

Guidelines for Using Commonly Used Tools

Standard Operating Procedures-JLink-(ESS)

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Technical Support Document



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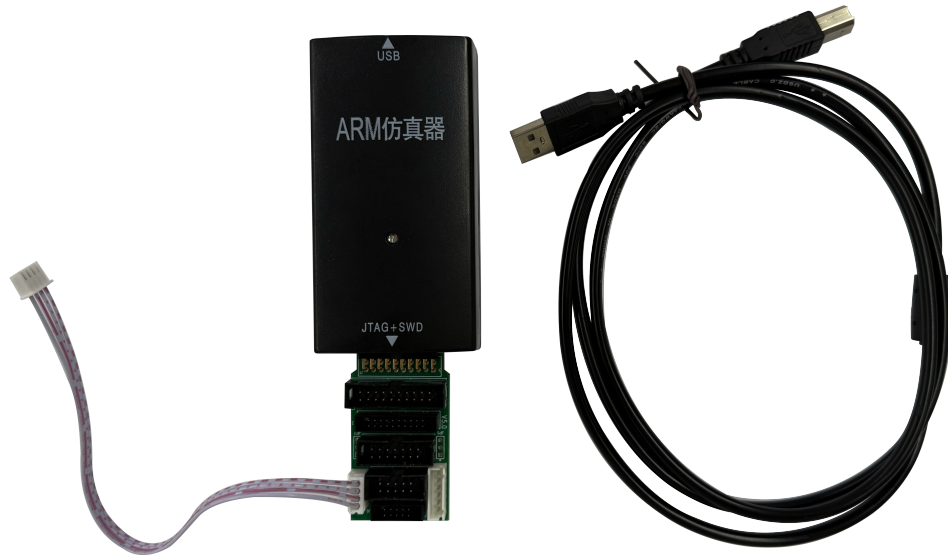


enercollege@atesspower.com

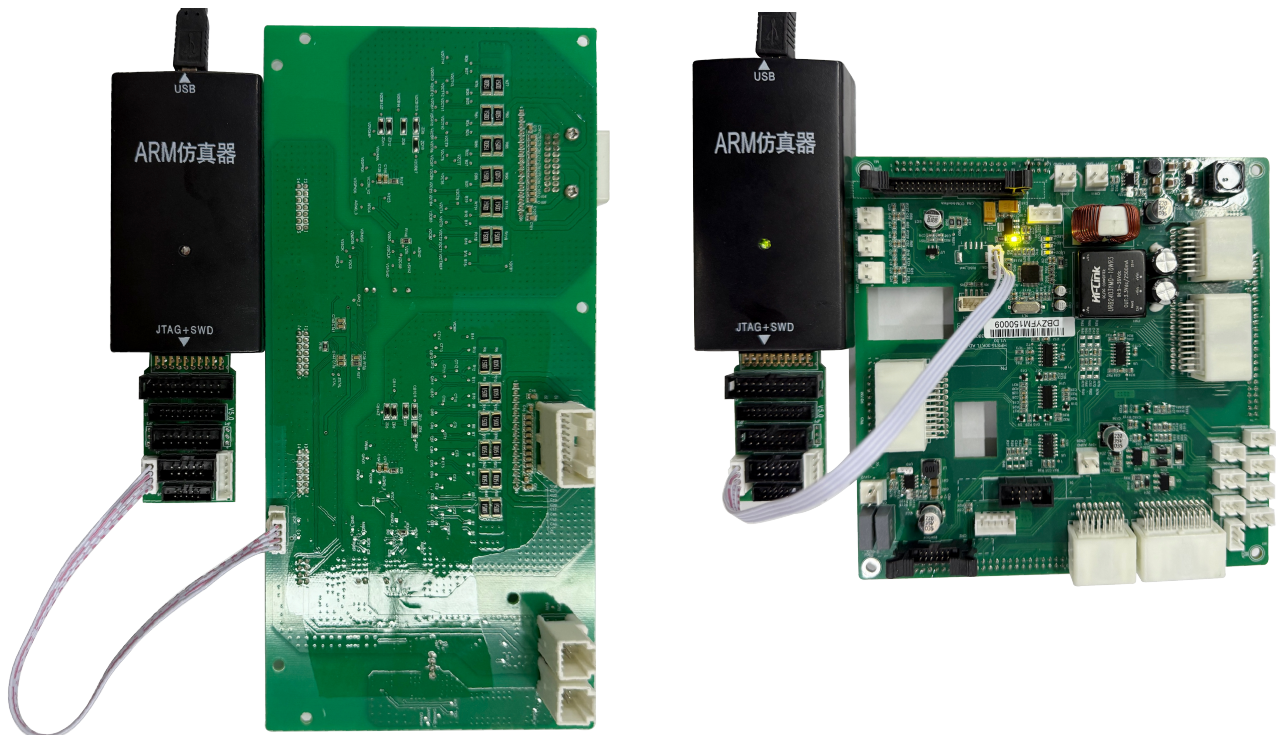


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JLink is a tool for updating chips, mainly used to update the BCU, BMU, and MBMS modules of batteries. The appearance of JLINK from different brands may be different, but under normal circumstances, it can be interchangeable.

