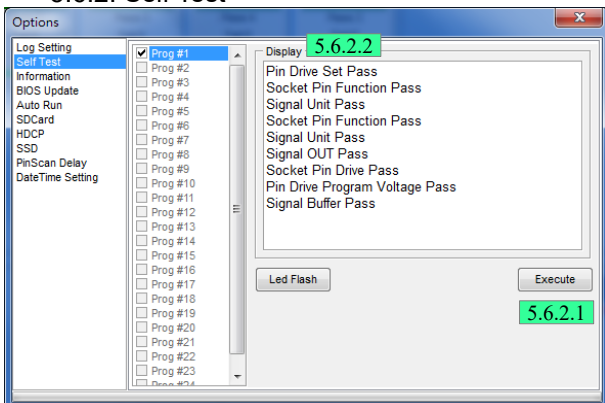Order's over (press END) would auto save Log before clear at that moment.

5.6.1.2. Limitation of The Number of Rows for Message
Set the home screen "Log" to be automatically cleared when it exceeds the set number of lines.。

5.6.1.3. Select Log Save Directory
File path of saving "Log" in the home screen.

5.6.2. Self Test

5.6.2.1. Self Test for the programmer itself. Click "Execute" to start testing the checked programmers and show the result on the Display field.

5.6.2.2. The Display field will only show the results of one unit. If you want to see the results of different units, you must click the other programmer on the list.。

5.6.2.3. The socket board can't be installed during the testing. The driver board is also limited to general version. All others must be dismantled, otherwise it will affect the test results or even damage the programmer itself.

5.6.2.4. Led Flash has no effect here.
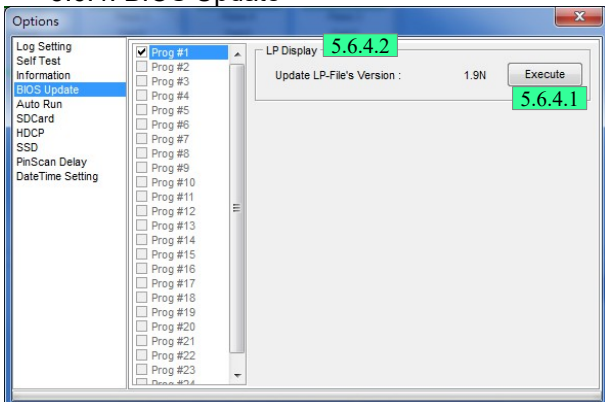
5.6.3. Information
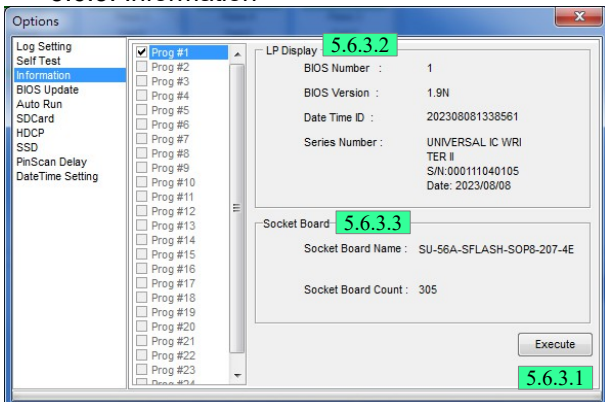
5.6.3.1. Click "Execute" to show the informations of BIOS Number, Version, Serial Number and socket board.

5.6.3.2. LP Display shows the result of only 1 programme. You need to choose other programmer manually to see the result of others.

