

# OCD8\_MLink

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## User Manual

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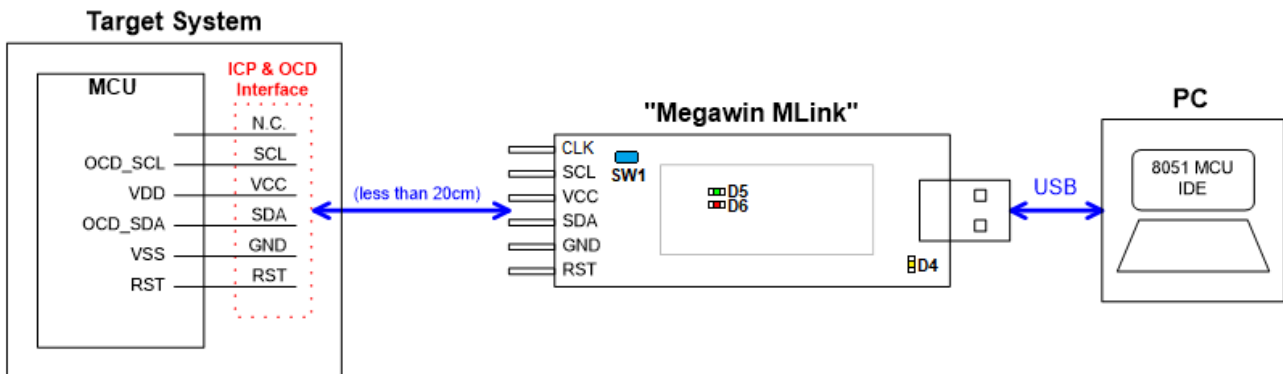
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## 1. Introduction

OCD8\_MLink is an ICE development kit used by megawin in Keil C IDE. It supports 8bit chips of the megawin 8051 series; this kit provides OCD (On-Chip-Debug) real-time debugging function. Users only need to reserve 5 pins for megawin. OCD-ICE development tool (MLink) is fine.

In addition, the megawin ICP8\_Programmer software is also provided in the package, which can perform program code, program hardware option and offline mode functions through MLink. Users only need to reserve 5 pins such as SCL/SWCLK, VCC, SDA/SWDIO, GND and RST to connect to MLink.

**PS. The VCC pin of MLink does not provide power to the user's system board, the user needs to provide the power by himself!**



Light display	Always on	Always off	Flashing
<b>D4</b>	USB connection is normal	USB connection is not normal <sup>*1</sup>	
<b>D5</b>	1. Device initialization is normal 2. Programming the result is Pass		Programming in offline mode
<b>D6</b>	1. Device initialization is not normal <sup>*2</sup> 2. Programming the result is Fail		Programming in offline mode

**PS1.** When the USB connection is not normal, please check whether the power supply is normal and whether the system recognizes the device.

**PS2.** The device initialization is abnormal, indicating that the offline mode content is incorrect. Please reset the offline mode.

## 2. Install and Uninstall

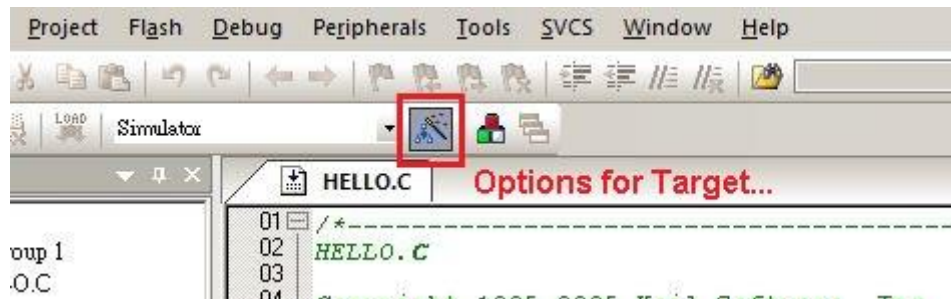
Execute "Setup.exe" in the package directory, and then press "Browse" to find the directory of Keil C IDE (c:\Keil\_v3 in the example in the figure, and then press "Install" to install.

If the Keil C IDE directory has a package installed, you can click "Uninstall" to uninstall it.



