

Introduction

This document is used to describe the installation and use of PY32CubeProgrammer software.

This software can be used to program the on-chip FLASH and option bytes of the PY32 microcontroller through the JTAG or SWD interface with the debug probe.

This software can be used to program the on-chip FLASH and option bytes of the PY32 microcontroller through the USART or USB interface with the MCU's ISP or IAP Firmware.

➤ Features

- MCU: All PY32 microcontrollers
- Device probe: PY-Link, J-Link
- Program: Main Flash, Option Bytes, OTP
- Memory Read: Embedded Flash, SRAM, Peripheral Registers
- Memory Write: SRAM, Peripheral Registers
- Detailed Log Window
- File Format: *.hex, *.bin
- File Function: Open, Merge

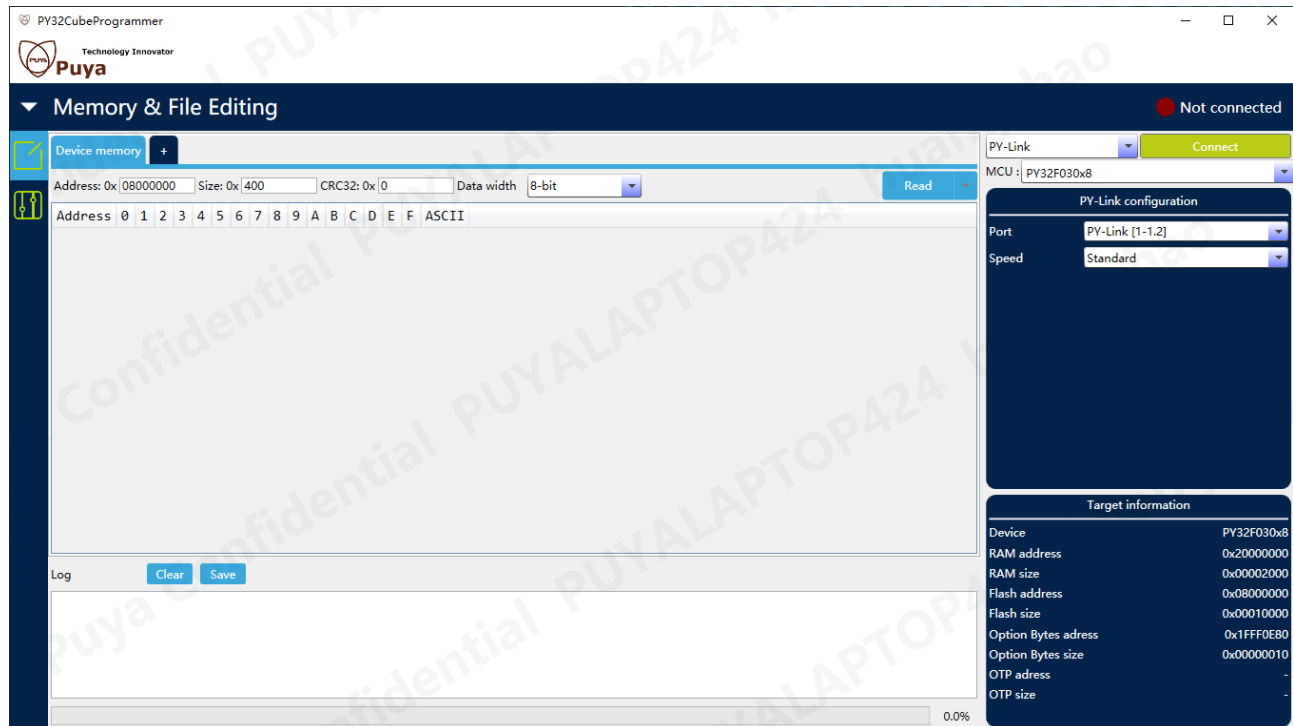
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1 Software Installation

This software is green and free to install, unzip it and double click PY32CubeProgrammer.exe to use it.

