SunriseRGB User Manual

AnomalyWC

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5. Disparage, tarnish, or otherwise harm, in our opinion, us and/or SunriseRGB.
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You agree to defend, indemnify, and hold us harmless, including our subsidiaries, affiliates, and all of our respective officers, agents, partners, and employees, from and against any loss, damage, liability, claim, or demand, including reasonable attorneys' fees and expenses, made by any third party due to or arising out of: (1) use of the SunriseRGB; (2) breach of these Terms of Use; (3) any breach of your representations and warranties set forth in these Terms of Use; or (4) your violation of the rights of a third party, including but not limited to intellectual property rights. Notwithstanding the foregoing, we reserve the right, at your expense, to assume the exclusive defense and control of any matter for which you are required to indemnify us, and you agree to cooperate, at your expense, with our defense of such claims. We will use reasonable efforts to notify you of any such claim, action, or proceeding which is subject to this indemnification upon becoming aware of it.

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CONTACT US

In order to resolve a complaint regarding the Site or to receive further information regarding the use of SunriseRGB, please contact us on Kickstarter or at:
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PO Box 25453
Saint Paul, MN 55125
United States

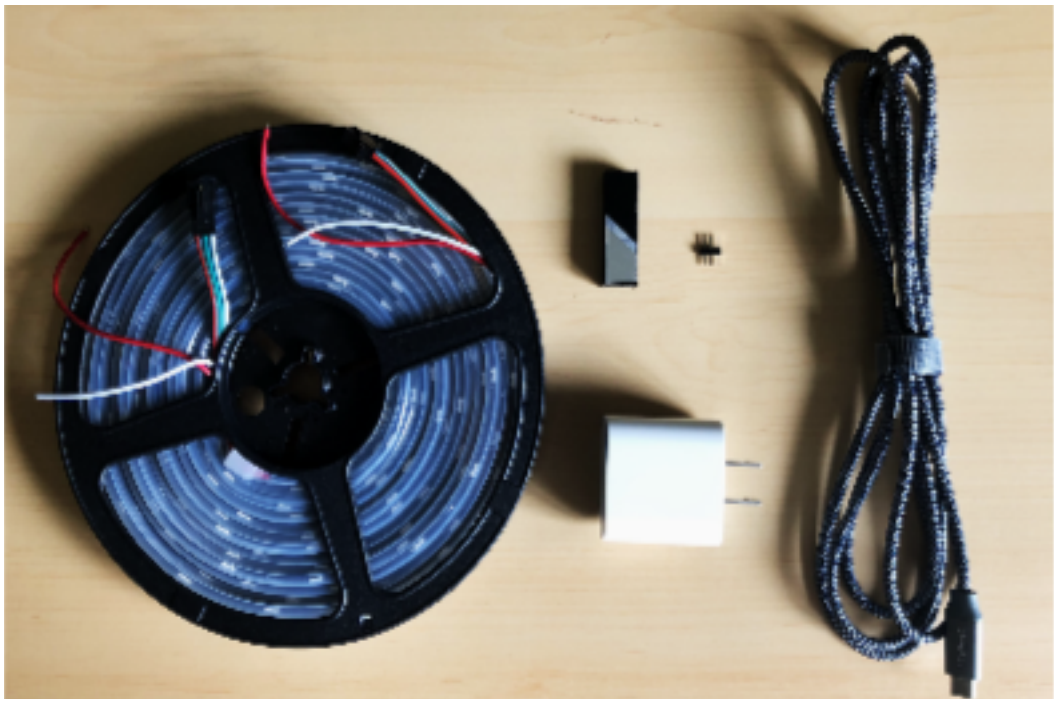
Table of Contents

More content will be added soon!

