EspressIF Browser Flash Tool

v1.00 – Released May 19, 2025

Introduction

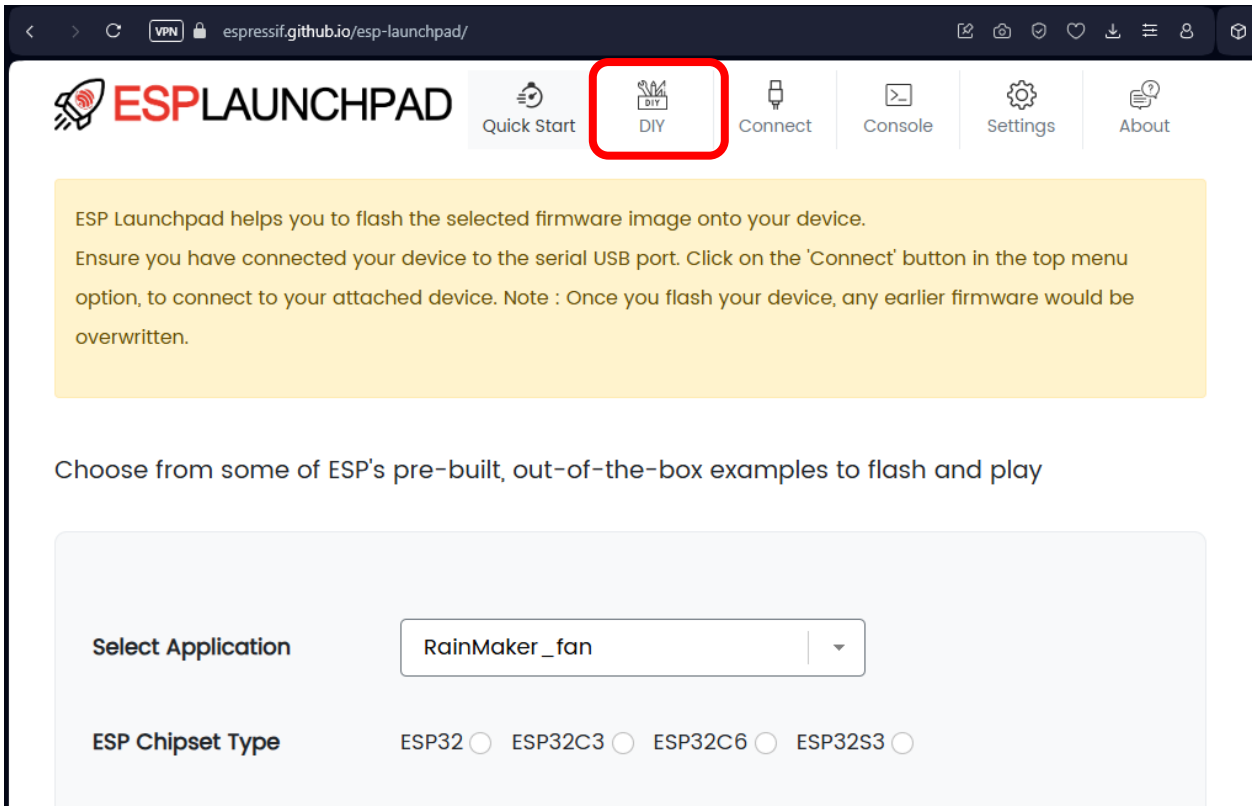
EspressIF has released a new web browser tool that allows you to flash firmware to an ESP32 micro-controller without the need to download and install the EspressIF Flash Download tool.

This tool is supported in Chrome and Opera browsers on Windows and Mac. I haven't been able to get it to work on Linux.

