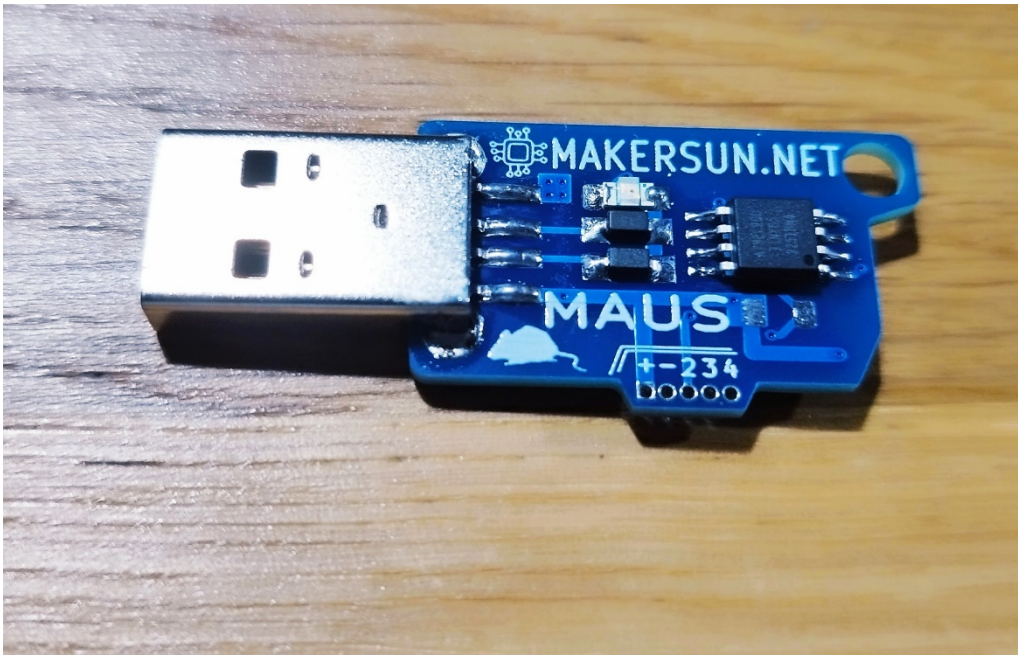
MAUS

ARDUINO Clone in your Pocket



USER MANUAL

V2.2.1_ENG

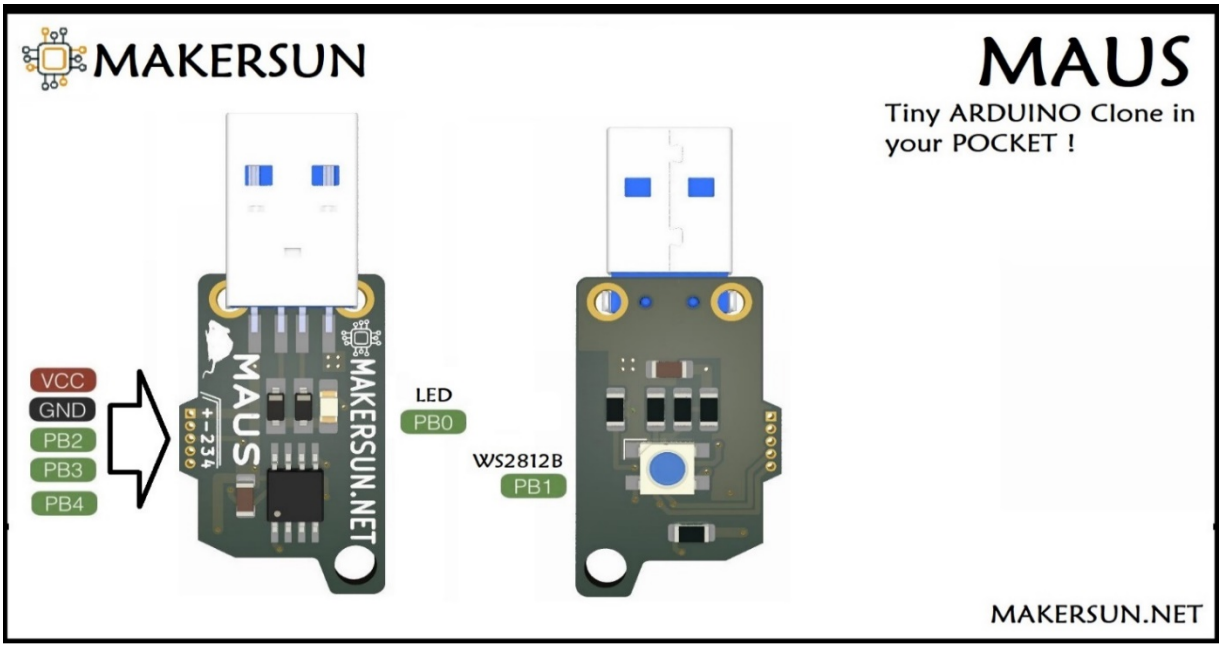
MAUS, small ARDUINO clone made with ATMEL ATTINY85. With on board red LED and WS2812B RGB LED. Fully customizable.