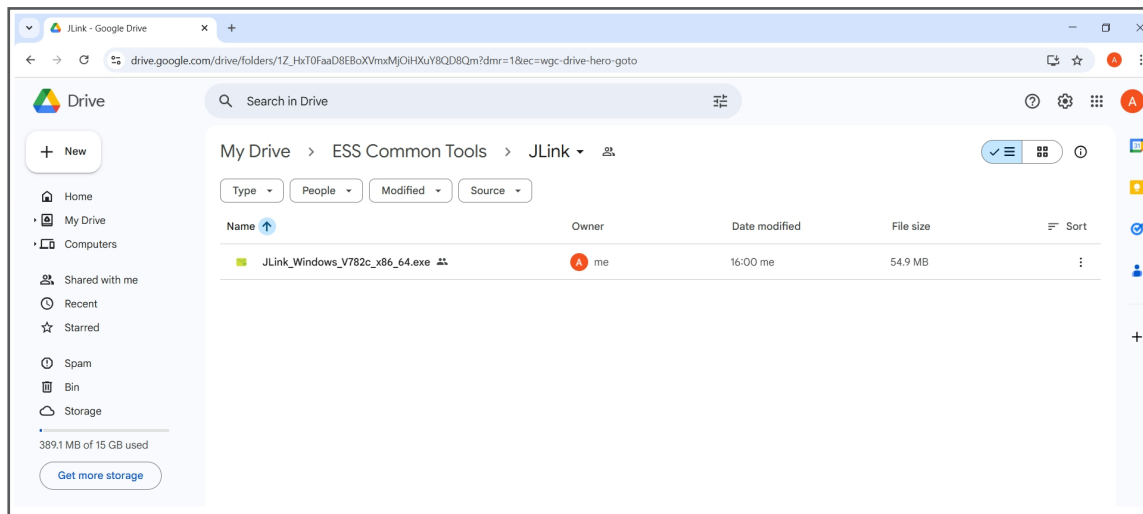


The following image shows examples of BMU update and ARM board update. The left image shows using JLink to connect BMU and computer; The image on the right shows using JLink to connect an ARM board to a computer.



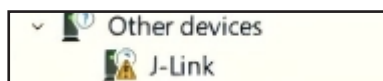
Download the latest version of JLink from Google Drive, then download and install on your computer
Download link:

https://drive.google.com/drive/folders/1Z_HxT0FaaD8EBoXVmxMjOiHXuY8QD8Qm?dmr=1&ec=wgcd-drive-hero-goto