Figure 1-1. PY32CubeProgrammer GUI



2 Hardware Connection

Table 2-1. SWD Interface

PY-Link/J-Link	MCU	Note
VCC	VCC	Power
GND	VSS	Ground
SWDIO(TMS)	SWDIO (PA13)	Some chips may be other pins
SWCLK(TCK)	SWCLK (PA14)	Some chips may be other pins

Table 2-2. ISP/IAP-USART Interface

PY-Link/USB-TTL	MCU	Note
VCC	VCC	Power
GND	VSS	Ground
TX	USART_RX (PA10)	Some chips may be other pins
RX	USART_TX (PA9)	Some chips may be other pins

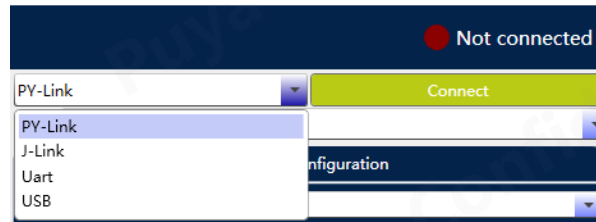
Table 2-3. ISP/IAP-USB Interface (Only support the MCU with USB peripheral)

USB	MCU	Note
VBUS	VCC	Power
GND	VSS	Ground
DP	USB_DP (PA12)	Some chips may be other pins
DM	USB_DM (PA11)	Some chips may be other pins

3 Software Application

3.1 Select Programming Device

Figure 3.1-1. Select programming device



3.2 Configure Programming Device

Figure 3.2-1. Configure PY-Link (depends on the actual programming device selected)

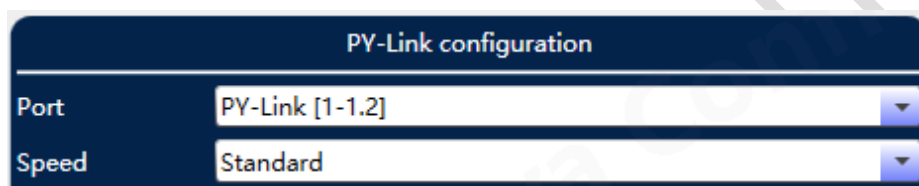


Figure 3.2-2. Configure J-Link (depends on the actual programming device selected)

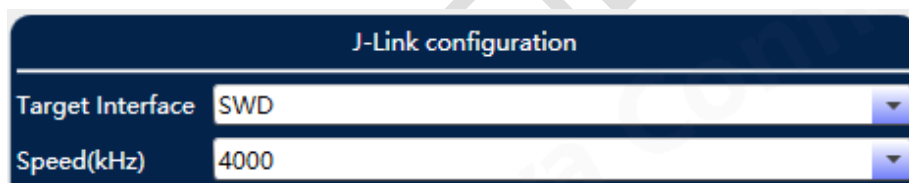


Figure 3.2-3. Configure Uart (depends on the actual programming device selected)

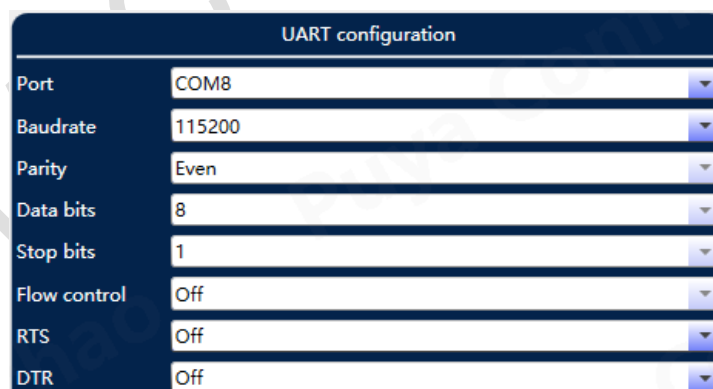
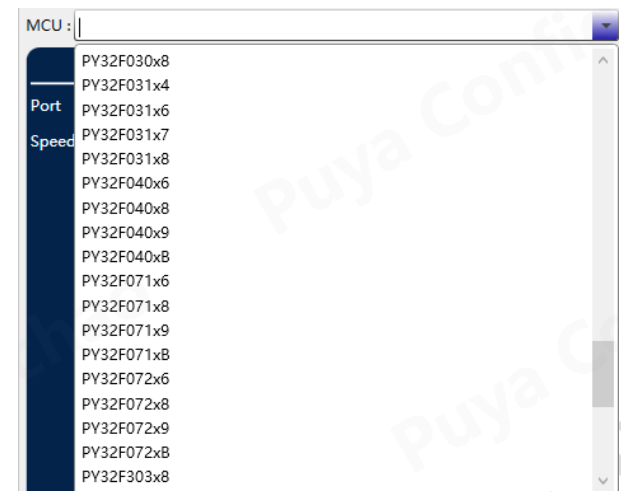