FEATURES:

- ATTINY85 running at 16.5 MHZ
- V-USB using MICRONUCLEUS bootloader. ARDUINO programming without needs of external ISP
- RED LED on PB0
- WS2812B RGB LED on PB1
- PB2 PB3 e PB4 free to use like ARDUINO pins.

DEFAULT FUSE SETTINGS:

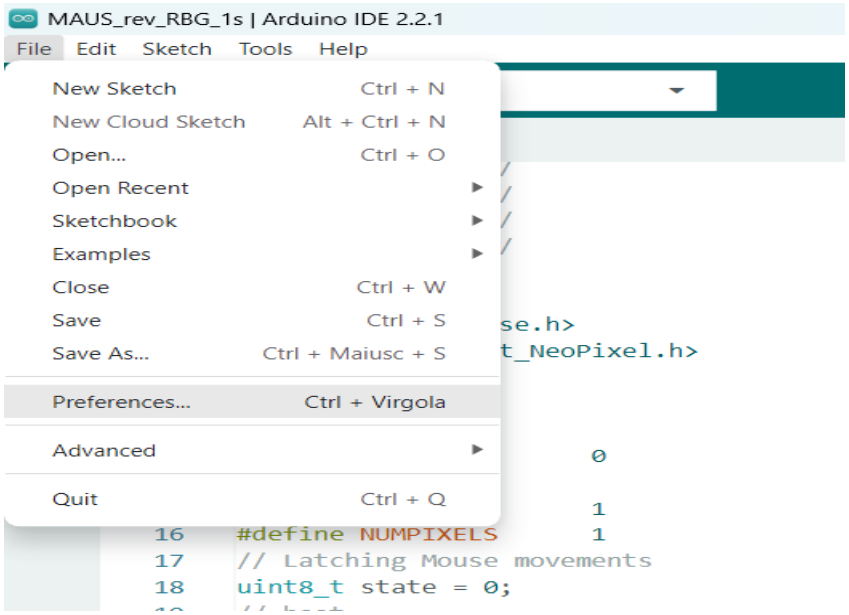
- **ATtiny85 Lfuse**: 0xE1 - PLL Clock + Startup 64 ms
- **ATtiny85 Hfuse**: 0xDD - External Reset pin enabled (not usable as I/O) + BOD 2.7 V + Enable Serial Program and Data Downloading
- **ATtiny85 Efuse**: 0xFE - self programming enabled.



1. SETTING UP ARDUINO SOFTWARE

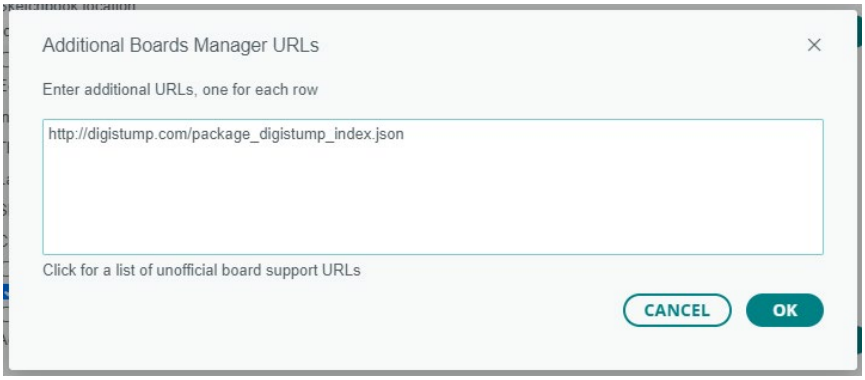
Download and install Arduino IDE (2.2.1)

