



ProISP Board Installation Guide

Rev. A

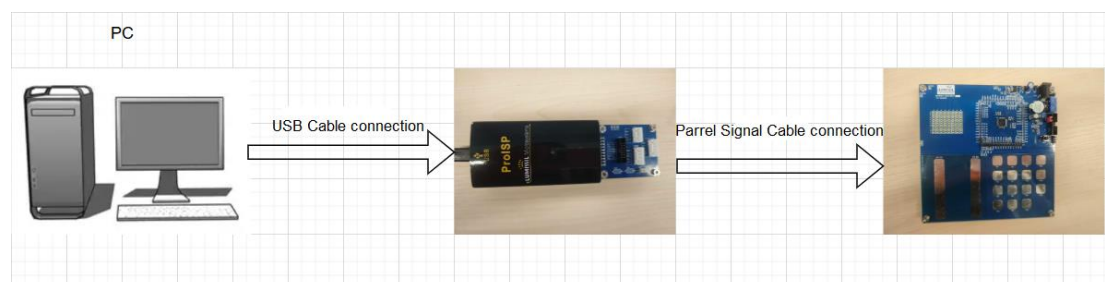
1. ProlSP Board Hardware Introduction

1.1 Hardware Appearance

The appearance of the ProlSP Board is shown below:



The computer connects to the ProlSP Board via USB to link with the target development board. Through the ProlSP Board, users can program the chip and read chip content.



1.2 Hardware LED Indicator Description

- 1) After connecting the ProlSP Board to the computer using USB, the ProlSP Board lights up green and starts attempting to connect to the target development board.
- 2) If the target development board is successfully connected, the ProlSP Board lights up blue accompanied by one long beep.
- 3) If the connection fails, the ProlSP Board lights up red accompanied by four short beeps.

2. ProlSP Board Installation Description

The ProlSP Board is installed together with the IMSC (Intelligent MCU's Smart Configurator) installer and can also be used independently.

3. IMSC's Graphical User Interface (GUI) – Basic Operations

3.1 Device and Interface Mode

The device and interface mode selection window is shown below:

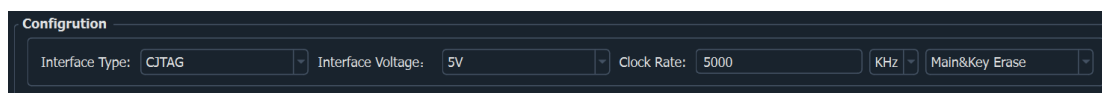


Device: Select the chip product part no. to be programmed from the list.

Interface : Depending on different chip product series, JDI, ProISP, and J-Link interfaces will be available. JDI corresponds to the JDI Board programmer; ProISP corresponds to the ProISP Board programmer; J-Link corresponds to commercial J-Link programmer. Customers are recommended to choose ProISP for the best official support.

3.2 ProISP Board Configuration Options

Configuration window is shown below:



Interface Type: JTAG or CJTAG. JTAG corresponds to a 7-pin interface, CJTAG corresponds to a 5-pin interface. Depending on the different chip product part no. and product series, other interfaces will be developed to support them in the future.

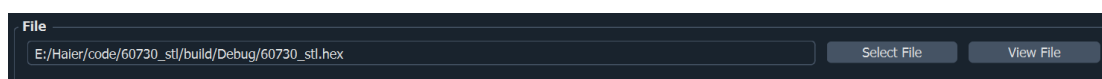
Interface Voltage: Default output voltage is 5V.

Clock Rate: Default is 5000KHz and can be adjusted as needed.

Erase: Includes Main&Key Erase and Sector Erase. Main&Key Erase erases IFB1 and the entire Flash Memory; Sector Erase erases only the sectors required for the selected file.

