

megawin

ICP32_Programmer

User Manual

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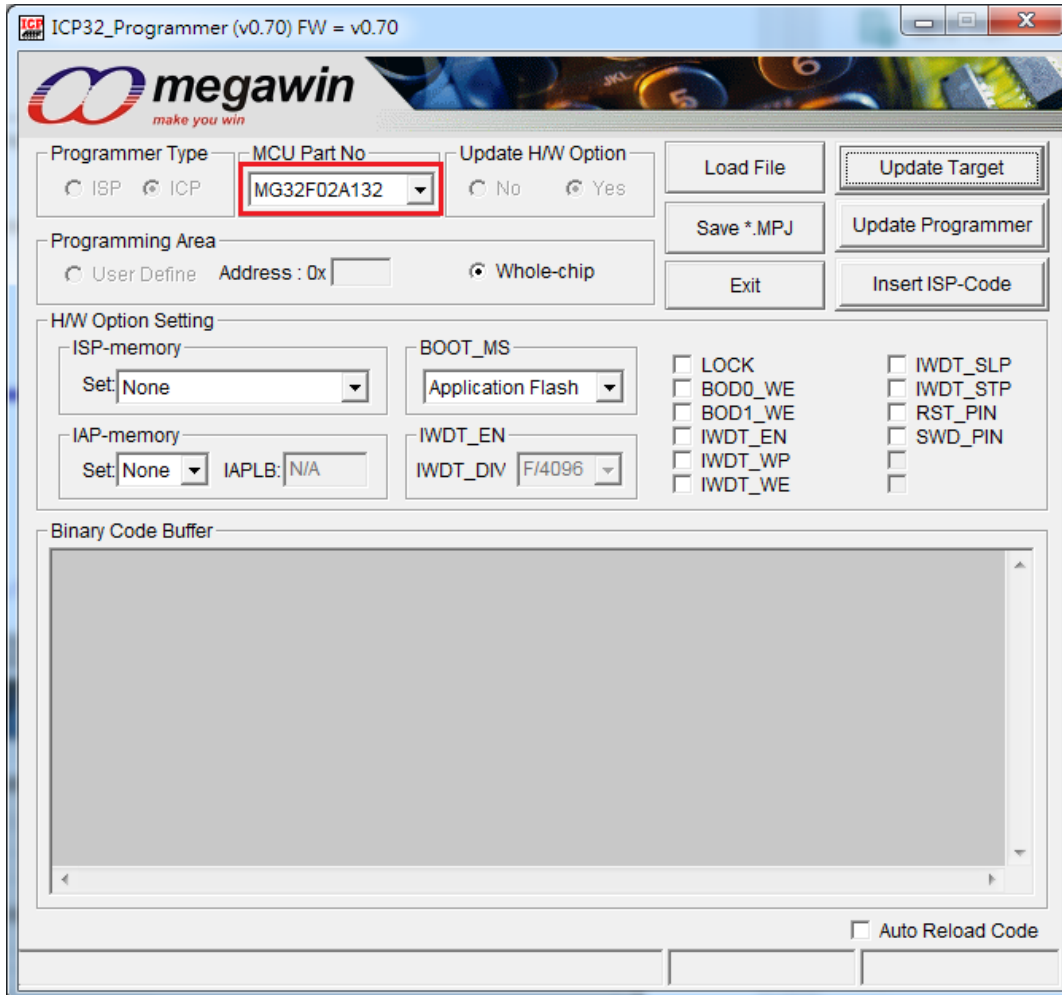
1. Introduction

The “ICP32_Programmer.exe” is a software designed for megawin’s MLink . Users can update the application code under the software tool without removing the mounted MCU chip from the actual end product. In addition, because the programming data to be programmed to the target can be saved in the non-volatile storage of MLink, this stand-alone programmer is able to work without host(PC) intervention. This feature is especially useful in the field without a PC.

