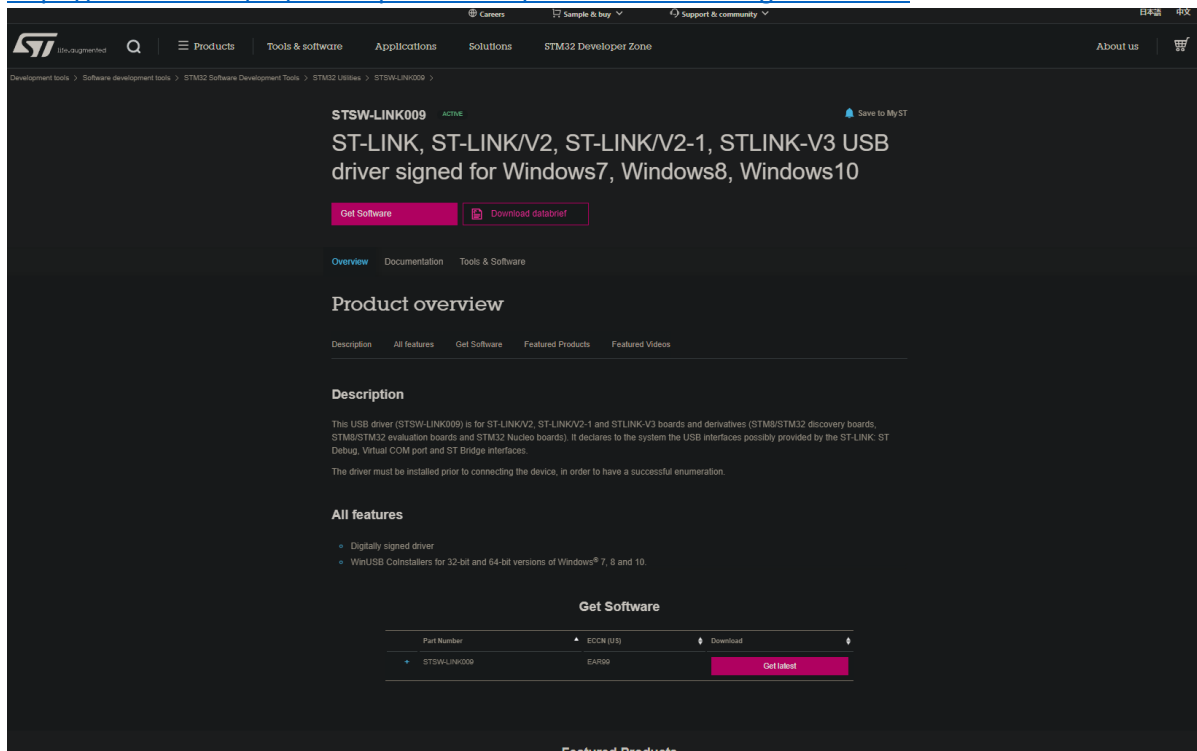


'Guide' to flashing Blue-scsi 1.1 using ST-Link V2 and STM32 ST-LINK utility

This is how I flashed BluePills for use on Bluescsi 1.1 using a clone ST-LINK V2.