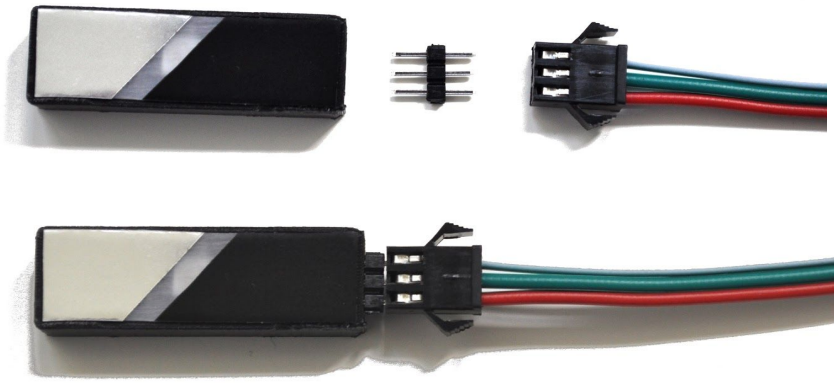
Quick Start Guide:

Required Items:

- SunriseRGB controller
- Male to Male header (included with SunriseRGB)
- WS2812B/Neopixel LED strip (included with kits)
- USB C cable (included with kits)
- USB Power Brick (2 amps recommended, included with kits)



1) Connect your LED strip to the controller with the male to male header:



Or with by directly plugging the LED strip into the controller (for SunriseRGB kits)

MAKE SURE TO CONNECT THE LED STRIP IN THE PROPER ORIENTATION! The top of the controller (silver/gold colored) should be facing up. If your LED strip has a cable like the first two pictures, connect it as shown in the picture. If you are directly plugging the LED strip into the controller, make sure the white LEDs are facing upward, as shown in the picture.

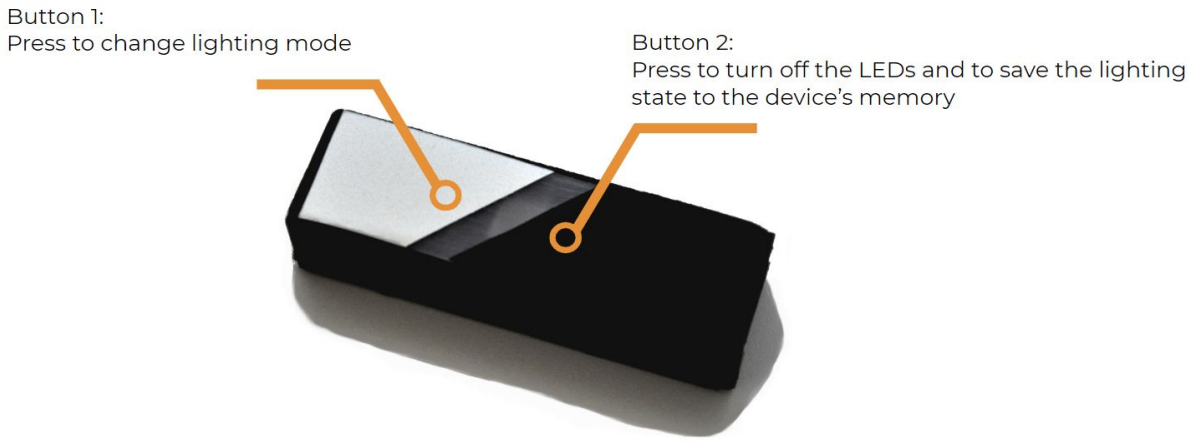
If your LED strip does not have a connector, you can solder the included male to male header to an LED strip.

2) Plug your USB C cable into the controller.

Plug the other end of the USB C cable into a power brick (we recommend using a 2.1 amp or greater power brick). Do not plug the device into your computer's USB ports with the LED strip connected, as this may cause your computer to malfunction since most computer USB ports supply only 0.5 amps of power.

3) The device takes a few seconds to initialize, then it will light up, along with your LED strip. To change the lighting mode, press the button located underneath the silver or gold portion of the device.

To turn the LED strip on/off and to save the current lighting animation, press the button located underneath the black portion of the device.



The buttons are located just left/right of the clear plastic stripe and may take a bit of force to press.

4) Enjoy!