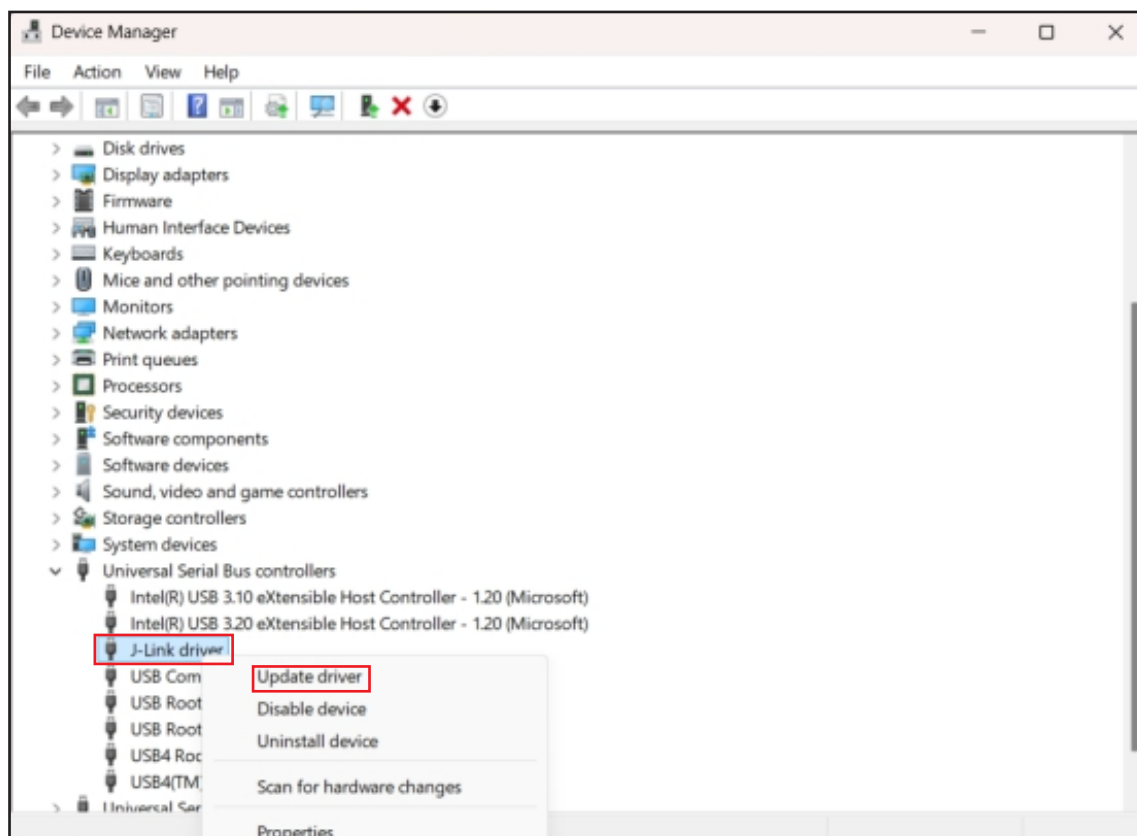


Taking the V7.82c program as an example, after installation is completed, run J flash, enter the homepage, click on file, and then click on new project. Enter the settings page. Select the current updated chip model, which can be viewed from the chip. For example, if we update BMU, which is an NXP chip, we can input the corresponding chip type and quickly find the corresponding chip model. Be careful not to change other settings, just select the chip model and click OK.

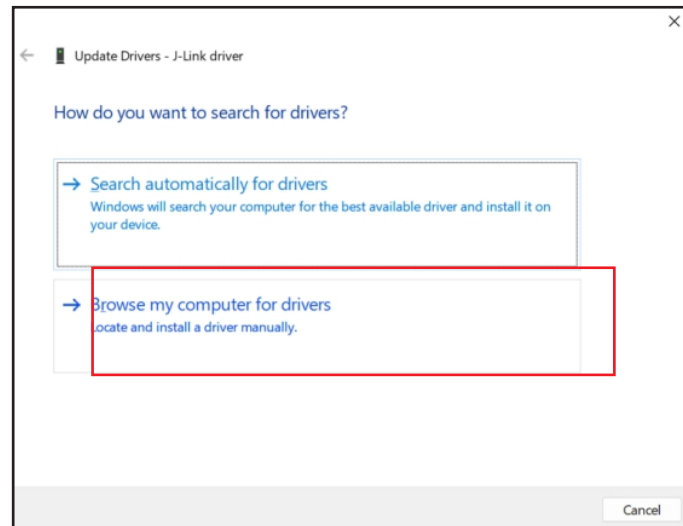
If the computer does not recognize the J-Link. Please follow steps below to solve this problem.



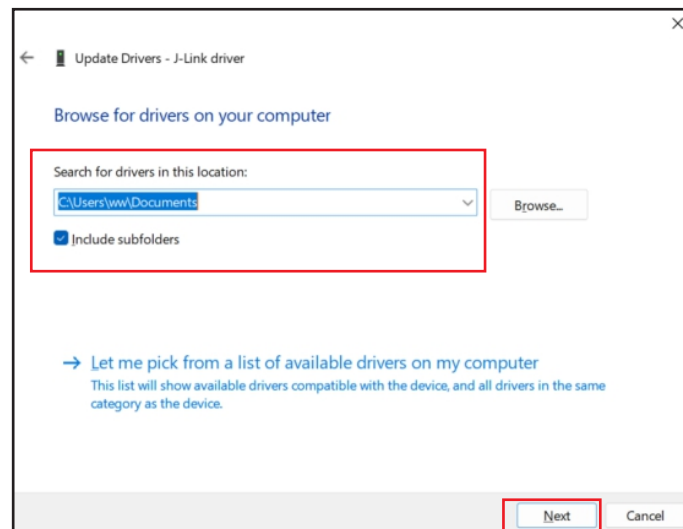
Select "J-Link Driver" and right-click. Then choose "Update Driver".