3.3 File Configuration

File configuration window is shown below:



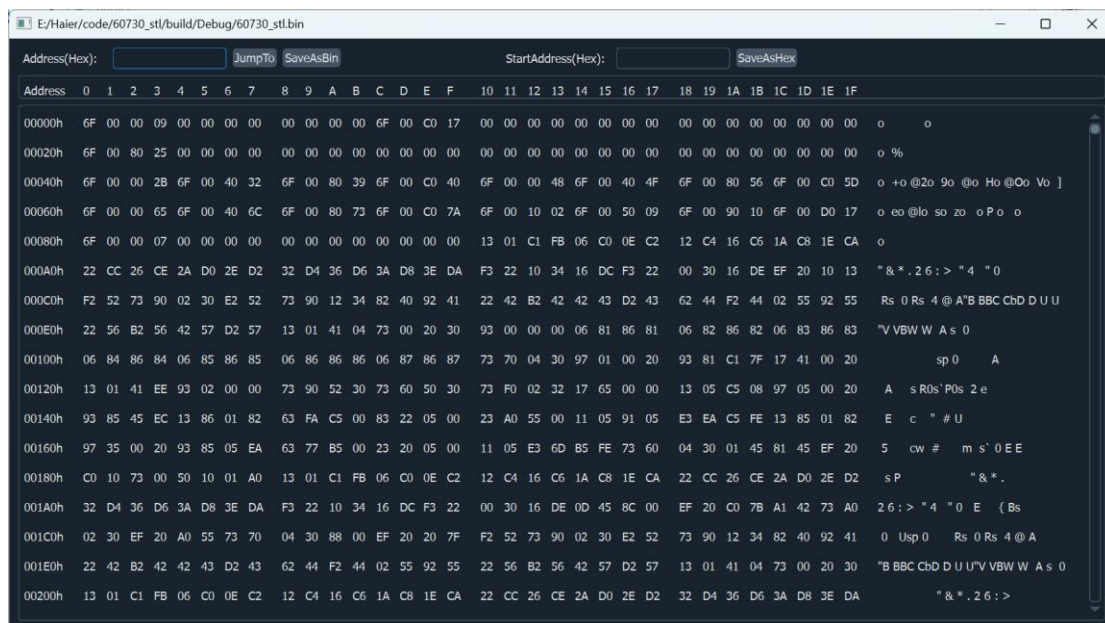
ProISP Board Installation Guide



Select File: Used to select the file to be programmed (.hex file or .bin file). After selection, the file path will be displayed, and the MD5 value of the file will appear in the information window.

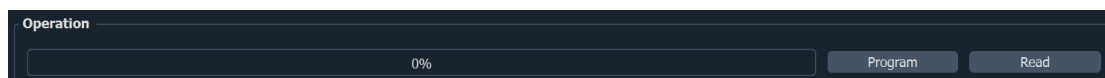
```
60730_stl.hex md5: 24565b15e70c4575aa37cadf2694494e
ProISP device connected!
60730_stl.bin md5: 24565b15e70c4575aa37cadf2694494e
```

View File: If the current action is Select File, this displays the selected file's content; if the action is Read, this displays the chip's Flash Memory content. User needs to know the UKEY.



3.4 Operation Description

Operation's operation window is shown below:



Program: 该按钮将所选文件按照配置的擦除方式烧录到目标芯片内，烧录过程中前面进度条会同步更新，并在信息框内显示烧录过程中的日志 Programs the selected file into the target chip according to the configured erase mode. The progress bar updates during the process, and logs appear in the information window.

Successful programming shows "Write Successfully".

```
Jan 1 00:06:36 ocd[1209]: lumissil_program_exec
Jan 1 00:06:36 ocd[1209]: ARRAY_SIZE: 4
Jan 1 00:06:36 ocd[1209]: lumissil_program_exec
Jan 1 00:06:36 ocd[1209]: ARRAY_SIZE: 4
Jan 1 00:06:36 ocd[1209]: lumissil_program_exec
Jan 1 00:06:36 ocd[1209]: config_progbuf_write_mem
Jan 1 00:06:36 ocd[1209]: Burn: read back check

Jan 1 00:06:36 ocd[1209]: lumissil_handle_flash_read_command
Jan 1 00:06:36 ocd[1209]: flash read at: 0x00000000, count: 0x000062f0
Jan 1 00:06:36 ocd[1209]: read main_memory
Jan 1 00:06:36 ocd[1209]: bank->size=0x40000 offset=0x00000000 count=0x000062f0
Jan 1 00:06:36 ocd[1209]: config_sba_write_mem

Jan 1 00:06:38 ocd[1209]: config_progbuf_write_mem
Jan 1 00:06:38 ocd[1209]: Burn : main memory operation completed
Jan 1 00:06:38 ocd[1209]: Listening on port 6666 for tcl connections
Jan 1 00:06:38 ocd[1209]: Listening on port 4444 for telnet connections
Write Successfully
```