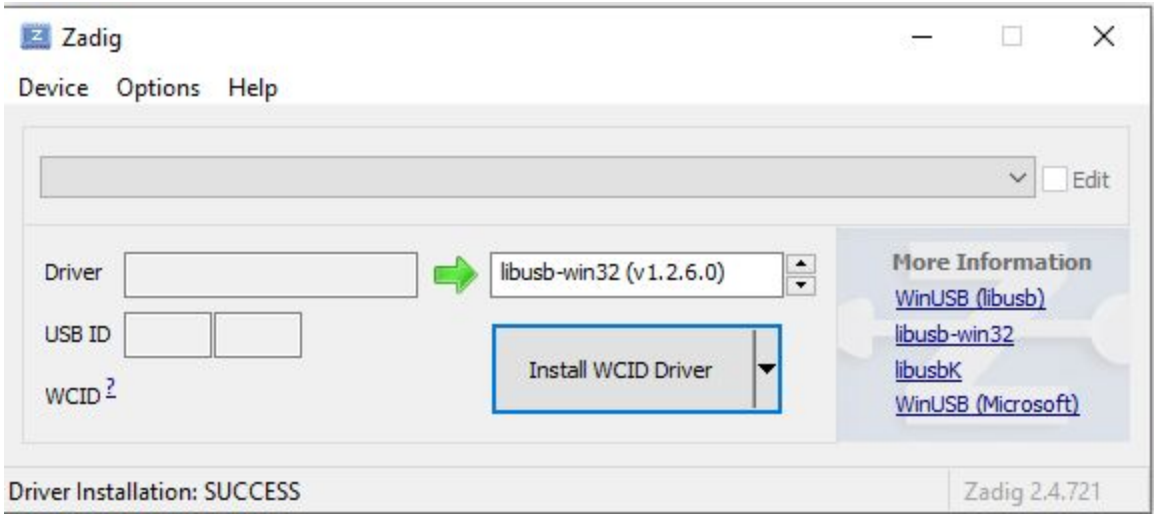
Reprogramming Instructions:

(*Note: if you have used a Digispark board before, you can skip these steps. Select Digispark (Default - 16.5mhz) in the boards menu and upload)

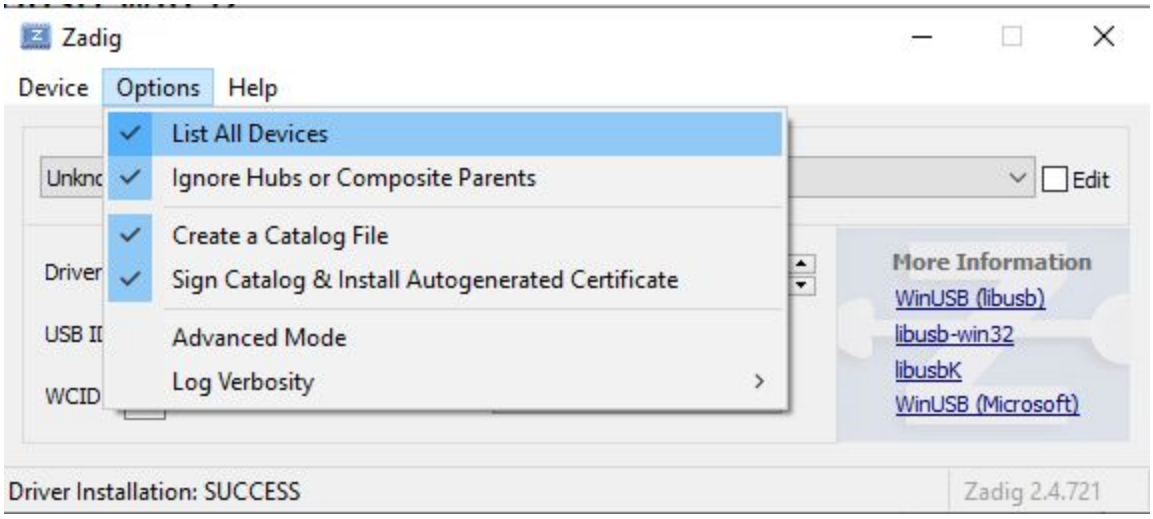
1) Install the Arduino IDE from https://www.arduino.cc/en/Main/Software

