ESP32 firmware load. V1

There is one version of the firmware for the Arduino based shutter tester.

Original sensors gave an output when the Laser is seen. Newer sensors reversed this, giving an output when the Laser is not seen. There is no way to tell which type of sensor you have.

The tester incorporates a Laser alignment utility, which will show which type of sensors you have. If the sensors are working in reverse, they can be swapped within the program.

Download the code from the github page.

click on the green <>Code button, which will allow you to download all of the files as a zip file. Unzip (extract) the downloaded file.

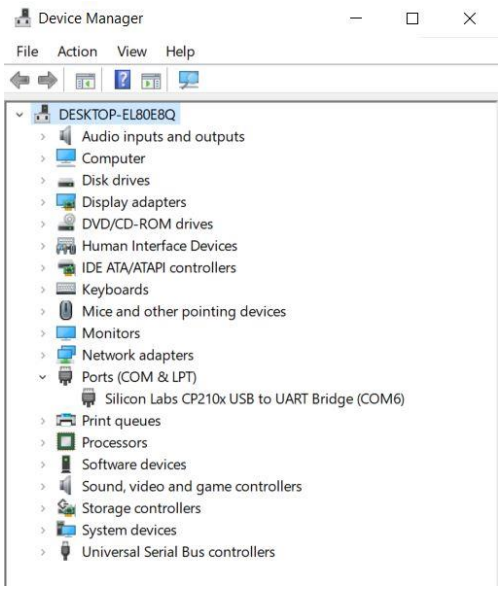
Downloading the Flashing software.

A program called Flash Download Tools is required. This can be downloaded from
Tools | Espressif Systems

Unzip (extract) the folder and put the files somewhere suitable on the computer. The software is stand-alone and does not need to be installed.

Checking the ESP32 USB driver.

When connecting the ESP32 board to the computer via USB, the computer should see the device & have the correct driver for it. To confirm, after connecting the ESP32 board, press Windows key + x and select Device Manager. Look for the COM ports and expand. The ESP module should be seen, as in this example on COM port 6, showing the CP2102 driver.



If the driver is missing, follow one of the guides below.

[How to install the drivers CP21012 for the USB bridge chip for the ESP32 (techexplorations.com)]

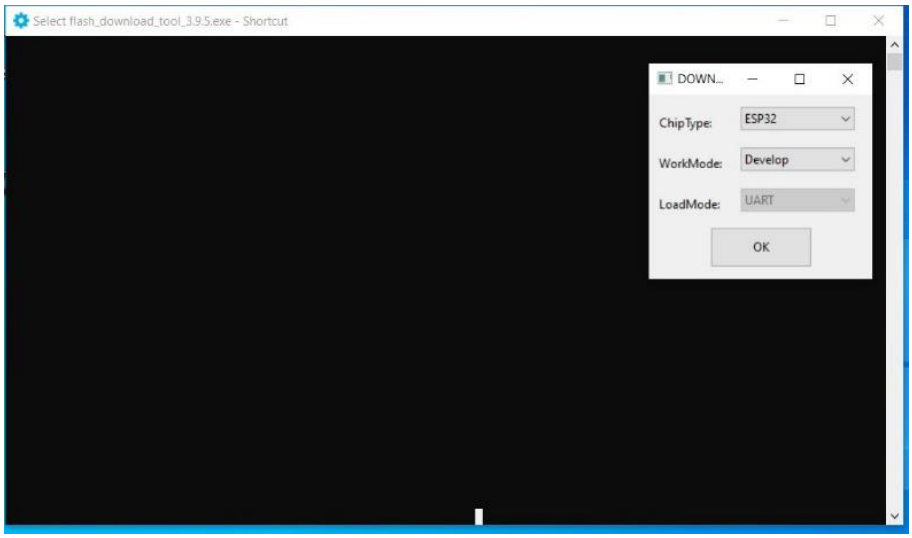
[Establish Serial Connection with ESP32 - ESP32 - — ESP-IDF Programming Guide latest documentation (espressif.com)]