### 3. Setting

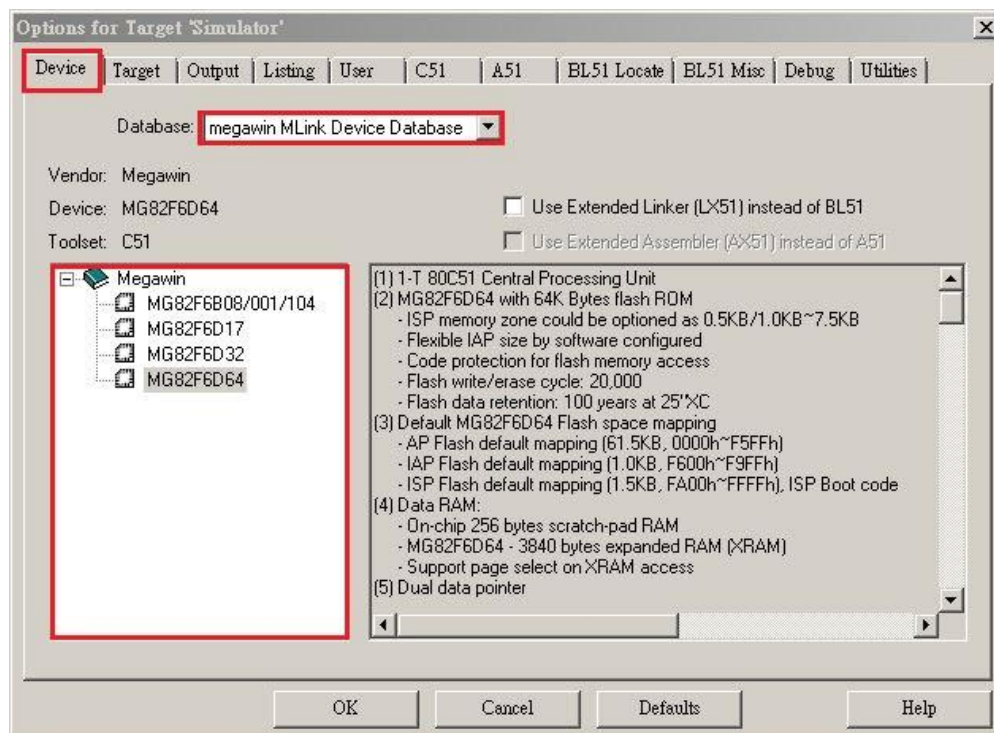
After the installation is complete, open the Keil C IDE project and enter the project options (Options for Target...)



#### Step 1. Set Device

On the Device page, select the Database as "megawin MLink Device Database", and then you can see the megawin chip part-no supported by OCD8 MLink below; select the part-no to be debugged.

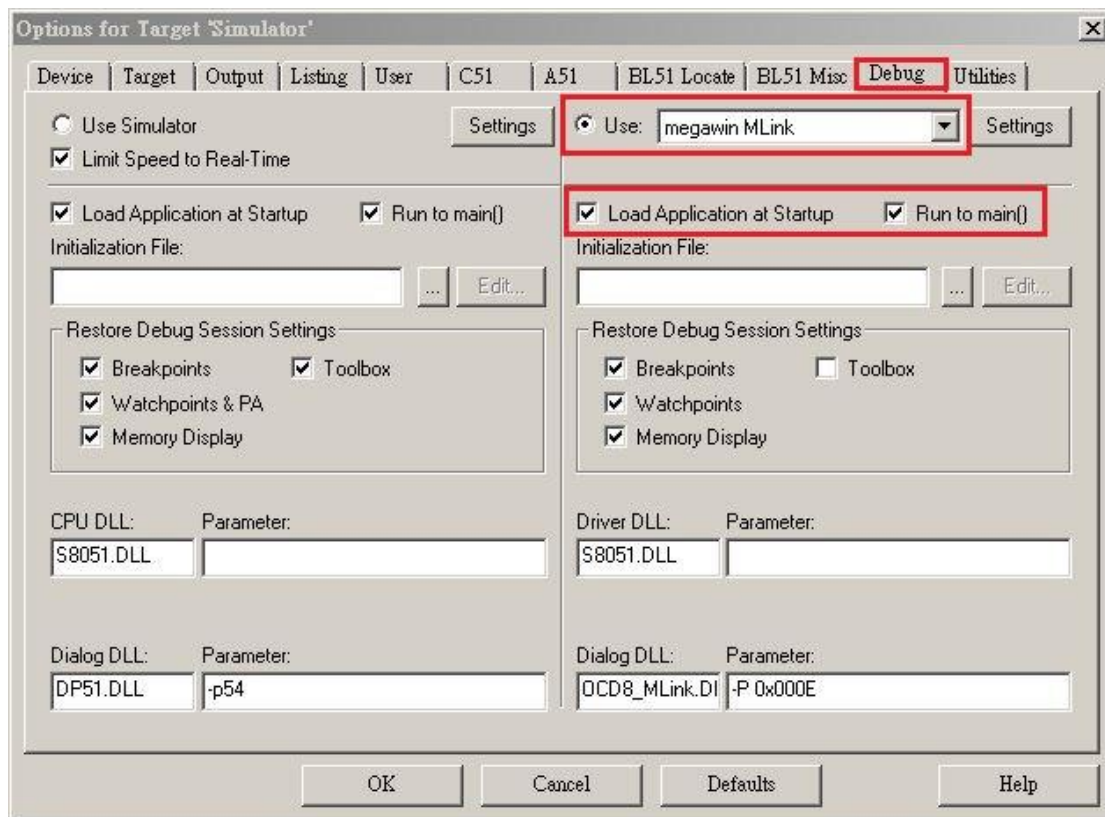
PS. Due to the Keil IDE problem, when selecting the chip model, the parameters may not be brought out; it is recommended to select another chip model when selecting the chip model, and then select the model to be debugged; and check the "Dialog DLL" below in the next Step 2. "Whether it is "OCD8\_MLink.DLL"!"