2) Download Zadig: https://zadig.akeo.ie/

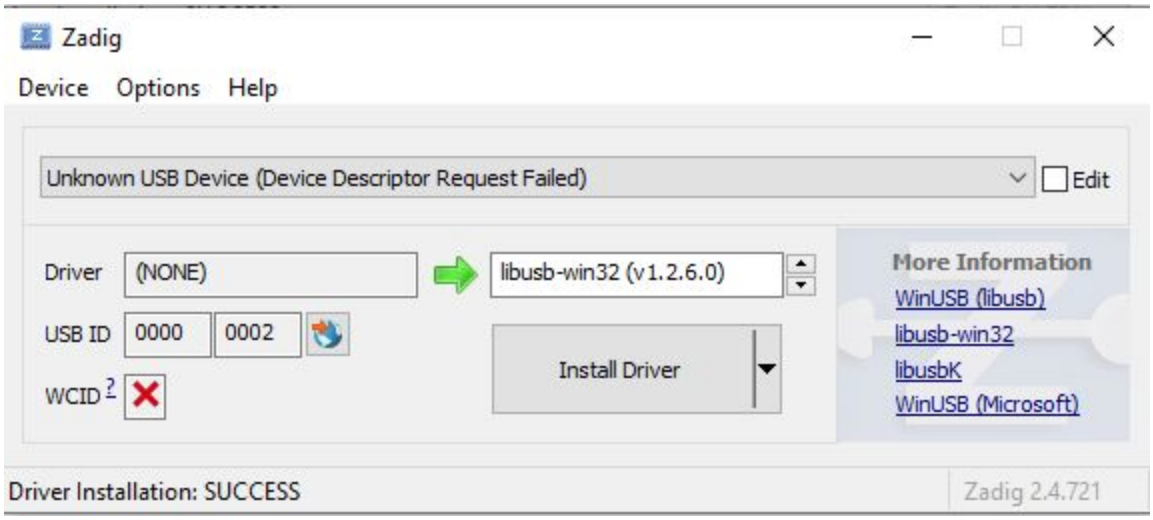
3) Open Zadig. Click the arrows to select "libusb-win32"



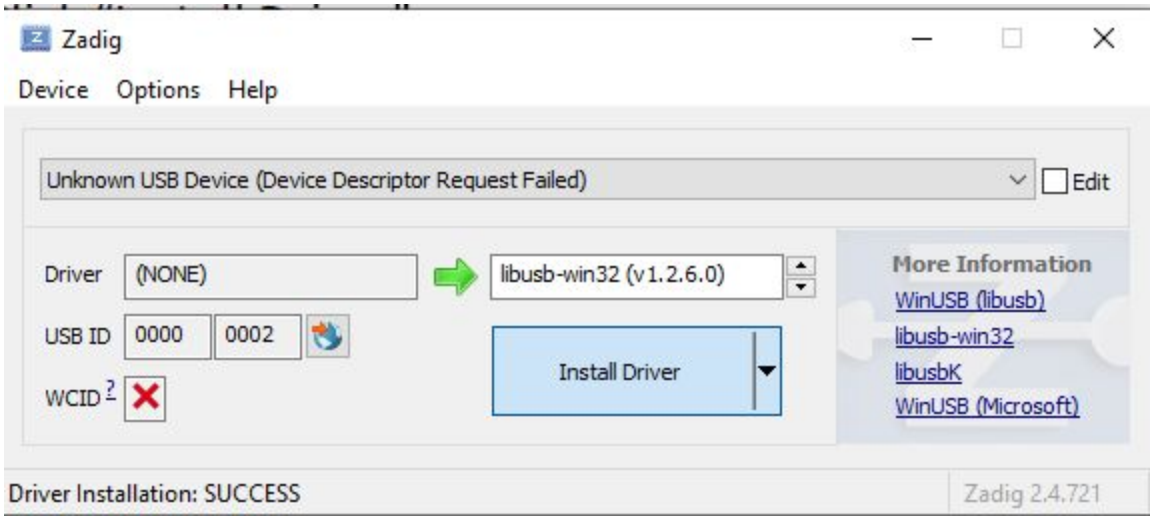
4) Plug SunriseRGB into your computer (without any LED strips attached). Click Options -> List All Devices