5.6.3.3. Socket Board field shows the socket board name and the number of times it has been programmed

5.6.4. BIOS Update

5.6.4.1. The page that update the BIOS of the programmer. Update the checked programmers by clicking "Execute"

5.6.4.2. LP Display shows the current BIOS version of Database.
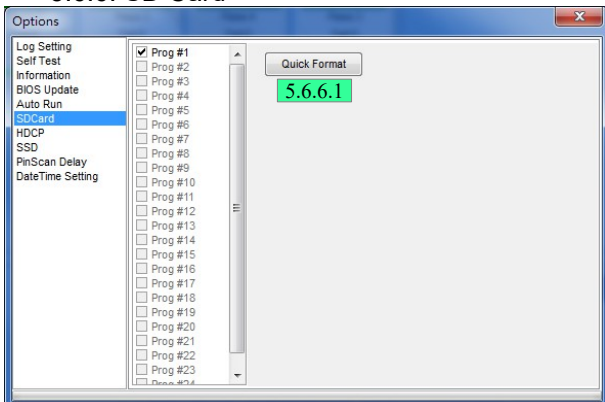
5.6.4.3. The programmer will auto restart when the update is done. The software will show that the programmer is not detected.You need to back to home screen and click"Project" to reconnect.

5.6.5. Auto Run
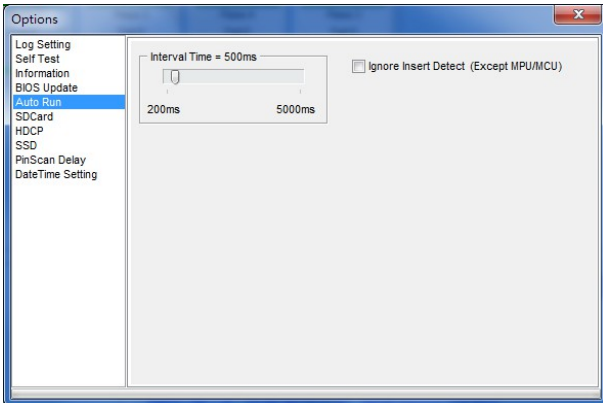
5.6.5.1. Setting the interval time of Auto Run
(Delay time from placing IC to starting programming)
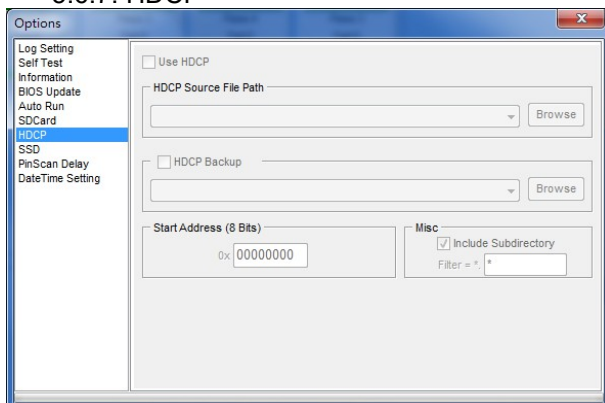
5.6.6. SD Card

5.6.6.1. Clear all data in the SD Card of the selected programmer by clicking "Quick Format" button

5.6.6.2. The Project list in the Project page will be cleared when it execute

5.6.6.3. The data in the SSD of eMMC socket board will not be cleared.

5.6.7. HDCP

5.6.7.1. Parameter settings for programming HDCP files。
(Subject to the project which is executed by click"Add/Load"in the Project page)

5.6.7.2. This page is for display only, please do the settings on the Universal IC Writer II software.

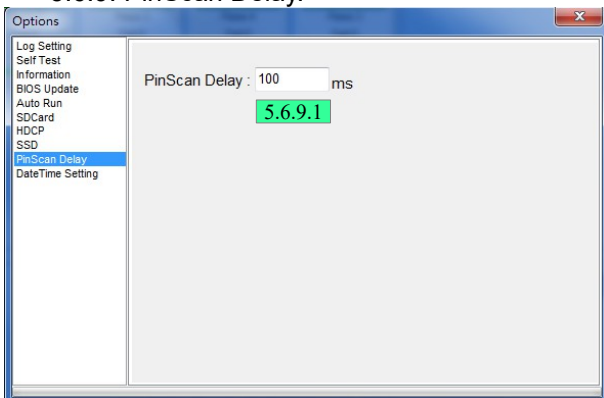**5.6.7.3. This function currently does not support eMMC projects.**