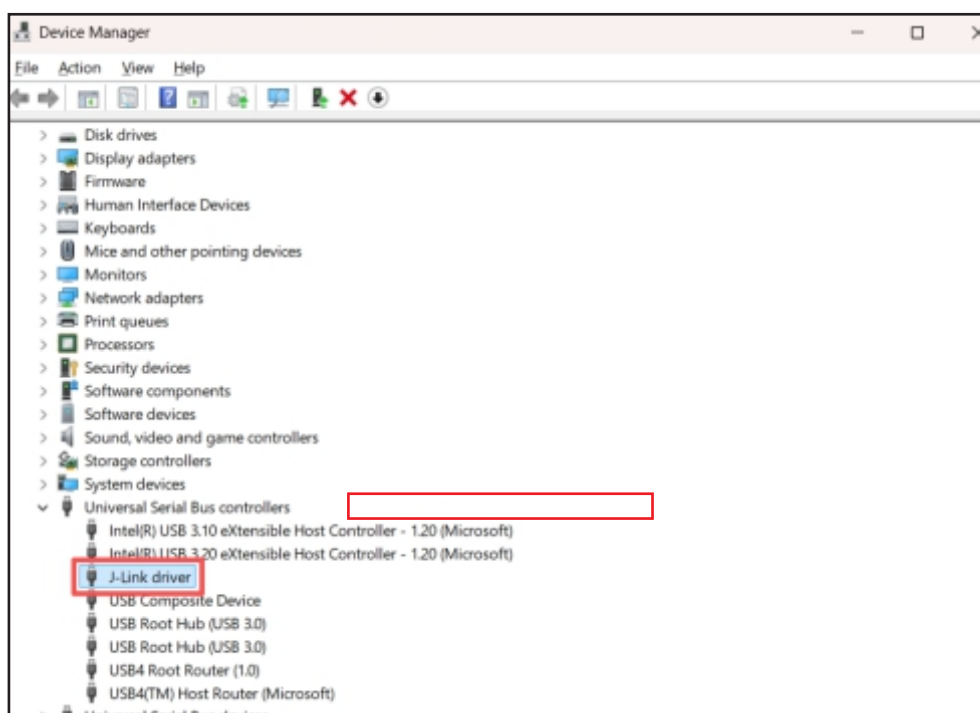
Choose "browse my computer for drivers".