Run Arduino IDE and go to **File** -> **Preferences**:



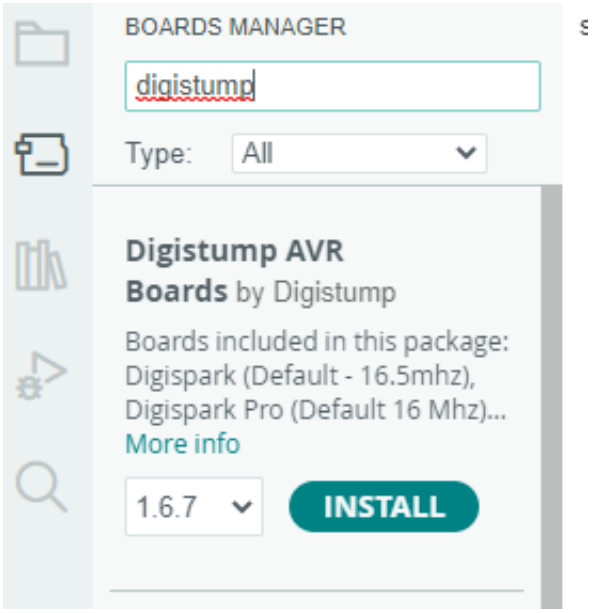
In the *Additional Boards Manager URLs* copy and paste the following link:

http://drazzy.com/package_drazzy.com_index.json



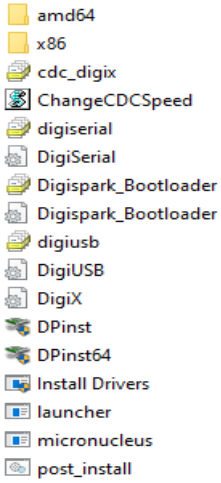
OK and exit.

On the left side menu, **Boards Manager** and search for **Digistump**:



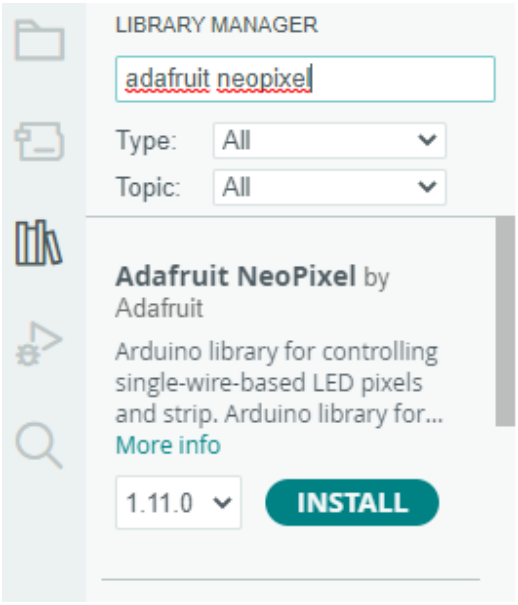
INSTALL.

Download driver and unzip in a folder. Run DPinst64 (DPinst for 32 bit system):



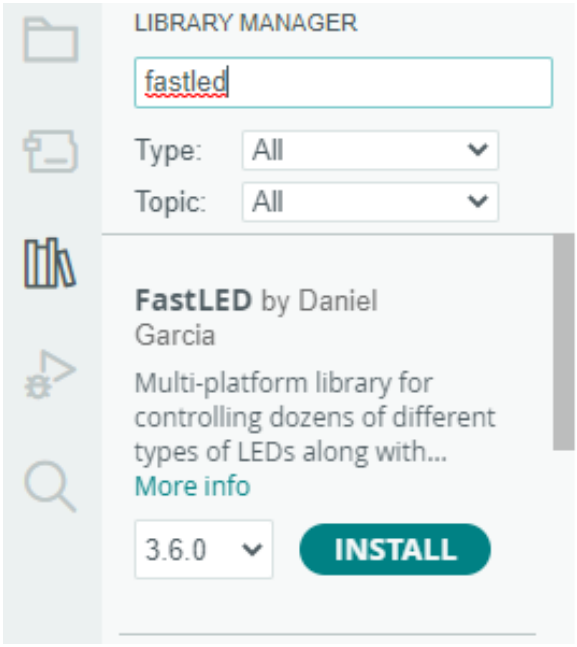
Go back to the Arduino IDE.