5) Click the dropdown menu and select “Unknown USB Device”

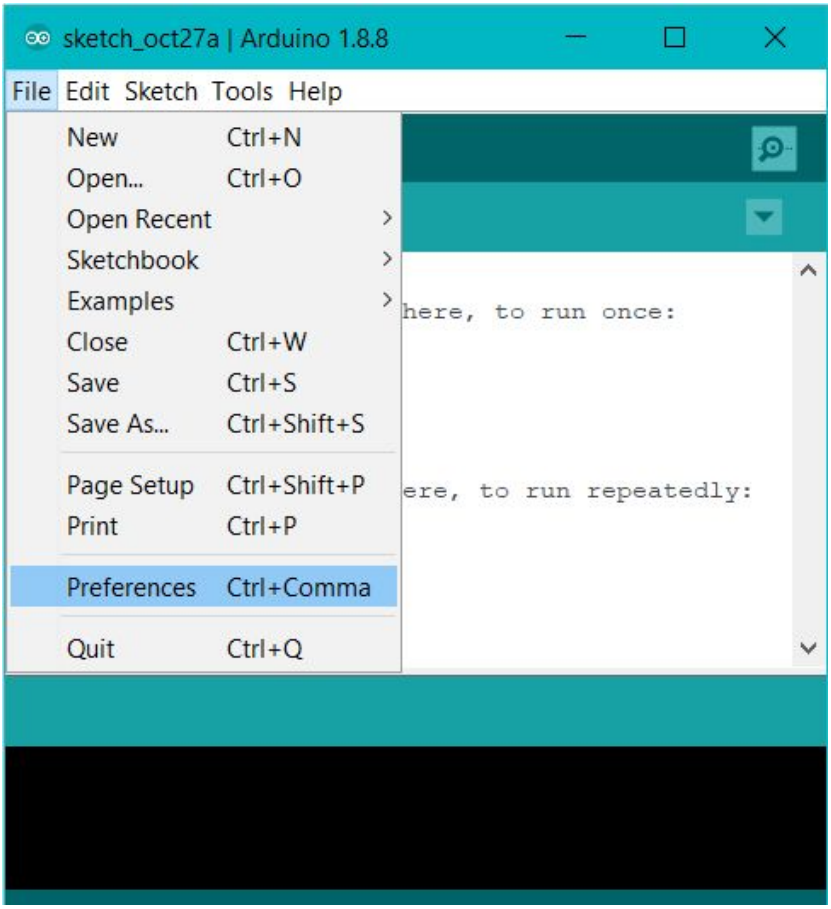


6) Click “Install Driver”