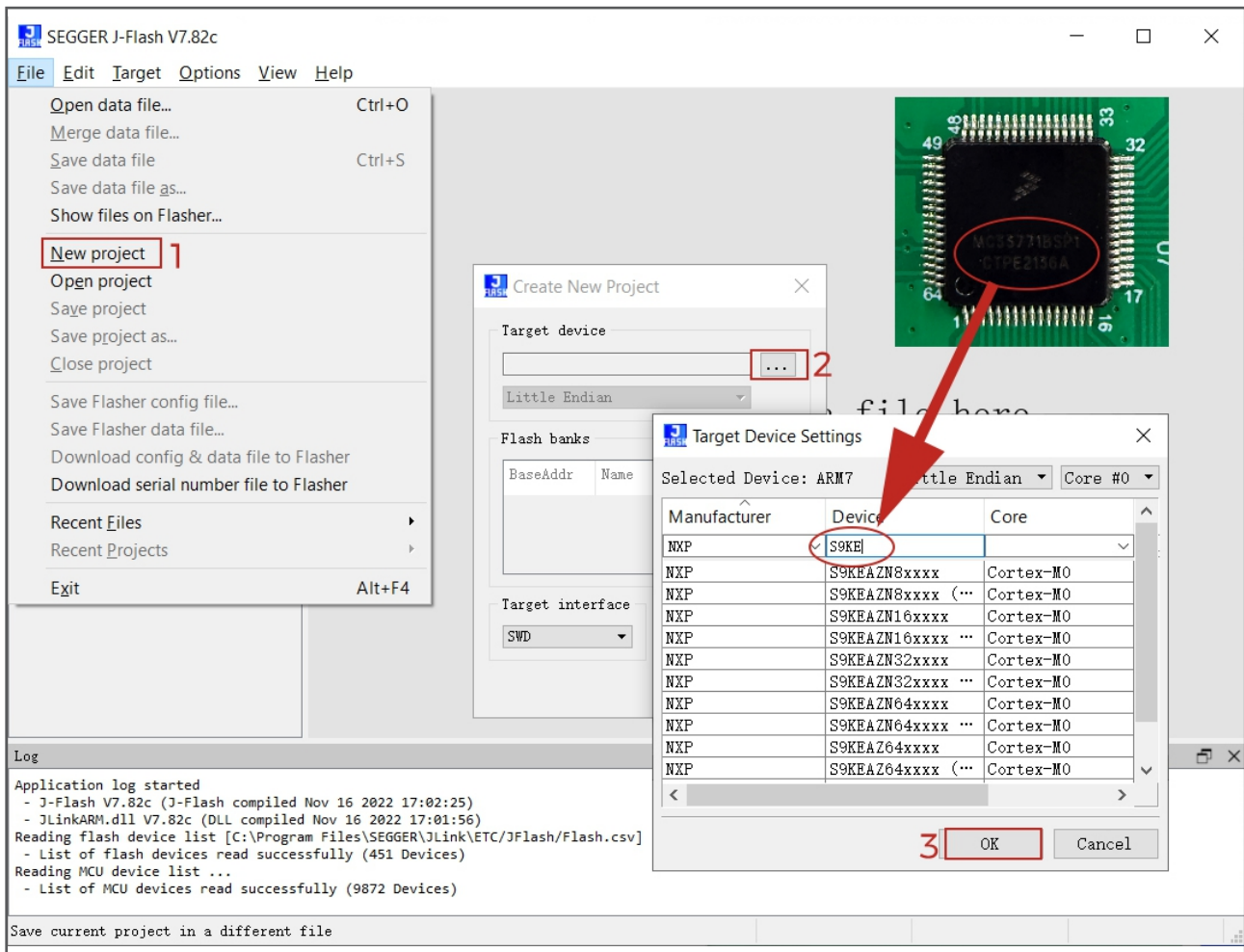


Select the unzipped JLink folder and click "next".



After the update is complete, it will be displayed in "universal serial bus controllers".



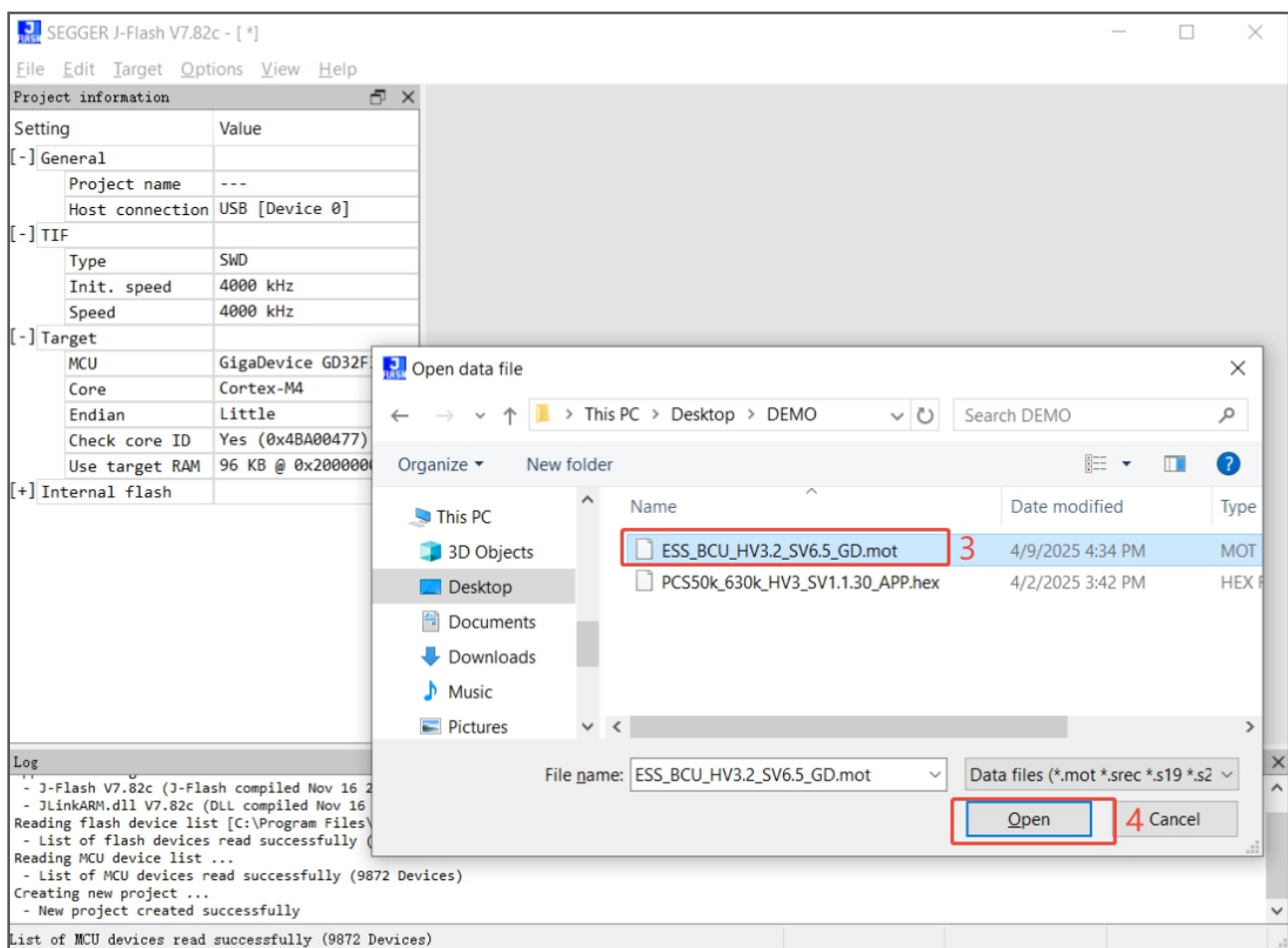
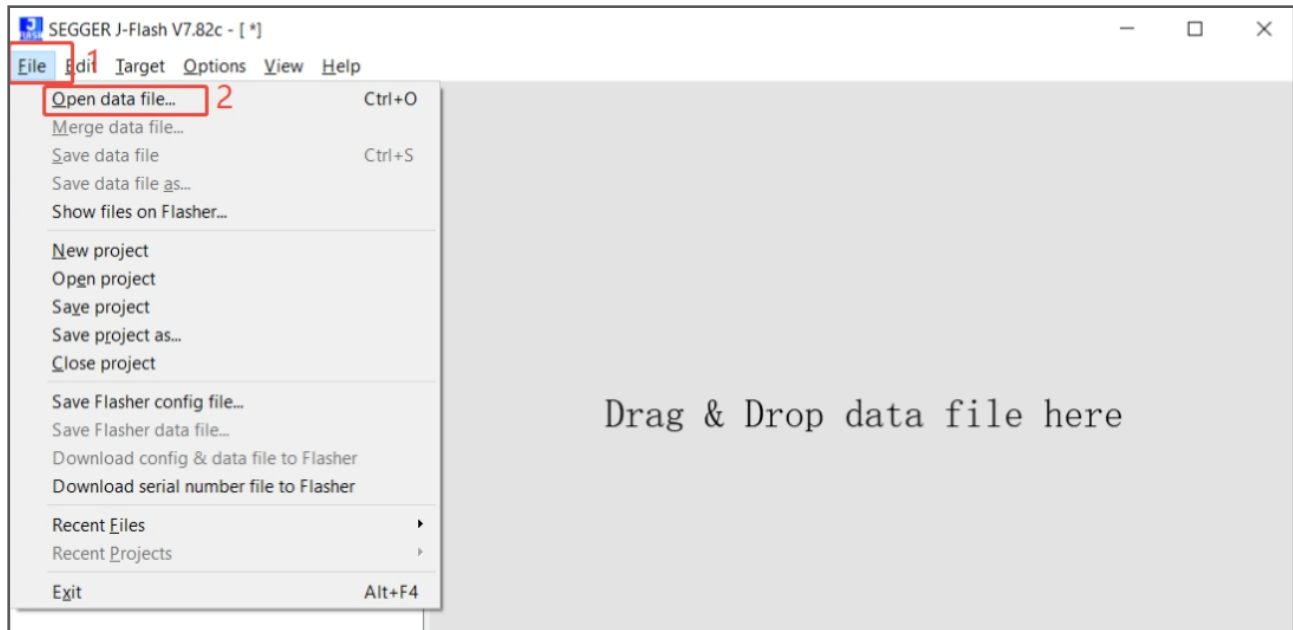