Figure 3.2-4. Configure USB (depends on the actual programming device selected)



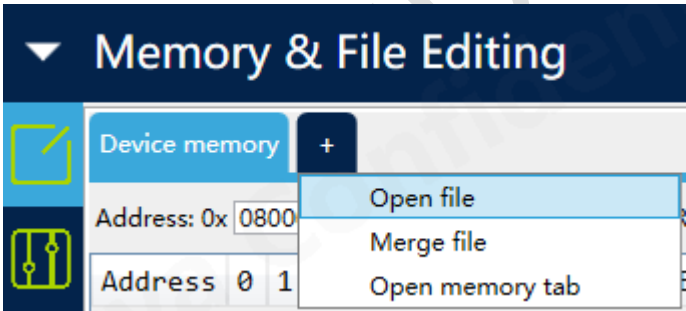
3.3 Select Target MCU

Figure 3.3-1. Select Target MCU (Support search function)



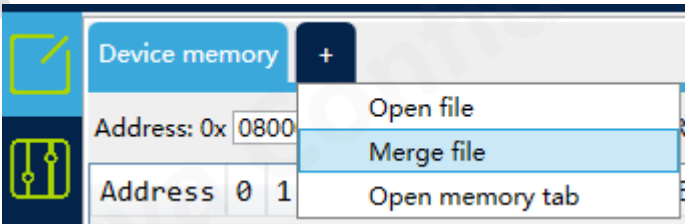
3.4 Open File

Figure 3.4-1. Open File



3.5 Merge File

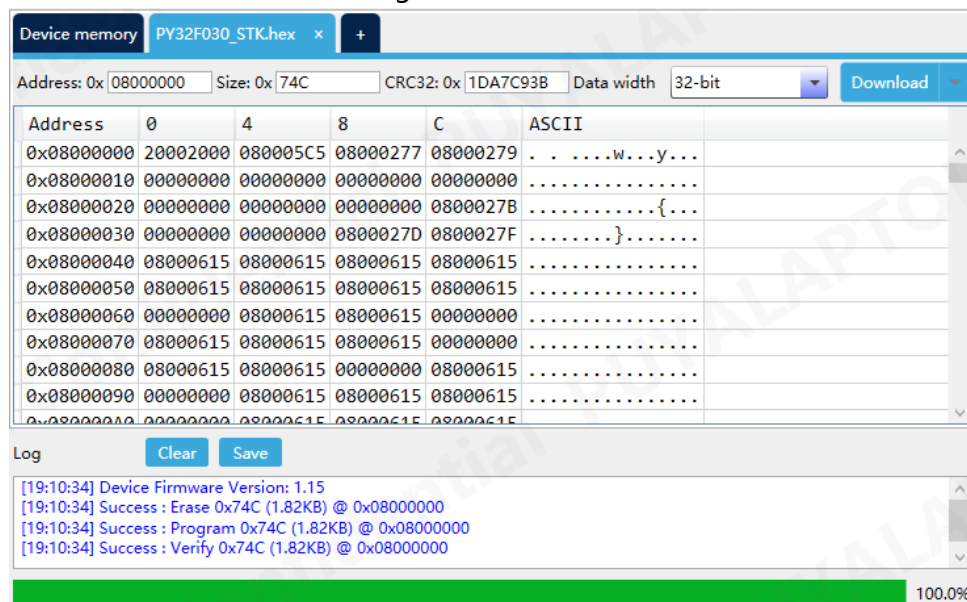
Figure 3.5-1. Merge File



3.6 Operate Target MCU

- Download

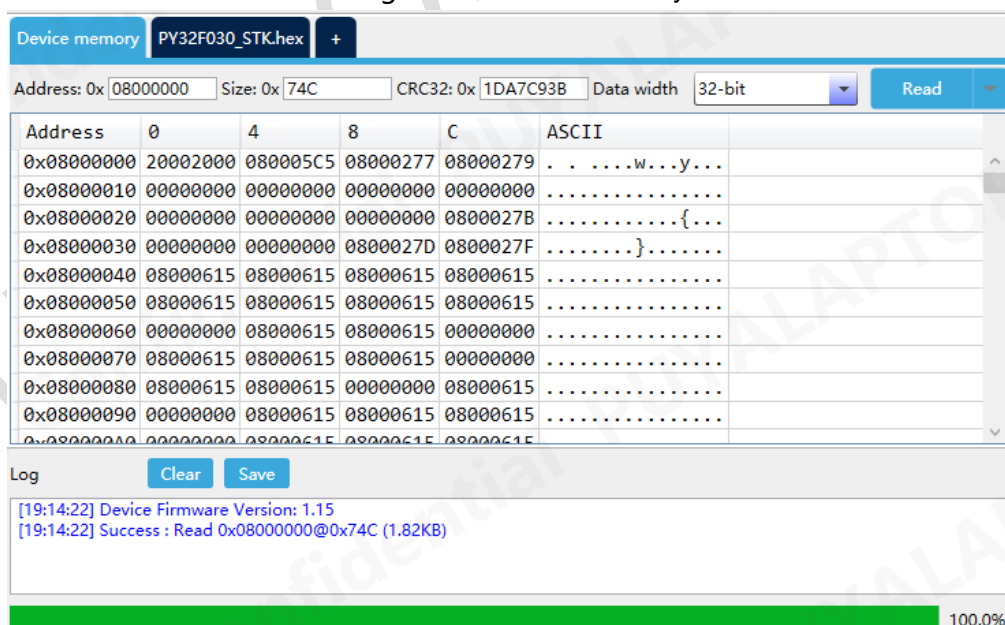
Figure 3.6-1. Download



- Read

Read the Flash, SRAM, OTP, option bytes, and registers of the target chip, and specify the storage area address and size; After reading, the value of CRC32 data will be automatically calculated and displayed.

Figure 3.6-2. Read memory



- Option bytes