Flashing Firmware with ESP Launchpad

Open the website

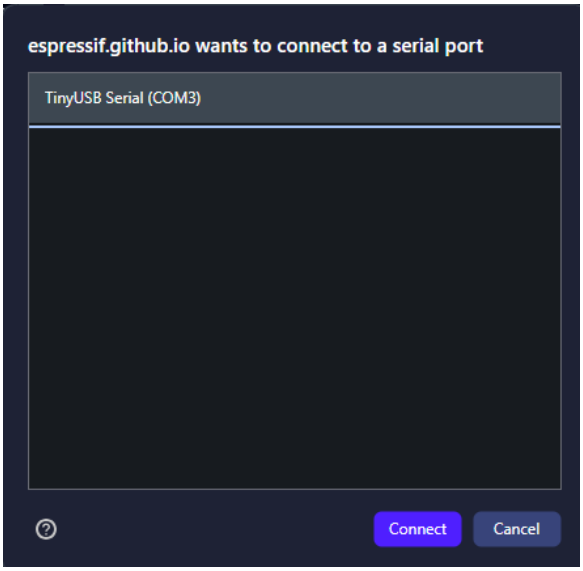
To start the browser based flash tool, open either the **Chrome** or **Opera** web browser then navigate to https://espressif.github.io/esp-launchpad/. The screen below should appear.



This page has several pre-built applications for the ESP32 and option buttons to select the ESP Chipset Type. You won't be using any of these options. Click the **DIY** button to jump to the DIY page.

Connect to your CTR2 Unit

Connect your CTR2 unit to you computer and allow it to boot. Click the **Connect** button on the web page and if everything is working you'll see the following display.



If the **TinyUSB Serial** port is shown the CTR2 unit is a **CTR2-MIDI**, **CTR2-Dial**, or **CTR2-Flex** and this port is used for MIDI. It cannot be used for programming.

To force the CTR2 unit into programming mode you must press buttons on the ESP32 controller.

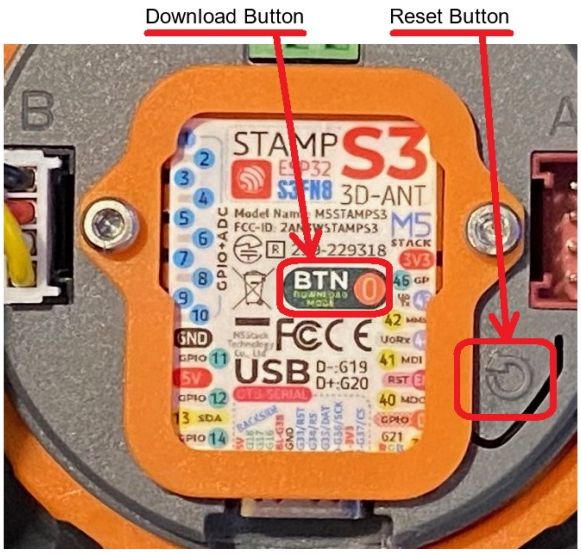
NOTE: CTR2-Micros don't use the **TinyUSB** port and can be programmed without the following steps.

On the **CTR2-MIDI** you can access the **Programming** button through the cutout on the left side of the USB connector hole. Use a toothpick or other non-conductive stick to press the tiny switch then cycle the power on the unit. The button is extremely small and you might find it easier to open the case and remove the PCB to access the button.

Entering programming mode on **CTR2-Dial** or **CTR2-Flex** is a little easier. You will need to open the enclosure though. On the New Age enclosure, remove the rubber feet and the tilt feet and remove the Phillips head screws securing the enclosure together. On the 3D printed enclosure remove the four button head hex screws on the side.

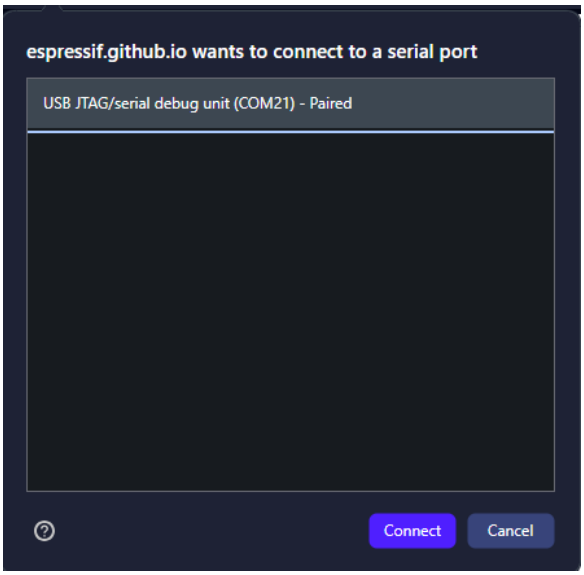
Once you have access to the back of the M5Dial press and hold the **BTN** graphic on the label with your finger (you may or not feel a click) the press and release the **Reset** button. The M5Dial's display will go blank once you enter programming mode.