2. Update Programmer

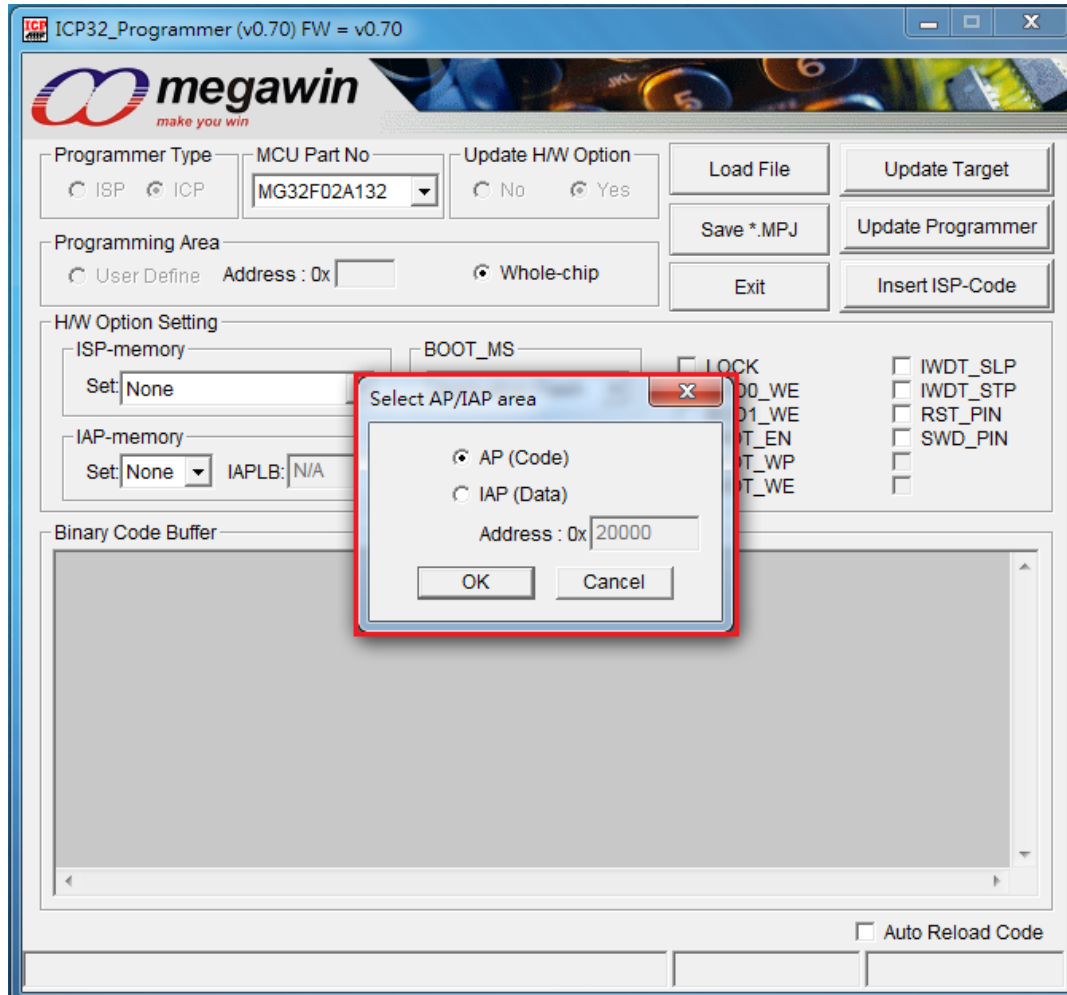
The following figure shows the GUI (Graphic User Interface) of the PC-site application program. The following sections will demonstrate how this tool can be used very easily.

Step 1: Choose a “MCU Part No”.