Download USB drivers

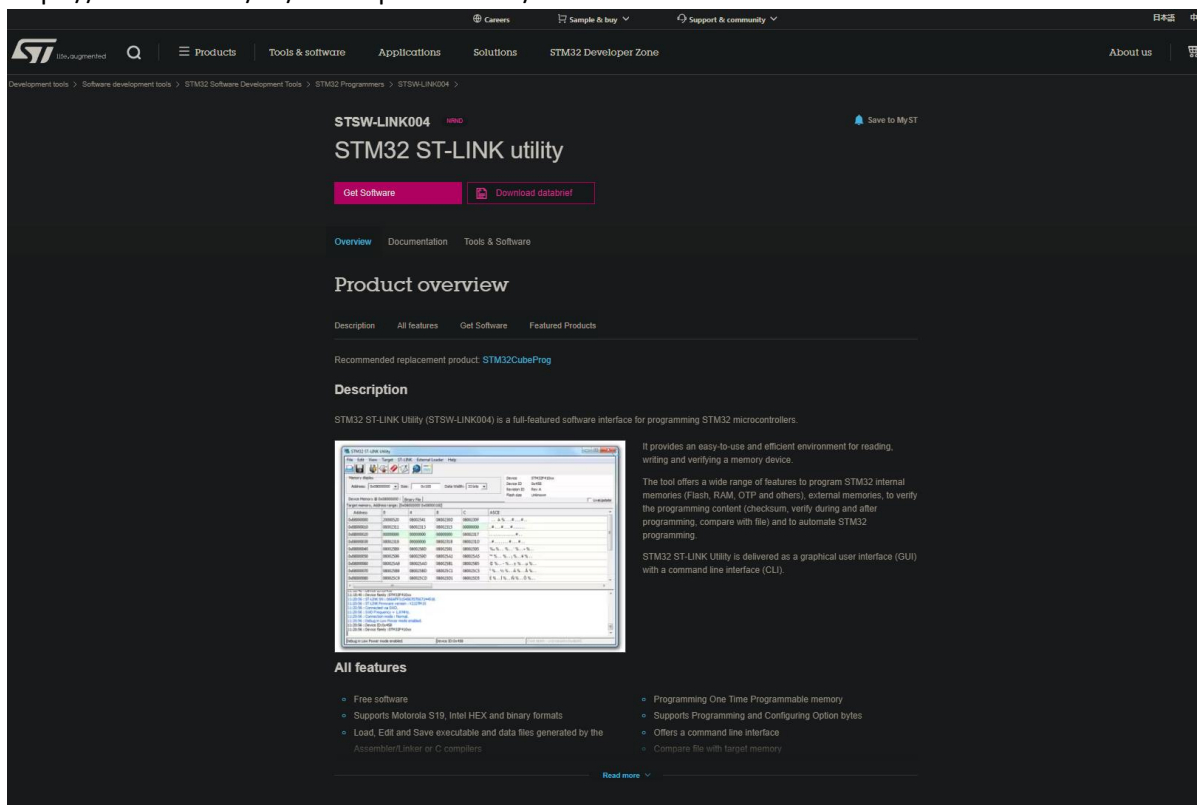
<https://www.st.com/en/development-tools/stsw-link009.html#get-software>



The screenshot shows the product page for STSW-LINK009. The page title is "ST-LINK, ST-LINK/V2, ST-LINK/V2-1, ST-LINK-V3 USB driver signed for Windows7, Windows8, Windows10". There are buttons for "Get Software" and "Download datasheet". The page includes a "Product overview" section with tabs for "Description", "All features", "Get Software", "Featured Products", and "Featured Videos". The "Description" section states that the driver is for ST-LINKV2, ST-LINKV2-1, and ST-LINK-V3 boards and derivatives. The "All features" section lists: "Digitally signed driver" and "WinUSB Installers for 32-bit and 64-bit versions of Windows® 7, 8 and 10." At the bottom, there is a "Get Software" table with columns for Part Number, ECCN (E1), and Download. The table shows STSW-LINK009 with ECCN (E1) EAR99 and a "Get latest" button.