NOTE: If you can't get the unit into programming mode the plastic lever under the **BTN** label may have slipped of the button on the PCB board. If this happens, remove the label and use a small screwdriver or Xacto knife to flick the lever back onto the button.



Once you're in programming mode the Launchpad **Connect** window will show the **USB JTAG** device.

Press the **Connect** button to connect.

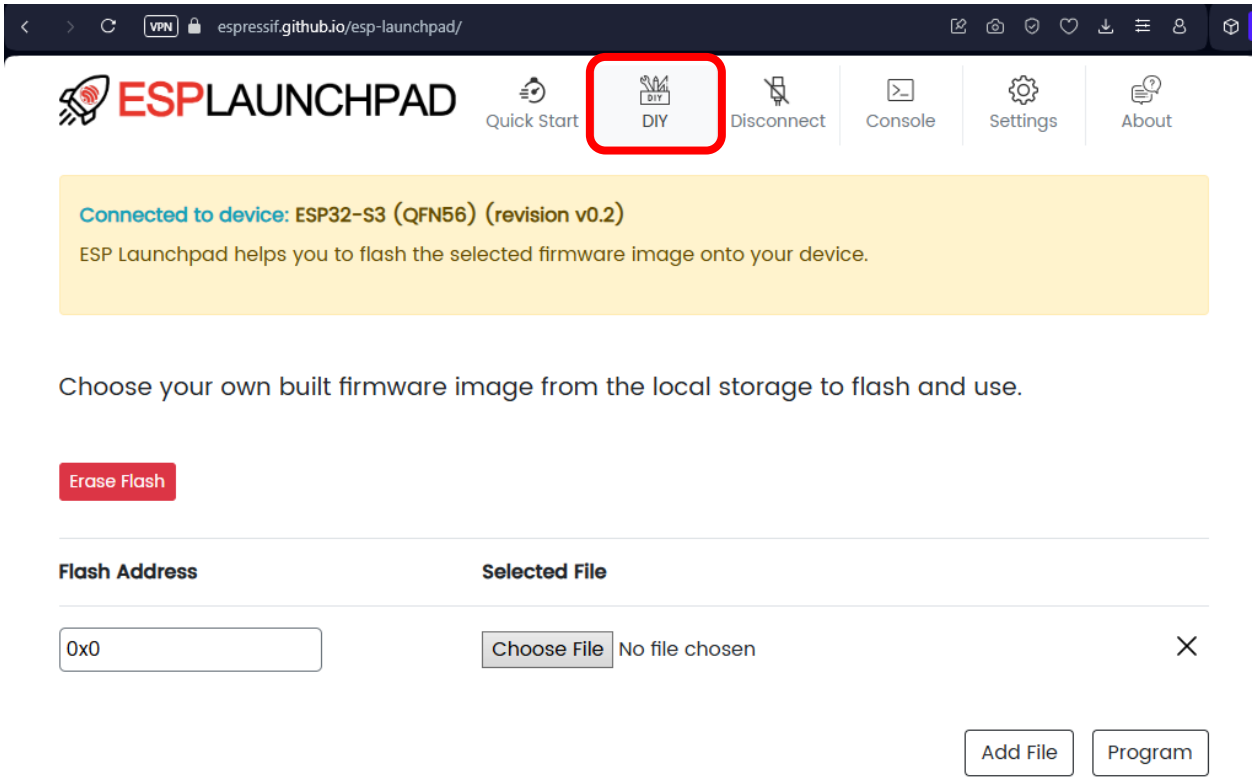


Enter DIY Mode

Once you're connected to the CTR2 unit, click the **DIY** button on the web page. This will open the page where you can select the firmware files you want to flash to the unit.