On the left side menu, **Library Manager** and search for **Adafruit Neopixel**:



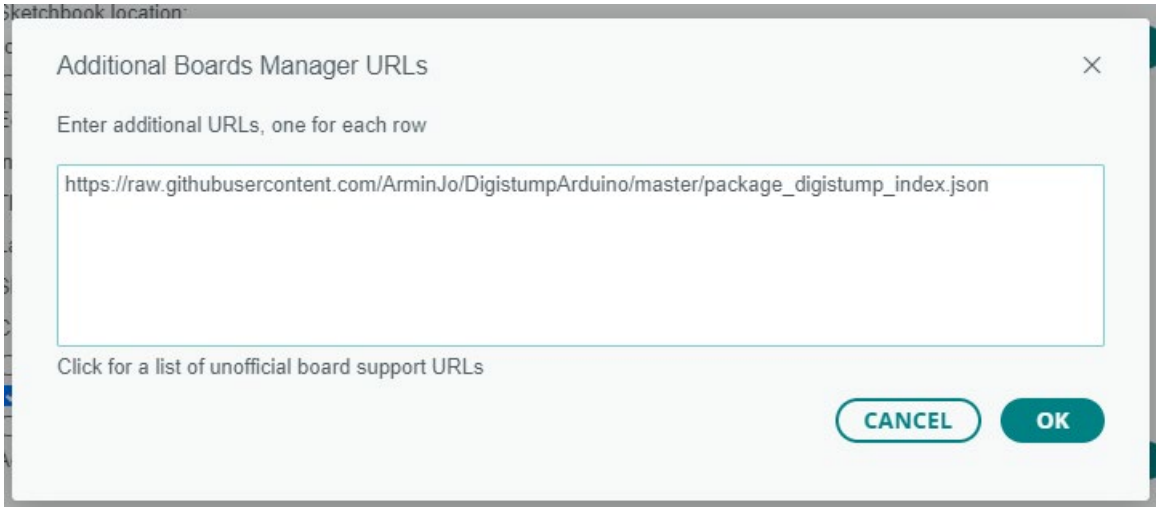
INSTALL.

Now search for FastLED library and install it:



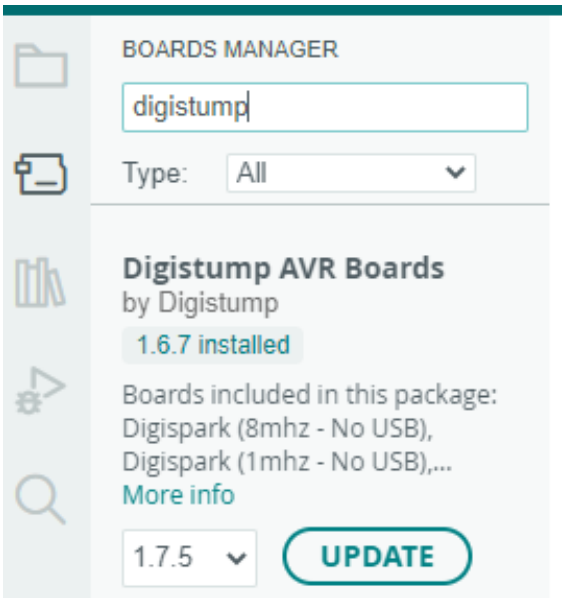
In the *Additional Boards Manager URLs* copy and paste the following link, **deleting the last one:**

https://raw.githubusercontent.com/ArminJo/DigistumpArduino/master/package_digistump_index.json



OK and exit.

On the left side menu, **Boards Manager** and search for **Digistump**:



UPDATE.