As shown in the figure below, other module updates also require selecting the corresponding chip model.

Chip Selection						
Module	BCU	BMU		MBMS	ARM board	MCU
Manufacturer	GigaDevice	GigaDevice	NXP	ST	ST	Renesas
Device	GD32F305VC	GD32F303RB	S9KEZ128xxxx	STM32F107VC	STM32F103C8	R7FA6M4AF

After completing the chip selection, click on 'file' again to add the files that need to be updated, then click on 'target' and select 'production programming' to update.

Generally, the JLink update file is relatively small, so the update can be completed in a few seconds.



SEGGER J-Flash V7.82c - [*]

File Edit **Target** Options View Help

Project info: **Connect** 6

Setting: **Disconnect**

[-] General: Test

[-] TIF: Production Programming F7

[-] TIF: Manual Programming

Type: SWD

Init. speed: 4000 kHz

Speed: 4000 kHz

[-] Target:

MCU: GigaDevice GD32F305VC

Core: Cortex-M4

Endian: Little

Check core ID: Yes (0x4BA00477)

Use target RAM: 96 KB @ 0x20000000

[+] Internal flash

Log

Reading flash device list [C:\Program Files\SEGGER\JLink\ETC\JFlash\Flash.csv] ...

- List of flash devices read successfully (451 Devices)

Reading MCU device list ...

- List of MCU devices read successfully (9872 Devices)

Creating new project ...