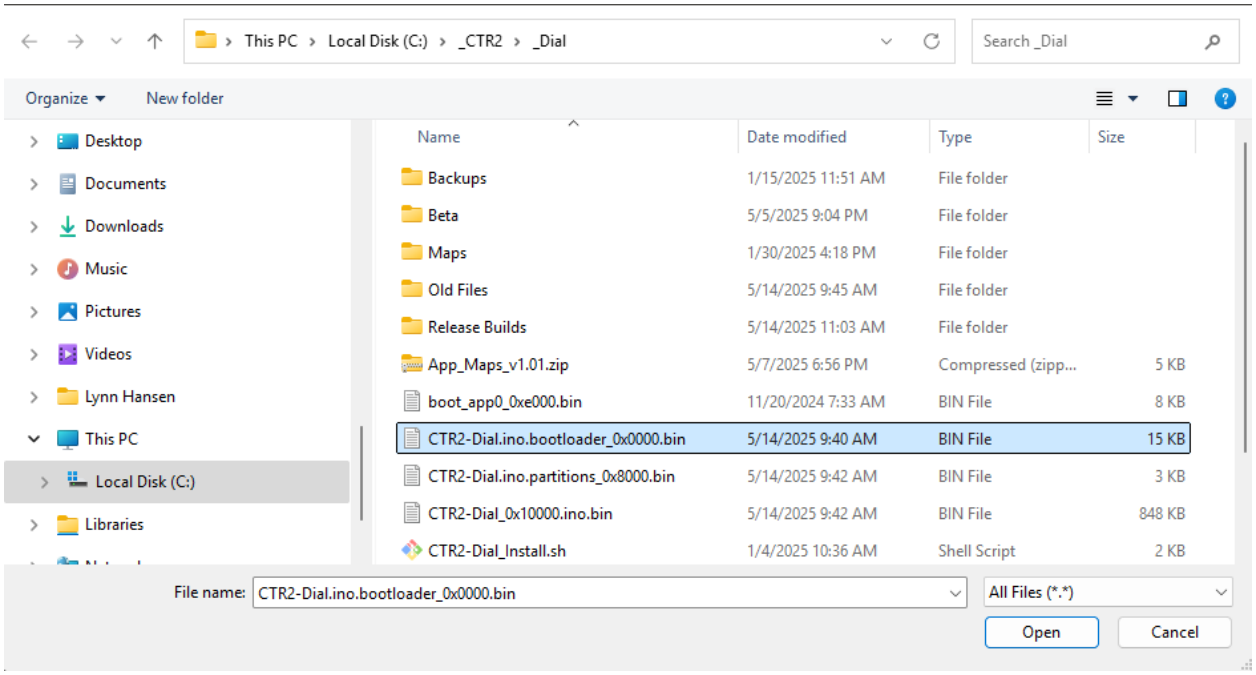
Notice that flash tool will automatically recognize the micro-controller (ESP32-S3 in this example).

You can press the **Erase Flash** button if you want to clear all settings on your unit. This is recommended if you're flashing the CTR2 firmware to a new M5Dial.



Add Firmware Files

The next step is to add the firmware .BIN files you want to flash. To do this, click the **Choose File** button. At the bottom of the page you'll see files in your **Download** folder. Click the **Show All Files** button on the right side to open the file dialog window. Navigate to the folder where you unzipped the firmware files and click on one of the four .BIN files. In this example I've selected the bootloader .BIN file.