## Step 2. Set Debug

On the Debug page, select Use as "megawin MLink", and then tick the two options "Load Application at Startup" and "Run to main ()" below.

PS. Check if the "Dialog DLL" below is "OCD8\_MLink.DLL"!



## 4. Start Debug

Press "Start/Stop Debug Session" to enter the debugging screen.

Registers can see the register value of the current chip.

Memory displays data according to the address settings, as follows:

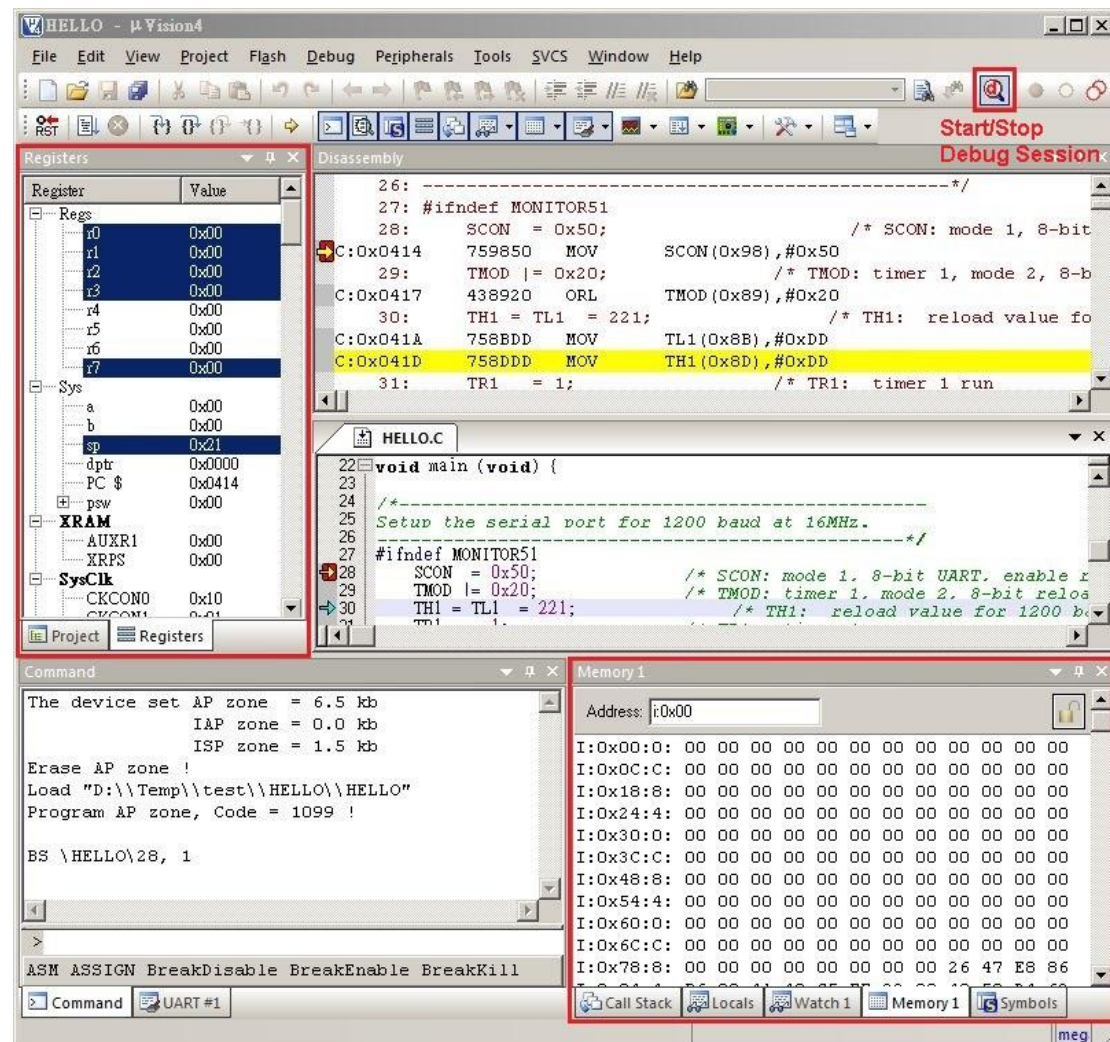
C: Flash Data

I: iData

X: xData

S: EEPROM (if supported by this part-no)

For other settings and operations, please refer to the instructions of Keil C IDE

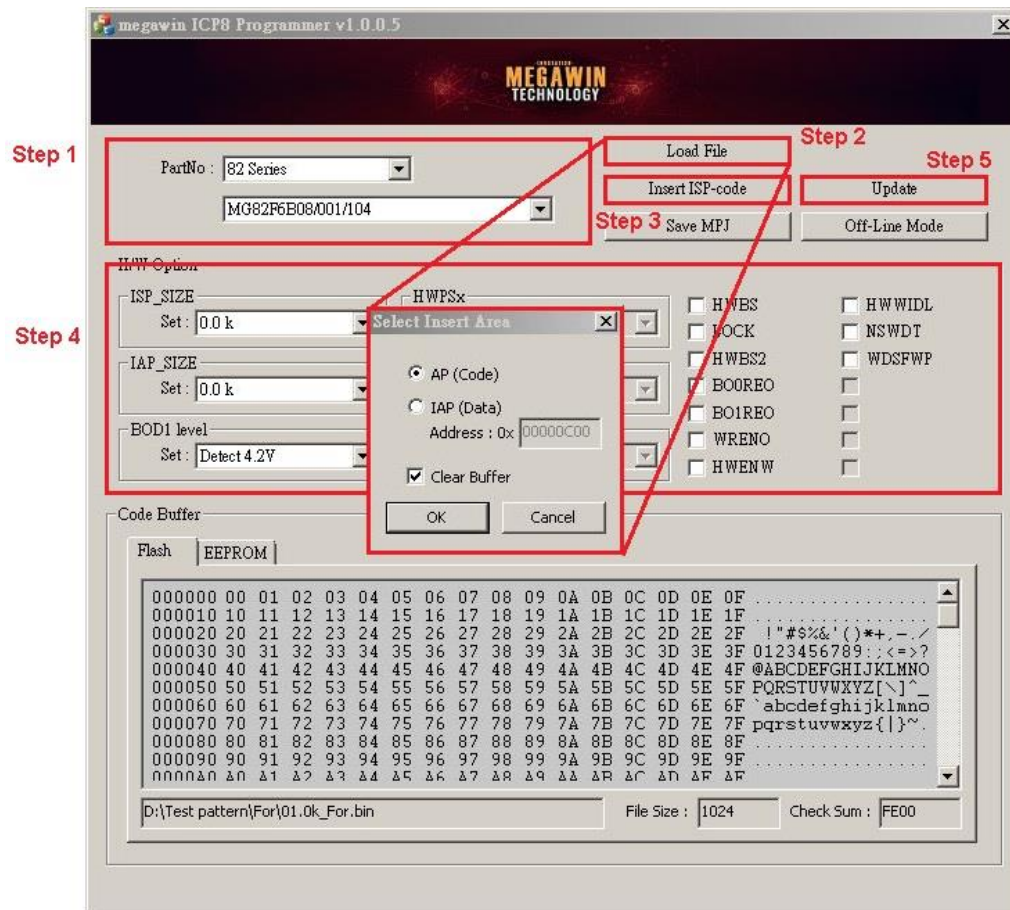




## 5. ICP8 Programmer

You can execute "ICP8\_Programmer.exe" directly from the package directory, or by Tools\megawin MLink ICP8 in Keil C IDE.