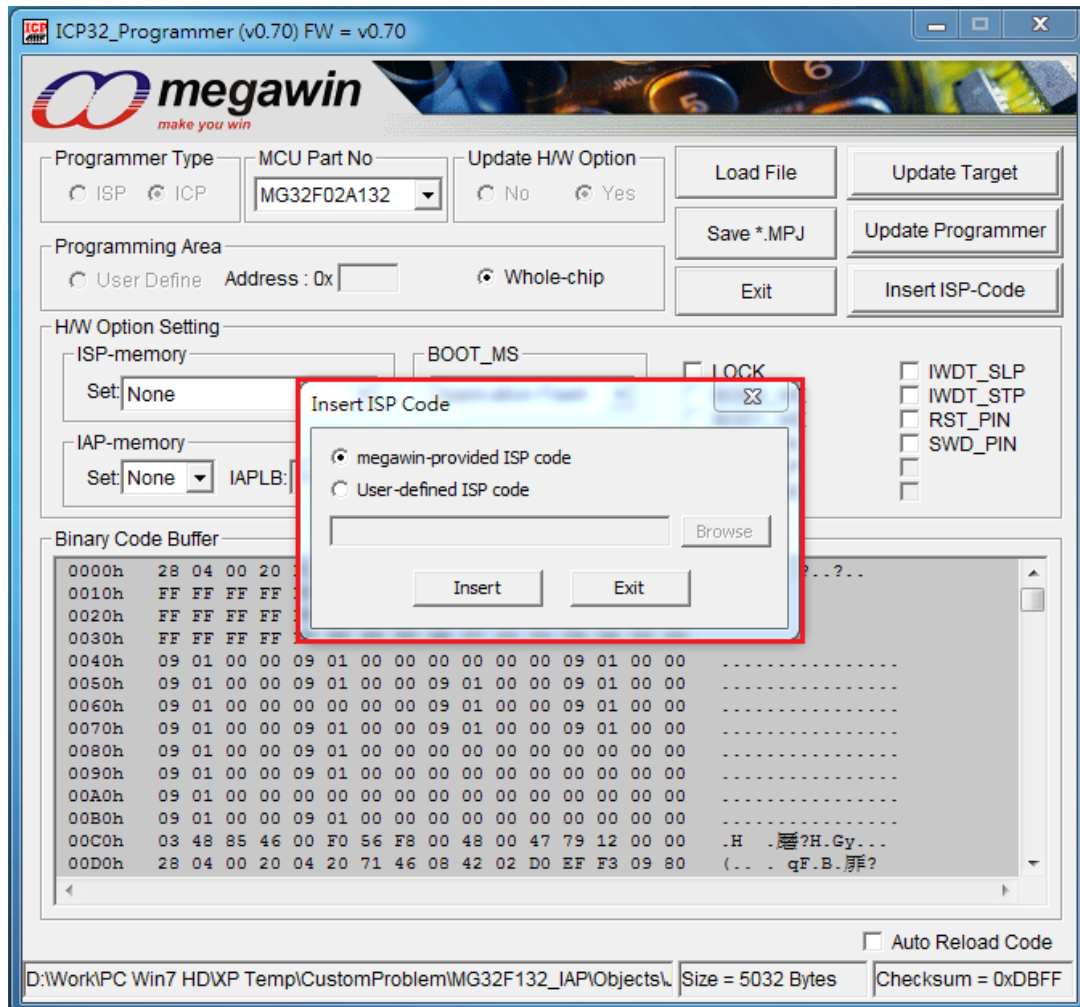
(Figure 1)

Step 2 : Click “Load File” and choose loading AP(Code) or IAP(Data). “Load File” can be clicked repeatedly to load different files. While loading IAP(Data), user have to key in Address. HEX and BIN data formats are supported for file loading.



(Figure 2)