Flash firmware to ESP32

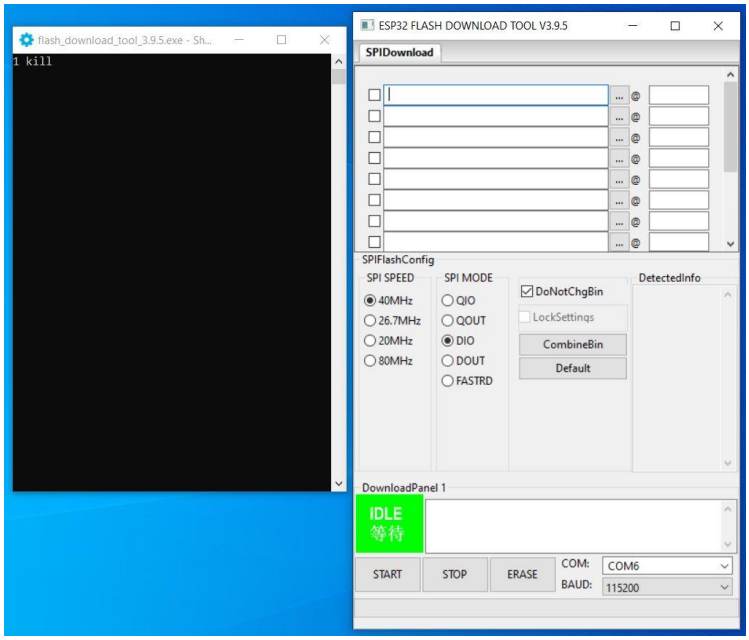
Find the folder where the FLash Download Tool files were extracted to.

Launch the Flash Download Tool by double clicking on ‘flash_download_tool_3.9.5.exe’

Select ‘ESP32 from the drop-down box, as shown in the screenshot below and click ok.

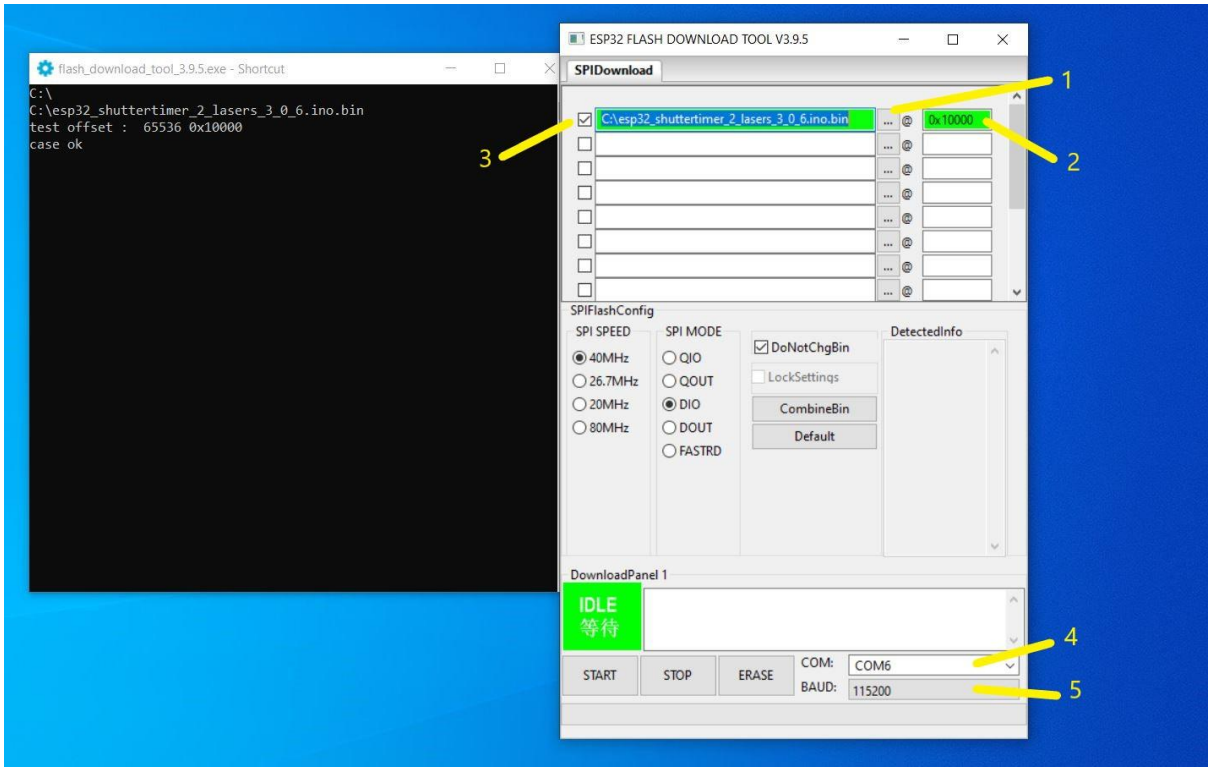


A screen like the below will appear and must now be populated.