### 5.1. On-Line Mode Update



#### Step 1. Select Part No

Select a MCU Part No to be updated. If it is found to be incorrect, ID fail will be raised. After selecting a different Part No, the Code Buffer will be cleared automatically.



**Step 2. Load File**

Load Bin or Hex file to buffer, after clicking “OK”, users need to choose whether to place it in the AP area (read into the buffer at 0x00) or IAP (users can define any location to read into the buffer). Clicking “OK” to see update results in Code Buffer. Users can Load File repeatedly and overlay files on each other. If users execute Load File repeatedly, the overlapping file will be overwritten by the last file read. If there is a blank between the read position of the previous and last files, 0xFF will be filled in. Check “Clear Buffer” in the “Select Insert Area” dialog. After clicking “OK”, all the Code Buffer will be cleared and then read into the File.

**Step 3. Insert ISP-code**

If users need to use ISP function, please click “Insert ISP-code” to insert megawin's standard ISP code, or choose their own developed ISP code. After clicking “OK”, the AP will automatically place the ISP code in the address corresponding to the Code Buffer and set the necessary H/W Options setting concurrently.

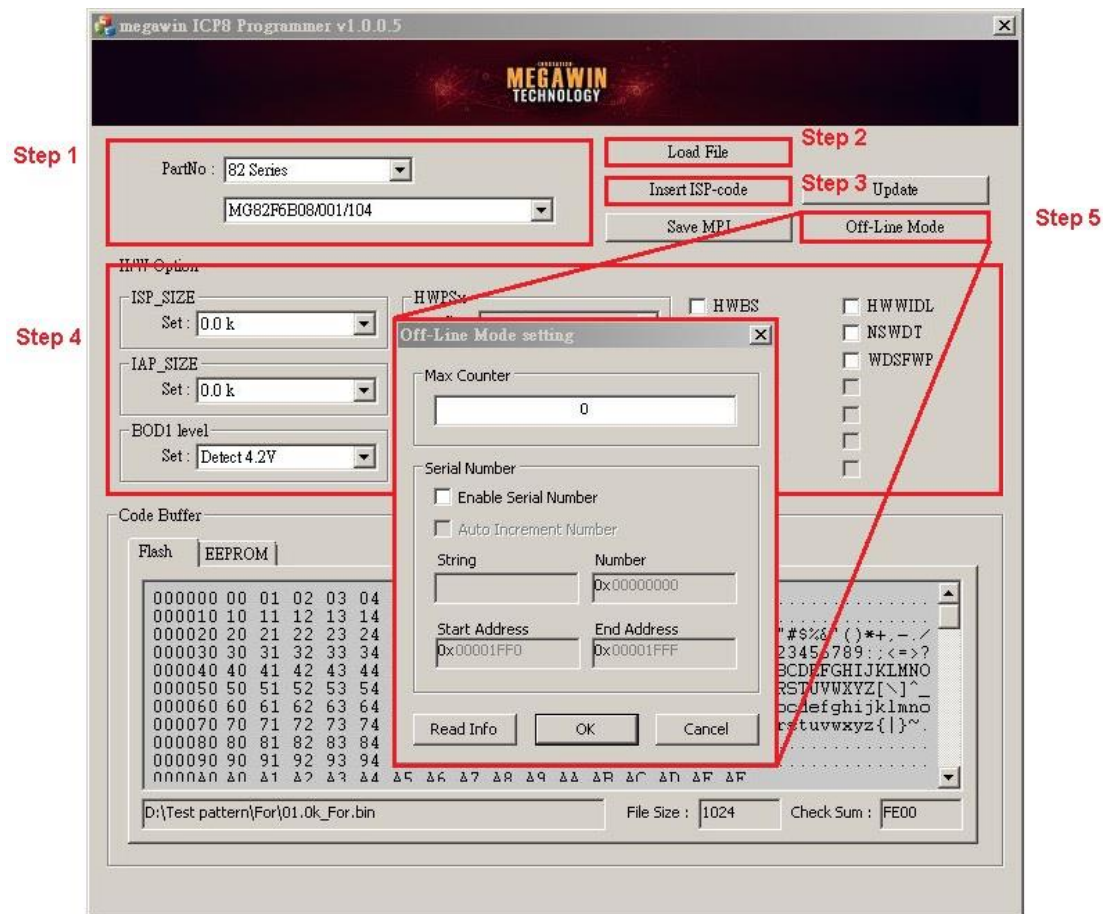
**Step 4. H/W Options**

Customers can set OR setting by themselves. For the description of the setting value, please refer to the “Datasheet”.