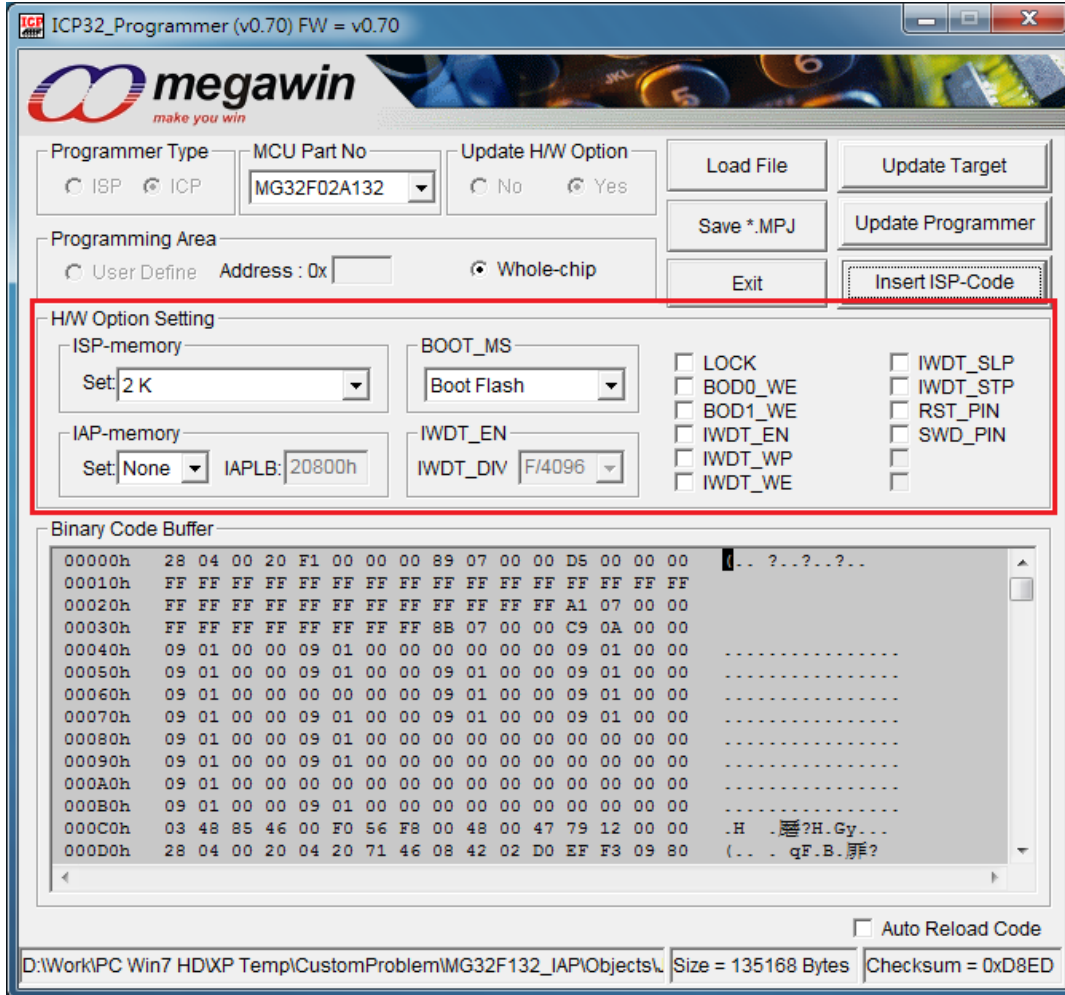
Step 3: Click "Insert ISP-Code" may choose to insert megawin-provided ISP code or User-defined ISP Code. If ISP function is not needed, Step 3 can be omitted.



(Figure 3)