Download the STM32 ST-Link software

<https://www.st.com/en/development-tools/stsw-link004.html>



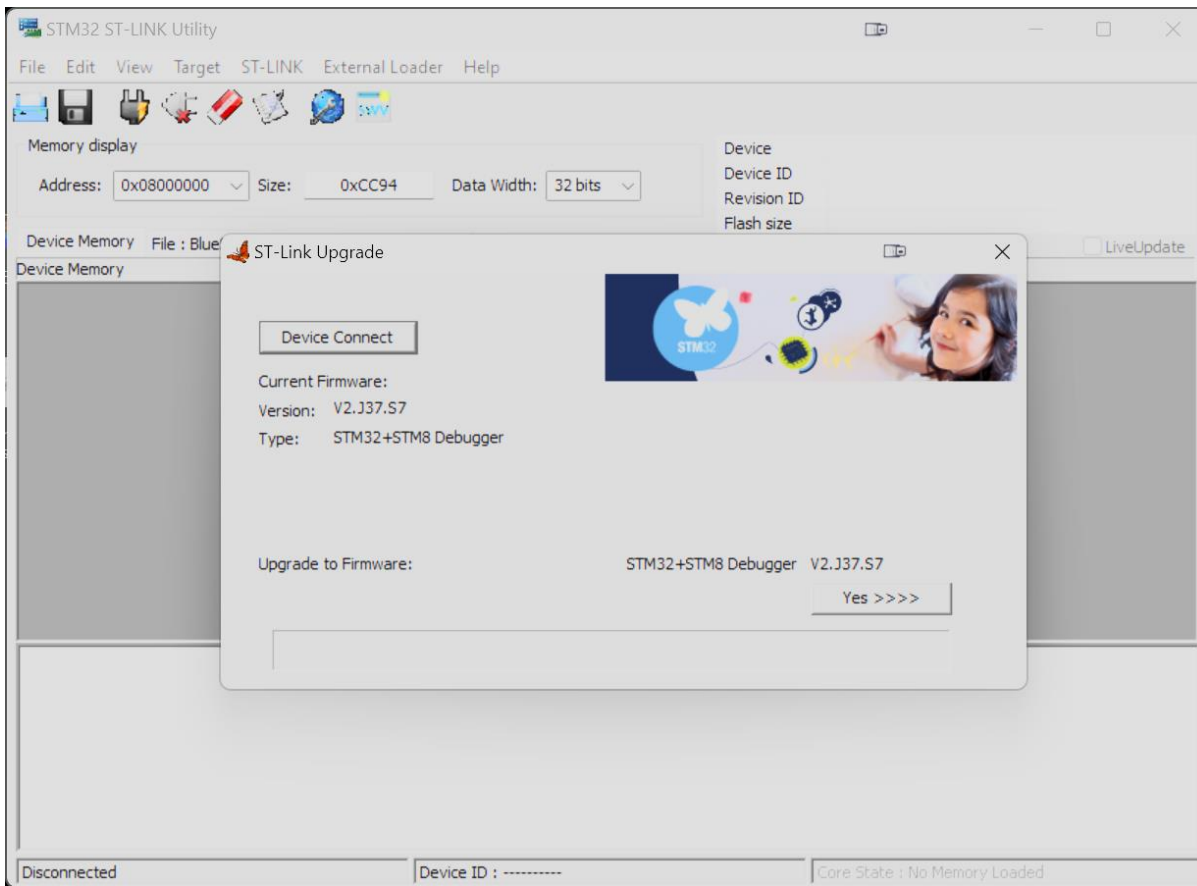
The screenshot shows the product page for STSW-LINK004. The page title is "STM32 ST-LINK utility". There are buttons for "Get Software" and "Download datasheet". The page includes a "Product overview" section with tabs for "Description", "All features", "Get Software", and "Featured Products". The "Description" section states that STM32 ST-LINK Utility (STSW-LINK004) is a full-featured software interface for programming STM32 microcontrollers. It includes a screenshot of the software interface showing a memory map and programming options. The "All features" section lists: "Free software", "Supports Motorola S19, Intel HEX and binary formats", "Load, Edit and Save executable and data files generated by the Assembler/Linker or C compilers", "Programming One Time Programmable memory", "Supports Programming and Configuring Option bytes", "Offers a command line interface", and "Compare file with target memory".

Open STM32 ST-LINK Utility

This step is to update the firmware on the ST-LINK V2 (not a requirement)

ST-LINK from the top bar > Firmware update > Device Connect

Yes – to update firmware if update available (note it gives the option to 'update' even if it's the same version).