- New project created successfully

Opening data file [C:\Users\admin\Desktop\DEMO\ESS_BCU_HV3.2_SV6.5_GD.mot] ...

- Data file opened successfully (137356 bytes, 3 ranges, CRC of data = 0x0B8AF925, CRC of file = 0x45AB9493)

Manual Programming

C:\Users\admin\Desktop\DEMO\ESS_BCU_HV3.2_SV6.5_GD.mot @ 08000000

Go To: 1 2 4

```

0800_0000 E0 9D 00 20 65 01 00 08 F1 05 00 08 E9 05 00 08 à...e...ñ...é...
0800_0010 ED 05 00 08 4F 02 00 08 D5 07 00 08 00 00 00 00 i...O...ö...
0800_0020 00 00 00 00 00 00 00 00 00 00 00 00 F5 05 00 08 .....ö...
0800_0030 95 05 00 08 00 00 00 00 F3 05 00 08 F7 05 00 08 .....ö...
0800_0040 7F 01 00 08 7F 01 00 08 7F 01 00 08 7F 01 00 08 .....
0800_0050 7F 01 00 08 7F 01 00 08 97 05 00 08 7F 01 00 08 .....
0800_0060 7F 01 00 08 7F 01 00 08 7F 01 00 08 7F 01 00 08 .....
0800_0070 7F 01 00 08 7F 01 00 08 7F 01 00 08 7F 01 00 08 .....
0800_0080 7F 01 00 08 7F 01 00 08 7F 01 00 08 7F 01 00 08 .....
0800_0090 7F 01 00 08 7F 01 00 08 7F 01 00 08 7F 01 00 08 .....
0800_00A0 7F 01 00 08 49 06 00 08 7F 01 00 08 7F 01 00 08 .....I...
0800_00B0 7F 01 00 08 7F 01 00 08 7F 01 00 08 7F 01 00 08 .....
0800_00C0 7F 01 00 08 7F 01 00 08 7F 01 00 08 7F 01 00 08 .....
0800_00D0 7F 01 00 08 7F 01 00 08 7F 01 00 08 7F 01 00 08 .....
0800_00E0 99 05 00 08 7F 01 00 08 7F 01 00 08 7F 01 00 08 .....
0800_00F0 7F 01 00 08 7F 01 00 08 7F 01 00 08 00 00 00 00 .....
0800_0100 7F 01 00 08 00 00 00 00 7F 01 00 08 7F 01 00 08 .....
0800_0110 7F 01 00 08 7F 01 00 08 7F 01 00 08 7F 01 00 08 .....
0800_0120 7F 01 00 08 7F 01 00 08 7F 01 00 08 7F 01 00 08 .....
0800_0130 7F 01 00 08 7F 01 00 08 7F 01 00 08 7F 01 00 08 .....
0800_0140 7F 01 00 08 7F 01 00 08 7F 01 00 08 51 06 00 08 .....Q...
0800_0150 DF F8 0C D0 00 F0 3E F8 00 48 00 47 39 30 00 08 Bø.Ð.ð>ø.H.G90..
0800_0160 E0 9D 00 20 06 48 80 47 06 48 00 47 FE E7 FE E7 à...H.G.H.Gpçpç
0800_0170 FE E7 FE E7 FE E7 FE E7 FE E7 FE E7 FE E7 FE E7 bçpçpçpçpçpçpçpç
0800_0180 F9 05 00 08 51 01 00 08 30 B5 05 46 2A 46 0B 46 ù...Q...0µ.F*F.F
0800_0190 12 F8 01 0B 13 F8 01 4B 08 B1 A0 42 F8 D0 1C B1 .ø...ø.K.±.BøD.±
0800_01A0 00 28 02 D0 6D 1C F1 E7 28 46 30 BD 10 B5 04 46 (.Ðm.ñç(F0µ.µ.F
0800_01B0 04 E0 0B 78 00 F8 01 3B 03 B1 49 1C 52 1E F8 D2 .à.x.ø.;.±I.R.øð
0800_01C0 20 46 10 BD 42 1C 10 F8 01 1B 00 29 FB D1 80 1A .F.*B..ø...)ûÑ..
0800_01D0 70 47 00 00 06 4C 07 4D 06 E0 E0 68 40 F0 01 03 pG...L.M.ååhøð..

```

SEGGER J-Flash V7.82c - [*]

File Edit **Target** Options View Help

Project info: **Connect**

Setting: **Disconnect**

[-] General: Test

[-] TIF: **Production Programming F7**

[-] TIF: Manual Programming

Type: SWD

Init. speed: 4000 kHz

Speed: 4000 kHz

[-] Target:

MCU: GigaDevice GD32F305VC

Core: Cortex-M4

Endian: Little

Check core ID: Yes (0x4BA00477)

Use target RAM: 96 KB @ 0x20000000

[+] Internal flash

Log

- [0][3]: E0000000 CID B105E000 PID 003B8001 ITM

- [0][4]: E0040000 CID B1059000 PID 000B9A1 TPIU

- [0][5]: E0041000 CID 00000000 PID 00000000 ???