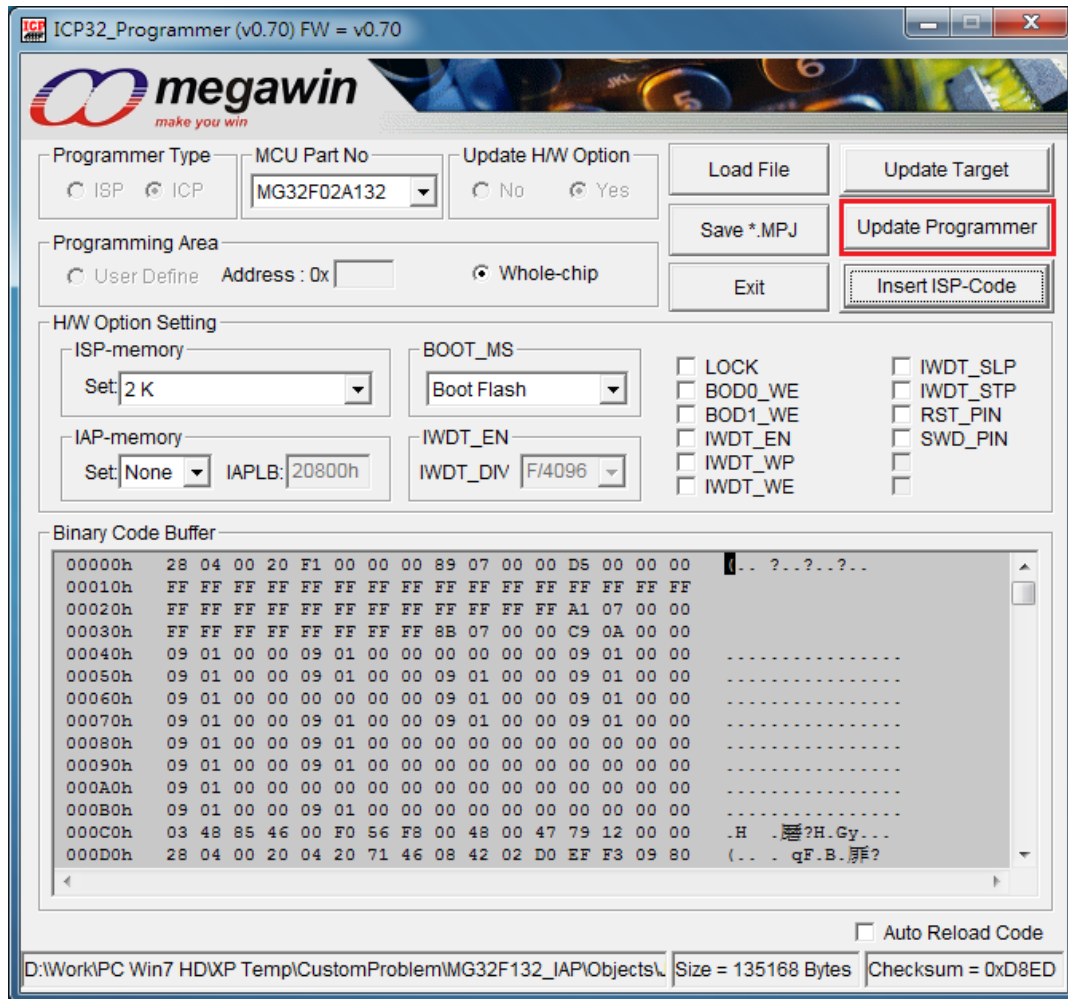
Step 4: H/W Option setting

The hardware option defines the chip default behavior those are not volatile after power off. For details of the hardware options, please refer to user guide.



(Figure 4)

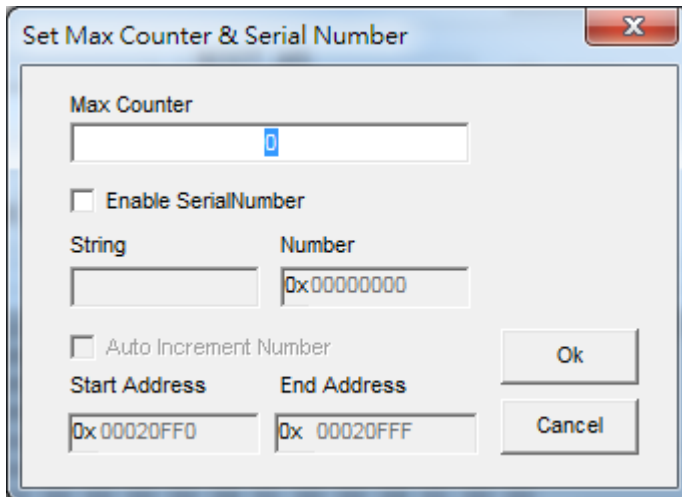
Step 5 : Click "Update Programmer" to download programming data to the MLink.



(Figure 5)

Step 6 : Setup “Max Counter” and “Serial Number”.

The “Max Counter” will be used to limit the number of off-line programming. The Serial Number will be programmed along with the code. If the function is not needed, just press “OK” to update the MLink.