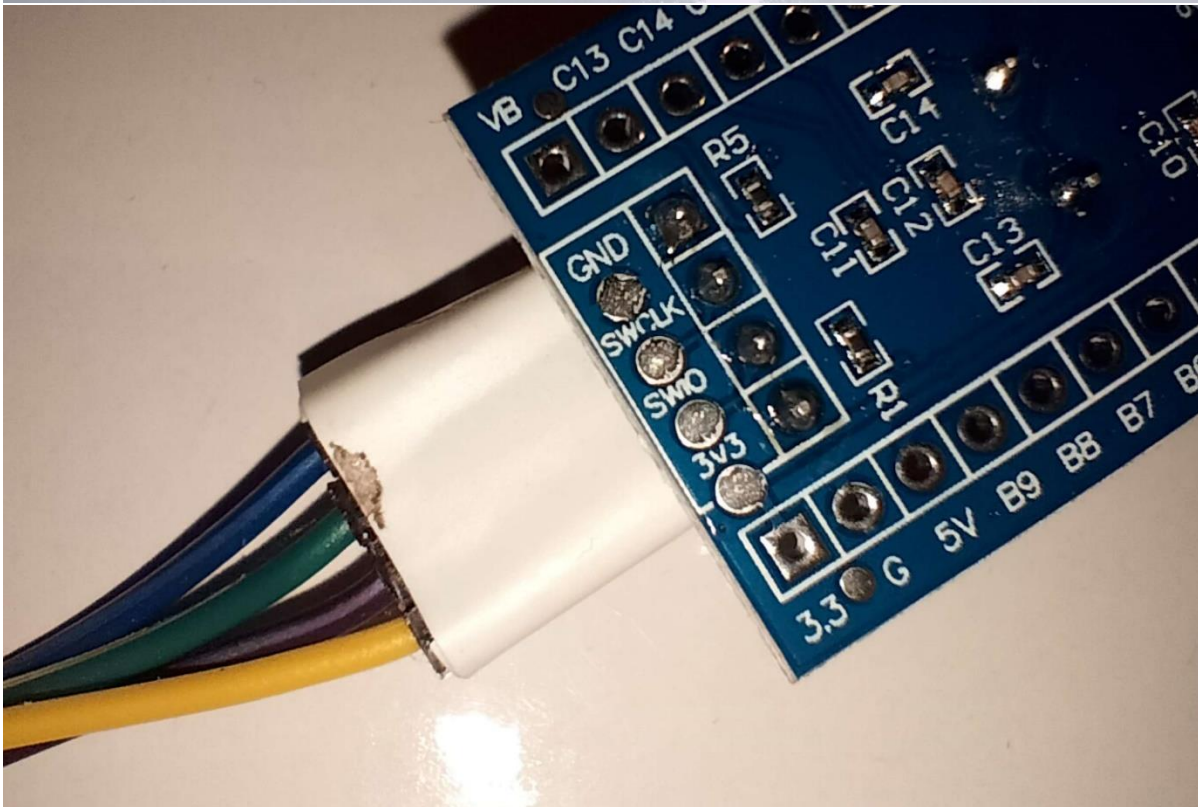
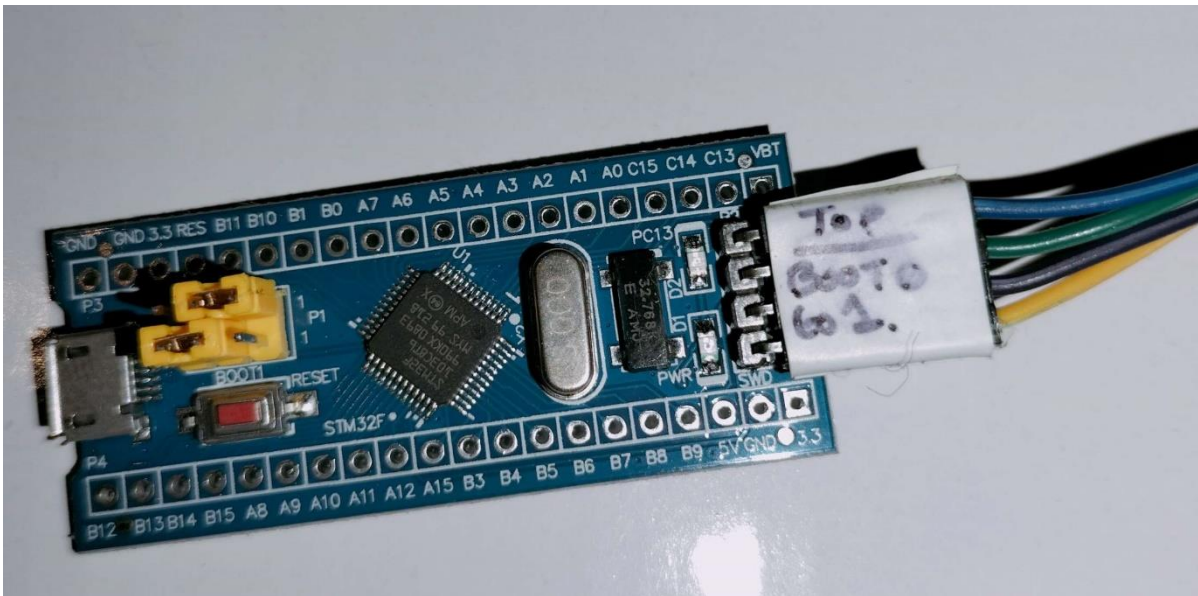
ST-Link to Bluepill wiring setup

With respect to my images

You want to wire like for like from the ST-Link to the BluePill

ST-Link	BluePill
Pin 2 SWDIO	SWIO
Pin 4 Ground	Ground
Pin 6 SWCLK	SWCLK
Pin 8 3.3V	3.3V





Flashing BluePill

(Reference here [https://github.com/erichelgeson/BlueSCSI/wiki/Flashing-\(Advanced\)](https://github.com/erichelgeson/BlueSCSI/wiki/Flashing-(Advanced)))