When the programming process fails, the error reason will be displayed, for example:

```
Jan 1 00:00:14 ocd[868]: Unexpected idcode after end of chain: 405 0x00000000
Jan 1 00:00:14 ocd[868]: Unexpected idcode after end of chain: 437 0x00000000
Jan 1 00:00:14 ocd[868]: Unexpected idcode after end of chain: 469 0x00000000
Jan 1 00:00:14 ocd[868]: Unexpected idcode after end of chain: 501 0x00000000
Jan 1 00:00:14 ocd[868]: Unexpected idcode after end of chain: 533 0x00000000
Jan 1 00:00:14 ocd[868]: Unexpected idcode after end of chain: 565 0x00000000
Jan 1 00:00:14 ocd[868]: Unexpected idcode after end of chain: 597 0x00000000
Jan 1 00:00:14 ocd[868]: Unexpected idcode after end of chain: 629 0x00000000
Jan 1 00:00:14 ocd[868]: double-check your JTAG setup (Interface, speed, ...)
Jan 1 00:00:14 ocd[868]: Trying to use configured scan chain anyway...
Jan 1 00:00:14 ocd[868]: HC1C10J9H.cpu: IR capture error; saw 0x00 not 0x05
Jan 1 00:00:14 ocd[868]: Bypassing JTAG setup events due to errors

Jan 1 00:00:14 ocd[868]: OpenOCD only supports Debug Module version 1, not 0 (dminfo=0x0)
Jan 1 00:00:14 ocd[868]: target HC1C10J9H.cpu examination failed
Jan 1 00:00:14 ocd[868]: starting gdb server for HC1C10J9H.cpu on 3333
Jan 1 00:00:14 ocd[868]: Listening on port 3333 for gdb connections
Jan 1 00:00:14 ocd[868]: Target not examined yet
Jan 1 00:00:14 ocd[868]:
Jan 1 00:00:14 ocd[868]: GPIO JTAG bitbang driver quit
```

Read: Reads back Flash Memory content. If a file is selected, the read size matches the file size; otherwise, the full 256KB Flash Memory is read.

After reading the Flash Memory content of the chip, it will output "read flash successfully" and the temporary directory of the file read in the information box. User needs to know the UKEY.

```
Jan 1 00:01:50 ocd[1016]: lumissil_program_exec

Jan 1 00:01:50 ocd[1016]: ARRAY_SIZE: 4
Jan 1 00:01:50 ocd[1016]: lumissil_program_exec
Jan 1 00:01:50 ocd[1016]: config_progbuf_write_mem
Jan 1 00:01:50 ocd[1016]: Burn: read back check
Jan 1 00:01:50 ocd[1016]: lumissil_handle_flash_read_command
Jan 1 00:01:50 ocd[1016]: flash read at: 0x00000000, count: 0x000042dc
Jan 1 00:01:50 ocd[1016]: read main_memory
Jan 1 00:01:50 ocd[1016]: bank->size=0x40000 offset=0x00000000 count=0x000042dc
Jan 1 00:01:50 ocd[1016]: config_sba_write_mem

Jan 1 00:01:51 ocd[1016]: config_progbuf_write_mem

Jan 1 00:01:51 ocd[1016]: Burn : main memory operation completed
Jan 1 00:01:51 ocd[1016]: Listening on port 6666 for tcl connections
Jan 1 00:01:51 ocd[1016]: Listening on port 4444 for telnet connections
Write Successfully

Fast read flash...
Fast read flash successfully, file: C:/Users/Administrator/AppData/Local/Temp/fast_read_20251123_111934.bin
```

3.5 Information Window Description

Information window is shown below:

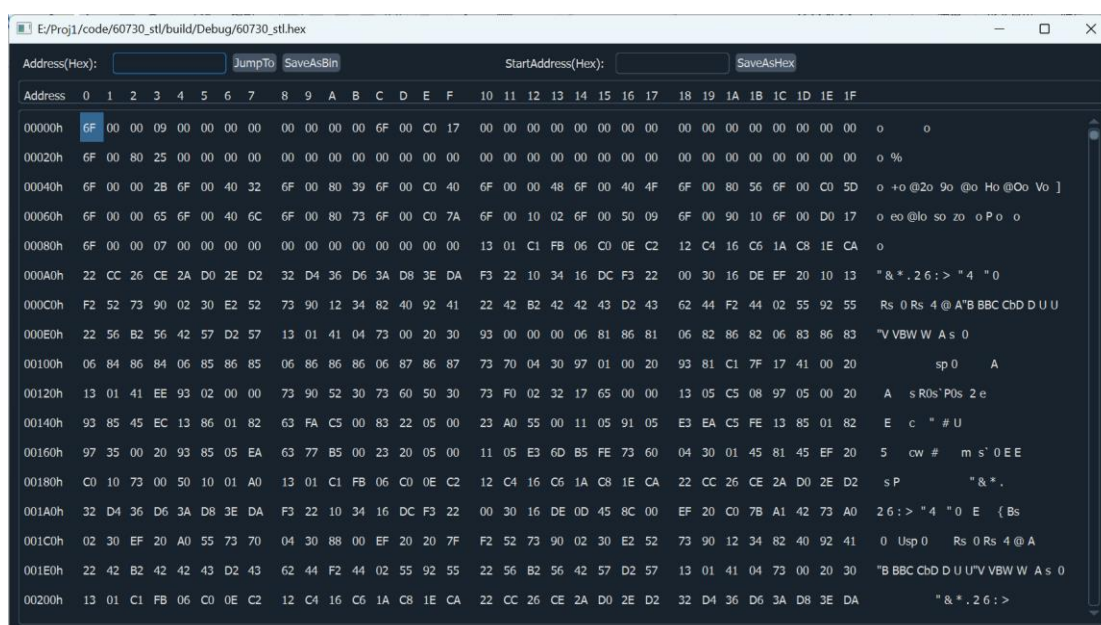
```
Jan 1 00:01:50 ocd[1016]: lumissil_program_exec
Jan 1 00:01:50 ocd[1016]: ARRAY_SIZE: 4
Jan 1 00:01:50 ocd[1016]: lumissil_program_exec
Jan 1 00:01:50 ocd[1016]: config_progbuf_write_mem
Jan 1 00:01:50 ocd[1016]: Burn: read back check
Jan 1 00:01:50 ocd[1016]: lumissil_handle_flash_read_command
Jan 1 00:01:50 ocd[1016]: flash read at: 0x00000000, count: 0x000042dc
Jan 1 00:01:50 ocd[1016]: read main memory
Jan 1 00:01:50 ocd[1016]: bank->size=0x40000 offset=0x00000000 count=0x000042dc
Jan 1 00:01:50 ocd[1016]: config_sba_write_mem
Jan 1 00:01:51 ocd[1016]: config_progbuf_write_mem
Jan 1 00:01:51 ocd[1016]: Burn : main memory operation completed
Jan 1 00:01:51 ocd[1016]: Listening on port 6666 for tcl connections
Jan 1 00:01:51 ocd[1016]: Listening on port 4444 for telnet connections
Write Successfully

Fast read flash...
Fast read flash successfully, file: C:/Users/Administrator/AppData/Local/Temp/fast_read_20251123_111934.bin
```

Shows all logs generated during operations. Logs can be saved via File -> Save log.

3.6 File Content Dialog Window

File content dialog window is shown below:



Address: Enter a hexadecimal address to jump to.

JumpTo: Jump to the address entered in the previous Address edit box and highlight the jump address location.

SaveAsBin: Saves as a .bin file.

StartAddress: Hexadecimal start address.

SaveAsHex: Saves as a .hex file.

First row: Column numbers 0 to 0x1F.

ProISP Board Installation Guide



First column: Row start address in hex.

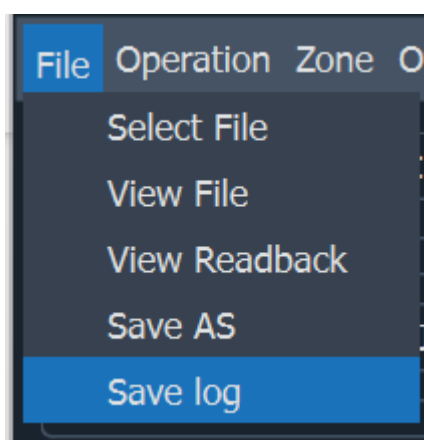
Other cells: Display HEX values and ASCII at the end.

4. IMSC's Graphical User Interface (GUI) – Advanced

Explanations

4.1 File Menu

Sub-menu of file menu is shown below:



Select File: Same as Select File button.