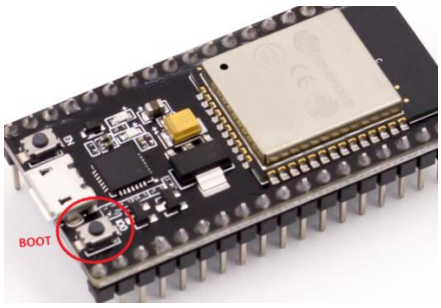


Populate the values as follows

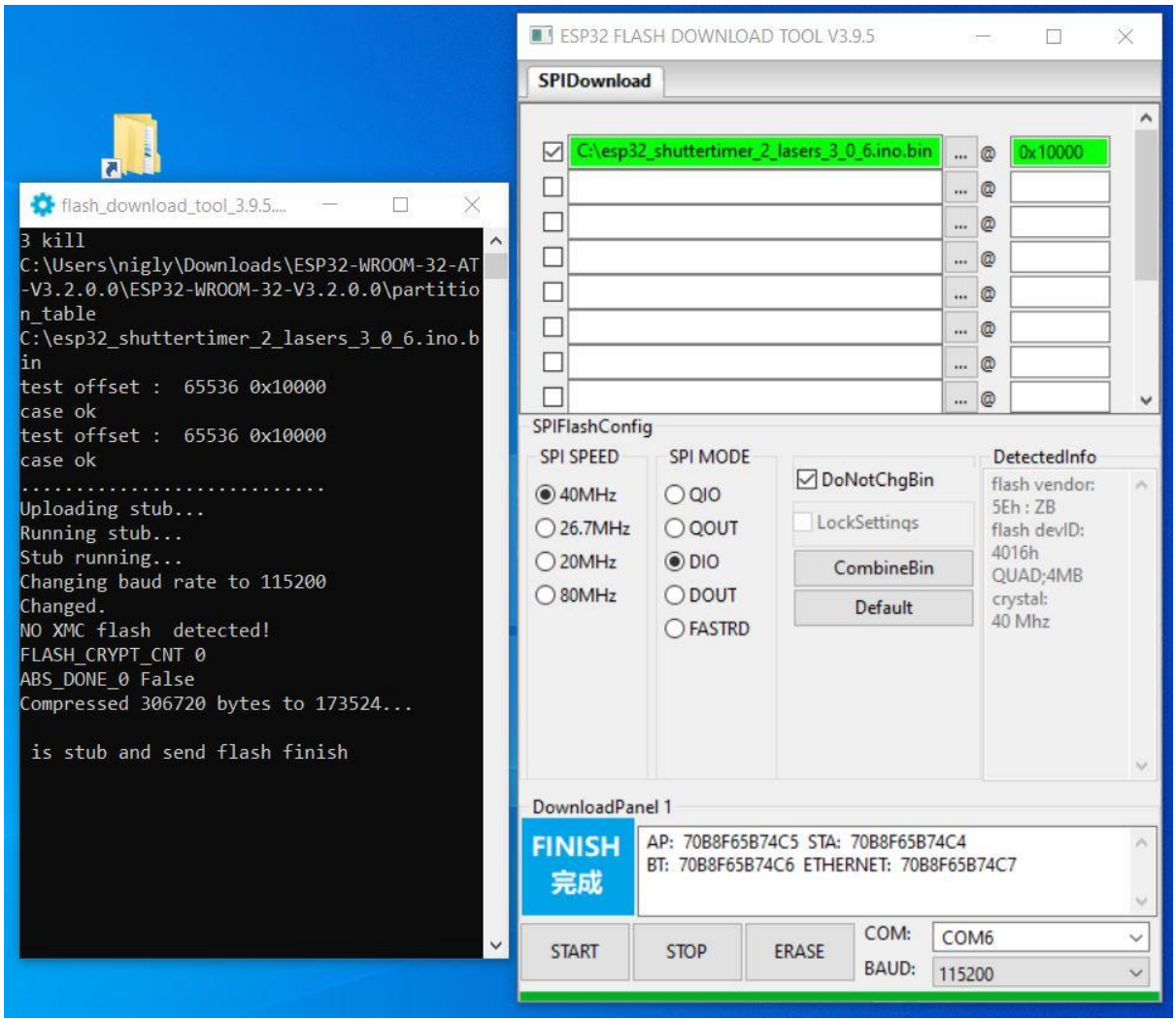
1) Click the three dots, navigate to and select the downloaded .bin file download from Github.
2) Type 0x10000 into this box. ***IMPORTANT ensure there are four zeros after the number 1***. **Double and treble check you have typed 0x10000 (ten thousand)**
3) Tick this box
4) Select the correct COM port from the drop-down box
5) Select the baud rate 115200



Now press ‘Start’ at the bottom left of the box. When a line of dots appears on the black screen, press the Boot button on the ESP32 board for 3 seconds and then release.



If successful, a screen like below should be seen. The Black screen will show the flashing to the device and a blue box should appear in the other screen with ‘FINISH’



Note- the flashed code will not start running until the Reset button has been pushed on the ESP32 board, located on the opposite side of the USB connector to the Boot button.

Note:- There is an included file ESP32_blink.ino.bin

This is a simple code that that will flash the LED on the EPS32 board. On for 1 second, off for ¼ second. There is no communication to LCD, buttons, TFT.

This file can be loaded onto the ESP32 instead of the main shutter tester code. It can be used for trouble shooting, to prove code is being flashed to the ESP32 correctly. Remember to press the Reset button after flashing any code to the ESP32.