Click the "Option bytes" button on the left toolbar to enter the Figure based option byte configuration and display interface.

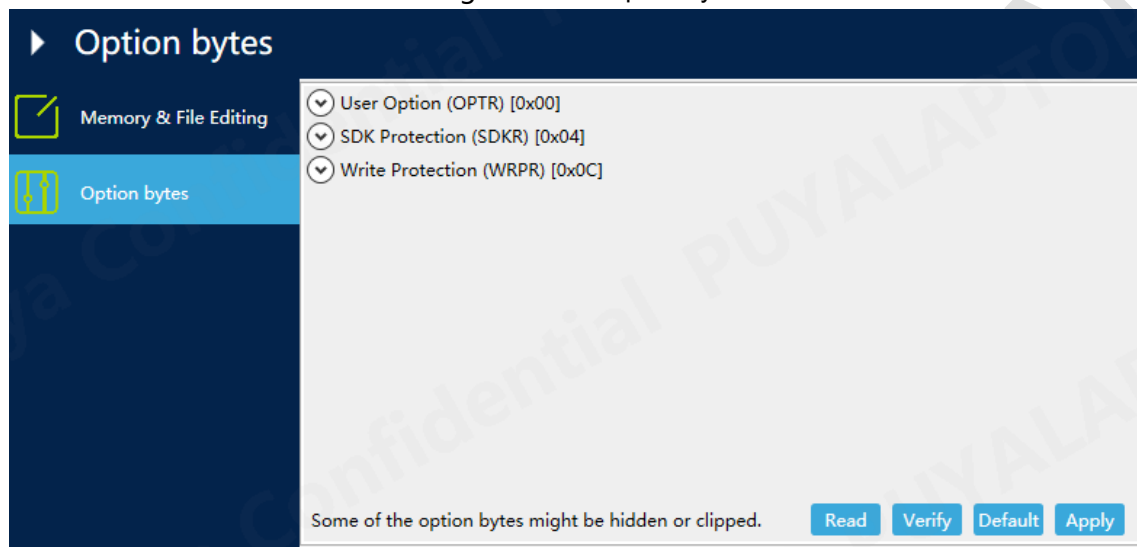
Read "button: Read the Configure value of the current option byte of the target chip.

Verify button: Compare the read value of the target chip with the software Configure value.

Default "button: Restore the current Configuration value of the software to its default value.

Apply "button: Write the current Configuration value of the software to the target chip.

Figure 3.6-3. Option bytes



4 Version History

Version	Date	Description
V1.0	2024/11/12	Initial Version.



Puya Semiconductor Co., Ltd.

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