**Step 5. Update**

Click "Update" to execute programming. Before programming, "Whole Chip Erase" will be executed, including the hardware options before programming, and then the code and hardware options set this time will be program.

## 5.2. Off-Line Mode Update



Step 1. [Select Part No](#)

Step 2. [Load File](#)

Step 3. [Insert ISP-code](#)

Step 4. [H/W Options](#)

Step 5. **Off-Line Mode**

Click “Off-Line Mode” to download setting (flash & H/W options setting) to MLink. Furthermore, users can also set Max Counter and Serial Number. Max Counter can control the number of times that MLink can perform off-line programming. Its default value is 0 (meaning unlimited). After Serial Number Enable, 12 strings and 8 numbers can be set and be placed in any position of the Code Buffer. The Serial Number function can even be implemented by Auto Increment Number.

Click “Read Info” to read the current Off-Line setting in MLink. After the offline mode is successfully set, you can connect to the MCU (no need to connect to a PC) and press SW1 to start programming.

### **5.3. Other**

#### **Save MPJ**

Click “Save MPJ” can save MPJ file. The MPJ file records the contents of the Code Buffer and the current setting of the H/W Option. Users can read the MPJ file through “Load File” and read back all settings.

#### **Language**

Click Logo in the upper left corner of the UI to select the language from “Language.”

#### **Check new AP**

By clicking Logo in the upper left corner of the UI, users can open the interface from “Update ICP8 Programmer” Or they may click “Check” to check if there is a new version on the official website. If there is a new version, users can directly click “Download” to download.

Check “Show update message when start”, users can set to automatically detect if there is a new version when the AP start on.

## 6. Revision History

Revision	Description	Date
v1.0.0.7	Initial version	2021/04/16
v1.0.0.11	Support 5D16/5E32/6D16/6D17/6D32/6D64	2021/06/18
v1.1.0.0	Support 82G516/82FL(E)532/82FL(E)564/5A32/5A64/ 84FG516/5B08/5B16/5B24/5B32/5C32/5C64	2022/01/11
v1.1.0.1	Update 5Cxx/5Dxx/5Exx/6D16 Header Files	2022/04/06
v1.2.0.0	Support MG82F5Bxx Support MG82F6B08/001/104	2022/05/30
v1.2.0.1	Update MG82F6B08/001/104 ISP code Update MLink FW v0.19	2022/06/22
v1.2.0.2	Update MG82F5Bxx ISP code v1.01	2023/02/07
v1.2.0.3	Update MG82F6B08/001/104 ISP code	2023/02/23
v1.2.0.4	Update MLink FW v0.22	2023/05/02
v1.3.0.0	Debug : MG82FG5Bxx, MA82F5Bxx info	2023/06/19
v1.4.0.0	Add MGEQ1C064	2023/08/21
v1.4.0.1	Add MLink connection and light signal descriptions for DOC Update MLink FW v0.23 Update ICP8 show file path error when multi load	2023/09/26
v1.4.0.2	Update MLink FW v0.24	2023/12/04
v1.5.0.0	Add MG82F6P32 Update FW v0.25 off DPI aware set Tahoma(8) for all Dialog font modify banner for AP	2024/01/16
v1.5.0.4	Remove "Load last setting" Add "AutoReload" Add "Enable Modify Buffer" Add load "Last PartNo" Add load "Last Path" Add check have storage Add check oversize when insert ISP Modify "tools_version.ini" web addr and parameter Rename version name (China & Universal)	2024/07/29
v1.5.0.5	debug: Can't switch OR setting when Load Last PartNo	2024/08/21
v1.5.0.6	Debug: Can't switch OR setting when load MPJ	2024/08/23

v1.5.0.7	Typo fix (蕊->芯) debug: buffer is empty when load MPJ Off-line info init	2024/09/13
v1.5.0.8	Update FW v0.27	2025/01/08
v1.5.0.9	Modify MG82FG5Bxx OR	2025/02/18
v1.5.0.10	Add SAVE_CHK option & Read Checksum button for MG82F6D17/MG82F6P32	2025/06/23