5.6.8. SSD
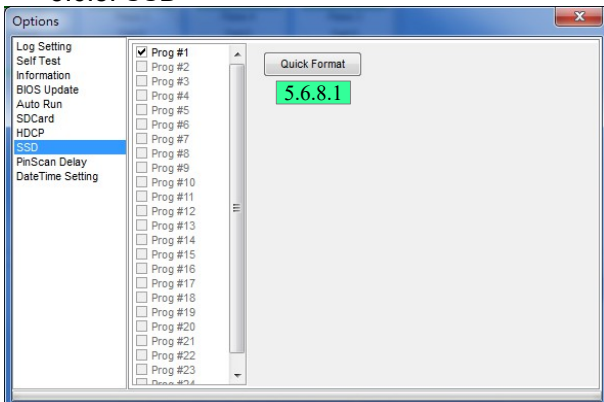
5.6.8.1. Clear the SSD data of the selected socket board by clicking the Quick Format button.

5.6.8.2. It can only be used for eMMC socket board (and SSD must be installed), and it has no effect on other IC devices.
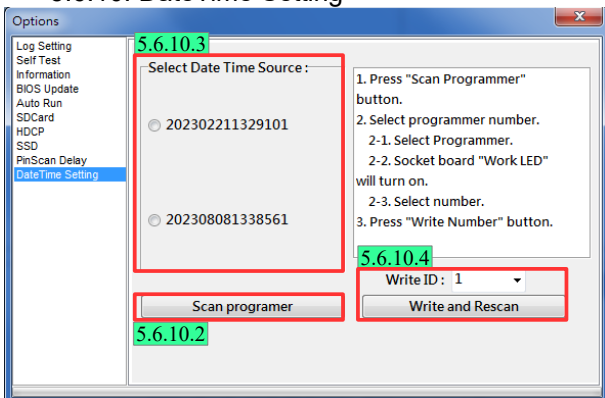
5.6.9. PinScan Delay.

5.6.9.1. Set the delay time for IC detection during "Auto Run"

5.6.9.2. The detection time of each IC will vary due to different detection methods and processes. What is set here is the delay time from the end of the detection to the next time.

5.6.10. DateTime Setting

5.6.10.1. The software can connect up to 4 SU-56A programmers at the same time, but the queue of the them on the screen needs to be set on this page. Each programmers will have its own code when it leaves the factory. If multiple programmers are used at the same time, they need to be adjusted to the same group of numbers. Only the last code is left as the queue of the machines.

5.6.10.2. Scan all the connected programmer and display on the above

5.6.10.3. Choose the one you need to reset. The first "pass LED" will be lighten if the socket board is installed (When all programmers are set, all the previous valueswill be changed to the same as the first programmer. Only the last order will be modified according to the settings)

5.6.10.4. Setting the WriteID, and click"Write and Rescan" to write the file into your device.

Chapter 6. Simple steps to operate the software

The followings are basic steps of using software, but not all device processesare the same, it's is only for reference.

Project Create：
1. Open the Universal IC Writer II software and connect to the programmer.
2. Choose the part number of your IC chip.
3. Get the programming file
   (By loading from master IC or from your PC)
4. Option → Device page: To adjust the parameters
    (Non-essential)
5. Setting the Precedure
   (Erase, Blank Check, Program, Verify & Protect)
6. Select/Project → Project page to save the project file

Gang Programming：
1. Open SU-56 software
   (Need to close Universal IC Writer II)
2. Put on the Driver/Socket board for programming.
3. Enter to Project page
     (1) Click 'add' to add the project file
         (It can be skipped if you have done before)
     (2) Click project and click load to choose the file you
         want to program
4. Put the IC and click 'START' to program
     (1) Both of clicking 'start' in software and pressing 'start'
     button on the programmer will start the program.
     (2) You need to set 'Auto Run' before the programming
     start.