- Executing init sequence ...

- Initialized successfully

- Target interface speed: 4000 kHz (Fixed)

- Found 1 JTAG device. Core ID: 0x2BA01477 (None)

- Connected successfully

Manual Programming

C:\Users\admin\Desktop\DEMO\ESS_BCU_HV3.2_SV6.5_GD.mot @ 08000000

Go To: 1 2 4

```

0800_0000 E0 9D 00 20 65 01 00 08 F1 05 00 08 E9 05 00 08 à...e...ñ...é...
0800_0010 ED 05 00 08 4F 02 00 08 D5 07 00 08 00 00 00 00 i...O...ö...
0800_0020 00 00 00 00 00 00 00 00 00 00 00 00 F5 05 00 08 .....ö...
0800_0030 95 05 00 08 00 00 00 00 F3 05 00 08 F7 05 00 08 .....ö...
0800_0040 7F 01 00 08 7F 01 00 08 7F 01 00 08 7F 01 00 08 .....
0800_0050 7F 01 00 08 7F 01 00 08 97 05 00 08 7F 01 00 08 .....
0800_0060 7F 01 00 08 7F 01 00 08 7F 01 00 08 7F 01 00 08 .....
0800_0070 7F 01 00 08 7F 01 00 08 7F 01 00 08 7F 01 00 08 .....
0800_0080 7F 01 00 08 7F 01 00 08 7F 01 00 08 7F 01 00 08 .....
0800_0090 7F 01 00 08 7F 01 00 08 7F 01 00 08 7F 01 00 08 .....
0800_00A0 7F 01 00 08 49 06 00 08 7F 01 00 08 7F 01 00 08 .....I...
0800_00B0 7F 01 00 08 7F 01 00 08 7F 01 00 08 7F 01 00 08 .....
0800_00C0 7F 01 00 08 7F 01 00 08 7F 01 00 08 7F 01 00 08 .....
0800_00D0 7F 01 00 08 7F 01 00 08 7F 01 00 08 7F 01 00 08 .....
0800_00E0 99 05 00 08 7F 01 00 08 7F 01 00 08 7F 01 00 08 .....
0800_00F0 7F 01 00 08 7F 01 00 08 7F 01 00 08 00 00 00 00 .....
0800_0100 7F 01 00 08 00 00 00 00 7F 01 00 08 7F 01 00 08 .....
0800_0110 7F 01 00 08 7F 01 00 08 7F 01 00 08 7F 01 00 08 .....
0800_0120 7F 01 00 08 7F 01 00 08 7F 01 00 08 7F 01 00 08 .....
0800_0130 7F 01 00 08 7F 01 00 08 7F 01 00 08 7F 01 00 08 .....
0800_0140 7F 01 00 08 7F 01 00 08 7F 01 00 08 51 06 00 08 .....Q...
0800_0150 DF F8 0C D0 00 F0 3E F8 00 48 00 47 39 30 00 08 Bø.Ð.ð>ø.H.G90..
0800_0160 E0 9D 00 20 06 48 80 47 06 48 00 47 FE E7 FE E7 à...H.G.H.Gpçpç
0800_0170 FE E7 FE E7 FE E7 FE E7 FE E7 FE E7 FE E7 FE E7 bçpçpçpçpçpçpçpç
0800_0180 F9 05 00 08 51 01 00 08 30 B5 05 46 2A 46 0B 46 ù...Q...0µ.F*F.F
0800_0190 12 F8 01 0B 13 F8 01 4B 08 B1 A0 42 F8 D0 1C B1 .ø...ø.K.±.BøD.±
0800_01A0 00 28 02 D0 6D 1C F1 E7 28 46 30 BD 10 B5 04 46 (.Ðm.ñç(F0µ.µ.F
0800_01B0 04 E0 0B 78 00 F8 01 3B 03 B1 49 1C 52 1E F8 D2 .à.x.ø.;.±I.R.øð
0800_01C0 20 46 10 BD 42 1C 10 F8 01 1B 00 29 FB D1 80 1A .F.*B..ø...)ûÑ..
0800_01D0 70 47 00 00 06 4C 07 4D 06 E0 E0 68 40 F0 01 03 pG...L.M.ååhøð..

```

Connected Core Id: 0x2BA01477 Speed: 4000 kHz

When the screen displays Target erased, programmed and verified successfully-Completed after, it indicates a successful update.