View File: Same as View File button.

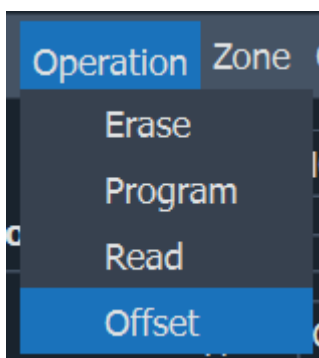
View Readback: Displays the content of the readback file (a readback verification is performed after writing to Flash Memory; View Readback will display the content of the readback file).

Save As: Saves read content as a .bin file.

Save log: Saves all logs.

4.2 Operation Menu Introduction

Sub-menu of operation menu is shown below:



Erase: Erases Flash Memory using Main&Key Erase way.

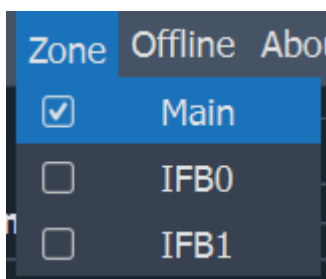
Program: Same as Program button.

Read: Same as Read button.

Offset: Sets Flash Memory offset while programming .bin file, default is zero offset.

4.3 Zone Menu Introduction

Sub-menu of zone menu is shown below:



Main: Programs the Flash Memory region.

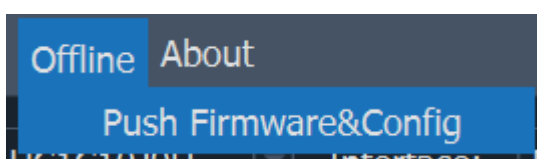
IFB0: Programs the IFB0 region.

IFB1: Programs the IFB1 region.

(Current version limits programming to Flash Memory region.)

4.4 Offline Menu Introduction

Sub-menu of offline menu is shown below:



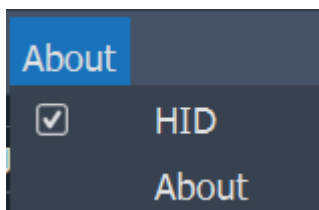
ProISP Board Installation Guide



Push Firmware&Config: Pushes the selected file to ProISP Board for offline programming.

4.5 About Menu Introduction

Sub-menu of about menu is shown below:

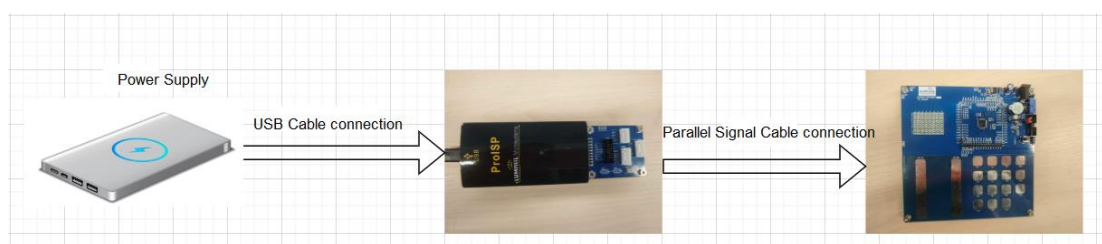


HID: Uses HID (Human Interface Device) for file programming and read back (default). If unchecked, uses ADB (Android Debug Bridge). RNDIS (Remote Network Driver Interface Specification) is still under developing and not enabled.

About: Displays version info.

5. Offline Programming Introduction

Offline programming does not require a computer, USB power alone is sufficient for ProISP Board. Use scenario is shown below:



The red box area in the figure below is the offline programming button:



The procedure of ProlSP Board programming the chip is as follows:

- 1) Click Select File to choose the offline program.
- 2) Click Offline -> Push Firmware&Config to upload it to ProlSP Board.
- 3) Press the offline programming button on the ProlSP Board. The green LED blinks during programming until the blue LED lights with one long beep.
- 4) If programming fails, the red LED lights with four short beeps.

6. Ordering Information

ProlSP Board’s ordering information :

Item	Operation Temperature Range	Order Part No.
ProlSP Board	-40°C to +85°C	PROISP_BOARD

7. Revision History

ProlSP Board Installation Guide’s revision history:

Revision	Detail Information	Date
A	Initial release	2025.12.03

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