2. *UPGRADE MAUS BOOTLOADER*

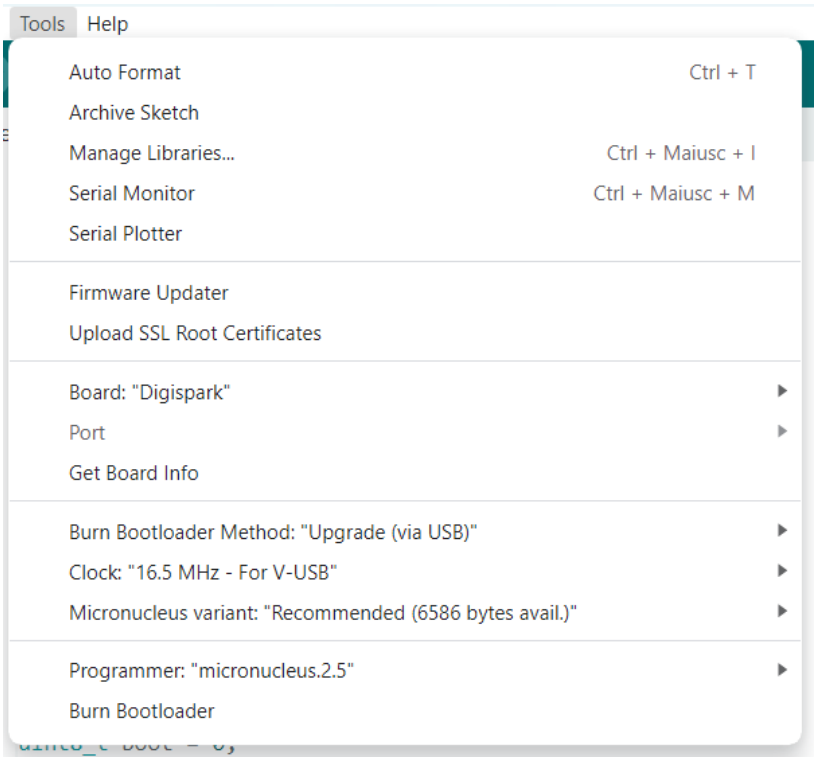
This operation should only be done the first time as it installs the new MICRONUCLEUS bootloader which allows a faster boot of the MAUS board, all the improvements are listed here.

The bootloader upgrade process erases the contents of the tiny85, so any sketches loaded inside it are erased.

After doing this, you can move on to the next chapter.

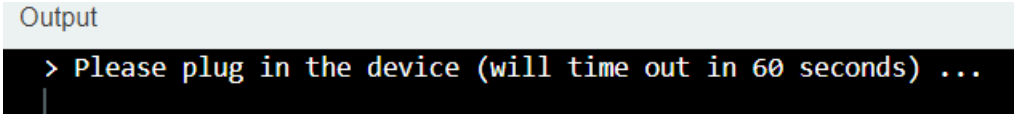
From the top menu, make sure the following items are selected:

- **Board: Digispark**
- **Burn Bootloader Method: Upgrade (via USB)**
- **Clock: 16.5 MHz – For V-USB**
- **Micronucleus variant: Recommended (6586 bytes avail.)**
- **Programmer: micronucleus2.5**

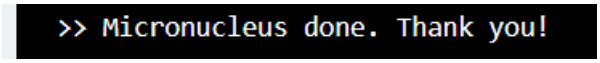


Now click on **Burn Bootloader.**

Wait for the output message and when prompted, insert MAUS into any USB socket:



Wait for the upload confirmation message:



You can now load sketches onto the board.

3. SKETCH LOADING

This chapter describes how to load .ino code on the MAUS.

In this case, the default code for the mouse jiggler feature is loaded.

Go here. Select "**maus_V2_LED1sWAIT.ino**"

Copy and paste all the code into the Arduino IDE.

Click on **Upload**  and when promped, insert the board:

```
Sketch uses 4776 bytes (72%) of program storage space. Maximum is 6586 bytes.
Global variables use 125 bytes (24%) of dynamic memory, leaving 387 bytes for local variables. Maximum is 512 bytes.
> Please plug in the device (will time out in 60 seconds) ...
```

At this point, insert MAUS into any USB port and wait for it to load:

```
> Starting the user app ...
running: 100% complete
>> Micronucleus done. Thank you!
```