(Figure 6)

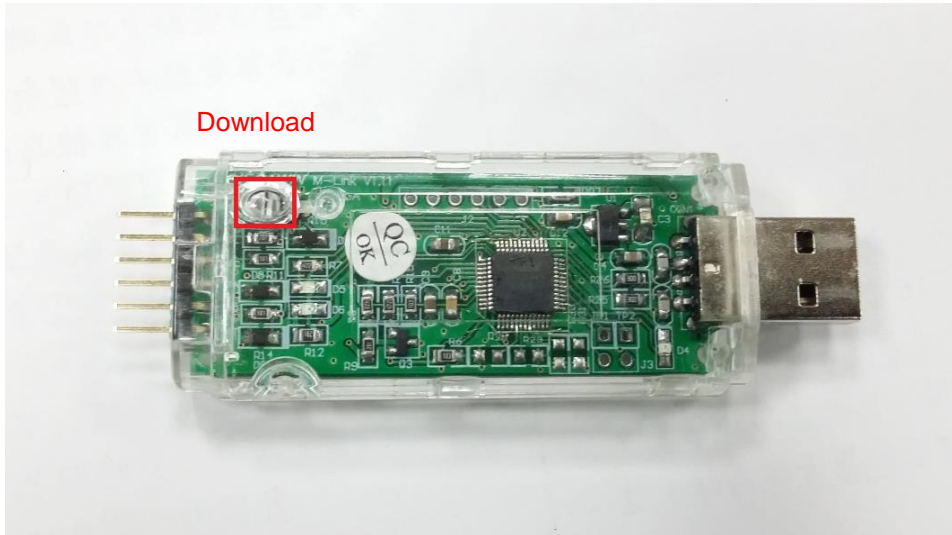
How to use the Serial Number :

- (1) Enable the Serial Number function and totally 16 bytes.(12 bytes for **String** and 4 bytes for **Number**) will be used.
- (2) Totally 12 bytes for the **String** and it could be used for manufactory or product string
- (3) Totally 4 bytes for the **Number** and the value could be from 0x00000000 to 0xFFFFFFFF.
- (4) The Number (as set in step 3) will be automatically added one when finish the “Download”.
- (5) **Start Address** for the Serial Number. It is limited from the chip size minus sixteen, please make sure this range from start to end is unused.

3. Update Target

How to update the target? User may:

- 3.1. Click "Update Target" to program on-line update, referring to steps 1 through 4 of 2. Update Programmer, or
- 3.2. Click "Download" of MLink to program off-line update, referring to 2. Update Programmer.



4. Note

- 4.1. After using ICP32_Programmer to update the target, the chip normally is unlock.
- 4.2. When the applications are using more I/O, it may configure the PC4, PC5 and PC6 as GPIO. But these 3 PINs are also using for the communication for MLink and target chip. After program PC4, PC5 and PC6 as GPIO, it will disable SWD interface, and it will disconnect the debug mode (ICE). And due to SWD interface is disabled, the ICP function will also be disabled too. In this case, we suggest to finish all other function debug in your project and then test PC4, PC5 and PC6 GPIO function without debug mode. When you want to reload the code after modify to do the retest, it should follow the steps show in following:
 - 4.2.1. Power off the target chip
 - 4.2.2. Press and hold the reset button (RSTN/PC6 Pin) on the target board
 - 4.2.3. Power on the target chip
 - 4.2.4. Click "Update Target" in ICP32 Programmer AP, and release the Reset button after two seconds.

5. Revision History

Revision	Description	Date
v1.00	Release version	2019/07/16
v1.10	1. Add MG32F02A128, MG32F02A064, MG32F02U128 and MG32F02U064 2. Add OR setting for MG32F02A032	2021/04/22
v1.20	Update ISP Code	2021/05/03
v1.30	Remove MG32F02A128 and MG32F02A064	2021/05/26
v1.40	Add MG32F02A128 and MG32F02A064	2021/07/21
v1.80	Update the ISP Code of MG32F02A128 and MG32F02A064	2023/02/15
v1.90	Add MG32F02V032	2023/03/28