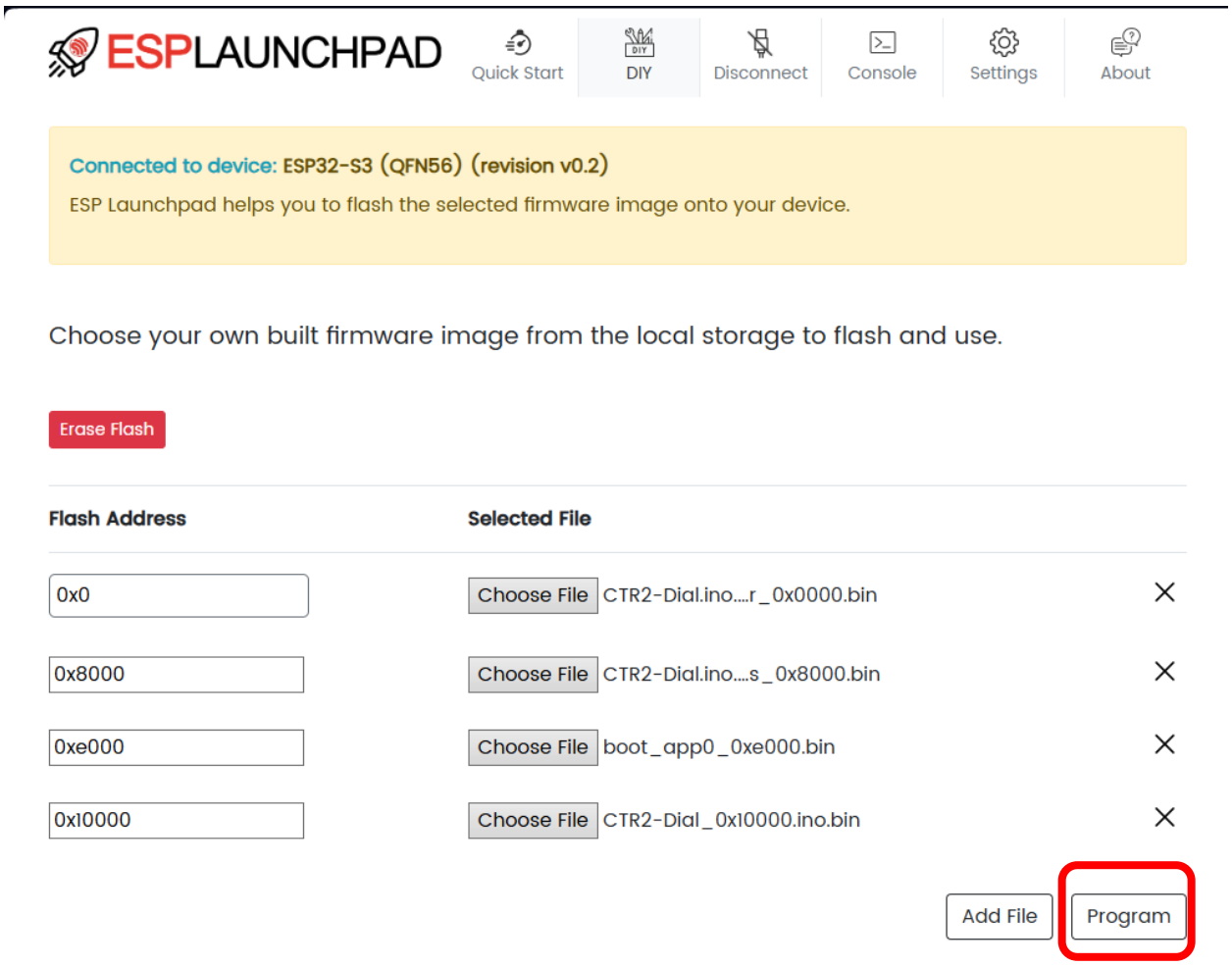
Click on the file or the **Open** button to add this file to the flash tool.

Next, set the **Flash Address** to match the address embedded in the file name. In this case the address is 0x0000 in the file name so 0x0 is entered as the address.

Click the **Add File** button to add the other three .BIN files in the firmware folder and set their flash addresses as shown below.

WARNING: It is critical that the flash address matches the address in the file name.

Once you have all the files entered your display should look like this.



Click the **Program** button to start the flash process. The following screen will appear:

Once this process completes cycle the power on your CTR2 unit to start the new firmware.