


To flash the STM32 microcontroller, you will need the st-link v2 programmer



The process itself looks like this step by step:

- 1) Disconnect the PS board from the power supply.
- 2) You need to find 4 **SWD** pins on the board (**VCDG = + V, Clock, Data, GND**)

 63% original




800 x 505 (90.44 KB)

- 3) For ease of connection, solder the connector to these pins,

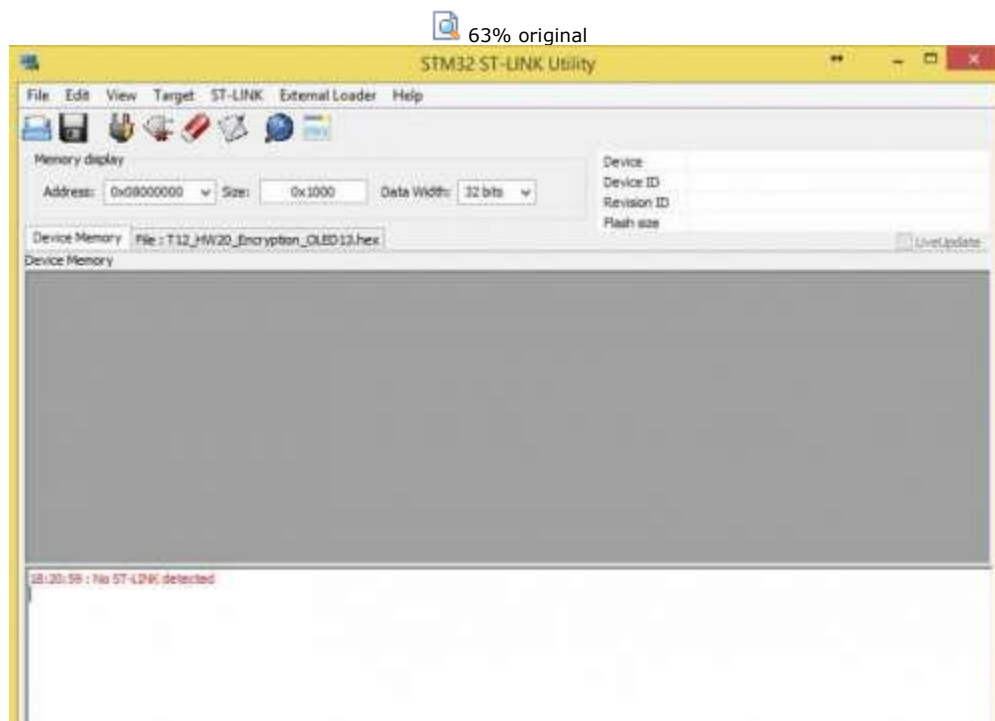


but you can do without it, just solder the loop from the programmer to the board.

4) Install the

 [STM32 ST-Link Utility 4.6.0..zip program](#) (25.38 MB)

, it will also install the driver for **st_link v2**.



800 x 545 (44.26 KB)

5) Connect the **st_link v2** programmer to the computer . If the drivers are installed normally, then a new USB device should appear in the Windows Device Manager (USB Devices -> STM32 STLink).

6) Remove the **st_link** programmer from the USB connector.

7) Connect the PS board to it via SWD.

8) Connect the **st_link** programmer to the USB connector. If the SWD pins are connected correctly (at least V and G), then the PS board will start.

9) Run the **STM32 ST_Link Utility** program

10) In the **Target** menu -> select **Connect...** The STM32 controller should connect. If not, check if the SWD pins (VCDG) are connected properly.

11) In the **Target** menu -> select **Options bytes** . Set the **Read out Protection** parameter to **Disabled** . Remove read protection.

12) The controller is ready for flashing.

13) In the **Target** menu -> select **Erase Chip** . We erase the old firmware.

14) In the **File** menu -> select **Open File** . Select the new firmware file. For board version 2.00 it is **T12_v.2.00_OLED1.3.hex**

15) In the **Target** menu-> select **Programm & Verify** -> **Start** . We flash and check.