- Grab the latest bin file from the [Releases](#) page.
- Remove SD Card (if bluescsi has been assembled already)
- Open STM32 ST-Link Utility
- Move the BOOT0 jumper (furthest from the reset button) to 1
- Connect the BluePill to the STLINK-V2
- Press & release the reset button on the BluePill
- Click Connect in STM32 ST-Link Utility (Target >> connect)

Open your bin file

The screenshot shows the STM32 ST-LINK Utility interface. The 'Memory display' section is active, showing the address 0x08000000, size 0xCC94, and data width 32 bits. The device information is as follows:

Device	STM32F10xx Medium-density
Device ID	0x410
Revision ID	Unknown
Flash size	128KBytes

The device memory at 0x08000000 is loaded with the file 'BlueSCSI-v1.1-20231116-STM32F1.bin', which is 52372 Bytes in size. A table below shows the memory contents:

Address	0	4	8	C	ASCII
0x00000000	20005000	08000389	08000B31	08000B35	. P . % . . . 1 . . . 5 . . .
0x00000010	08000B39	08000B3D	08000B41	08001695	9 . . . = . . . A
0x00000020	08001695	08001695	08001695	08001695
0x00000030	08001695	08001695	08001695	080016A9 ©
0x00000040	08001695	08001695	08001695	08001695
0x00000050	08001695	08001695	0800CD9	0800CF9 Û
0x00000060	0800D19	0800D39	0800D59	0800A69 9 . . . Y . . . i . . .
0x00000070	0800A81	0800A99	0800AB5	0800AD1	. . . ™ . . . µ . . . Ñ . . .
0x00000080	0800AED	0800B09	0800B8A9	08001695	f ©

The status bar at the bottom indicates 'Debug in Low Power mode enabled.', 'Device ID:0x410', and 'Core State : No Memory Grid Selected'.

Target > program and verify

The screenshot shows the 'Download' dialog box for the file 'BlueSCSI-v1.1-20231116-STM32F1.bin'. The start address is set to 0x08000000. The file path is ':si\BlueSCSI-main\BlueSCSI-v1.1-20231116-STM32F1.bin'. The 'Extra options' section includes 'Skip Flash Erase' and 'Skip Flash Protection verification', both of which are unchecked. The 'Verification' section has 'Verify while programming' selected. The 'After programming' section has 'Reset after programming' checked and 'Full Flash memory Checksum' unchecked. The 'Start' button is highlighted.

Programmed

STM32 ST-LINK Utility

File Edit View Target ST-LINK External Loader Help

Memory display

Address: 0x08000000 Size: 0xCC94 Data Width: 32 bits

Device: STM32F10xx Medium-density
Device ID: 0x410
Revision ID: Unknown
Flash size: 128KBytes

Device Memory @ 0x08000000 : File : BlueSCSI-v1.1-20231116-STM32F1.bin LiveUpdate

Target memory, Address range: [0x08000000 0x0800CC94]

Address	0	4	8	C	ASCII
0x08000000	20005000	08000389	08000B31	08000B35	. P. %... 1... 5...
0x08000010	08000B39	08000B3D	08000B41	08001695	9... =... A... ..
0x08000020	08001695	08001695	08001695	08001695
0x08000030	08001695	08001695	08001695	080016A9 ©...
0x08000040	08001695	08001695	08001695	08001695
0x08000050	08001695	08001695	0800CD9	0800CF9 Û... û...
0x08000060	08000D19	08000D39	08000D59	08000A69	... 9... Y... i...
0x08000070	08000A81	08000A99	08000AB5	08000AD1	...™... µ... Ñ...
0x08000080	08000AED	08000B09	080008A9	08001695	i..... ©... ..

18:43:15 : Debug in Low Power mode enabled.
18:43:15 : Device ID:0x410
18:43:15 : Device flash Size : 128KBytes
18:43:15 : Device family :STM32F10xx Medium-density
18:46:49 : Flash memory erased.
18:47:29 : [BlueSCSI-v1.1-20231116-STM32F1.bin] opened successfully.
18:47:29 : [BlueSCSI-v1.1-20231116-STM32F1.bin] checksum : 0x004DEA83
18:48:09 : Memory programmed in 3s and 609ms.
18:48:09 : Verification...OK
18:48:09 : Programmed memory Checksum: 0x004DEA83

Debug in Low Power mode enabled. Device ID:0x410 Core State : Live Update Disabled

- After programmed - move BOOT0 jumper back to 0
- Press & release the reset button on the BluePill
- You should see the LED PC_13 flashing 5x indicating no SD Card detected.
- Disconnect the BluePill from the STLINK-V2

Finished.