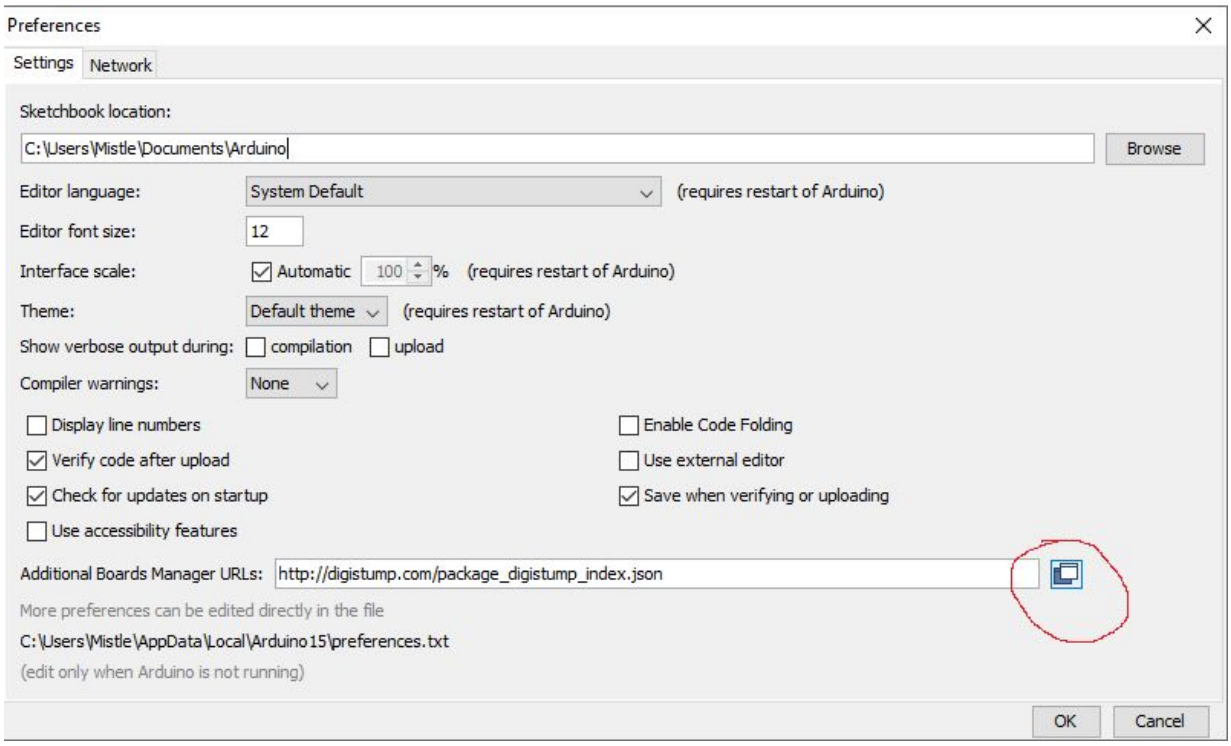


(If you get an error, this means you may already have the drive installed, in which case you can skip this step)

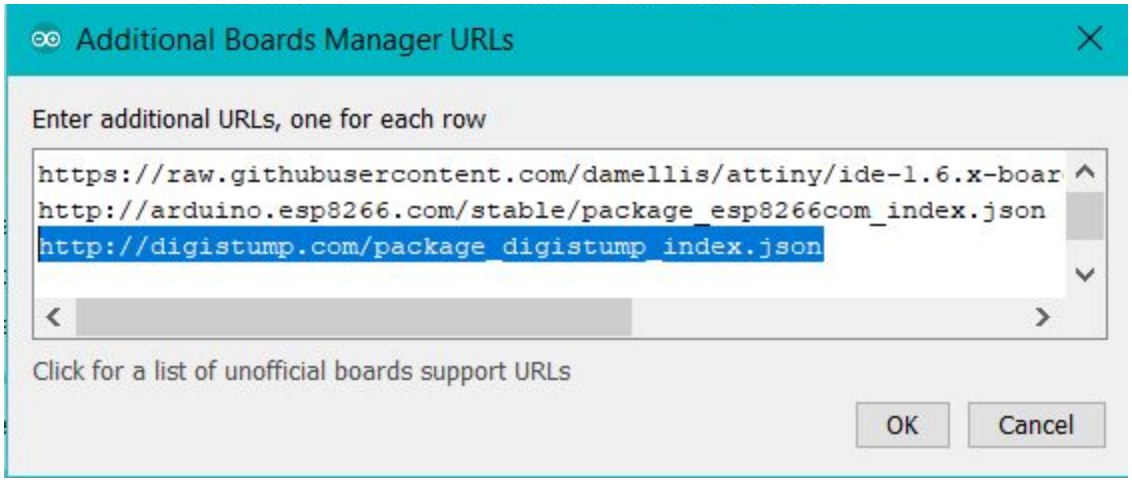
7) Unplug SunriseRGB. Open the Arduino IDE and click File -> Preferences



8) Click the button located next to “Additional Board Manager URLs”



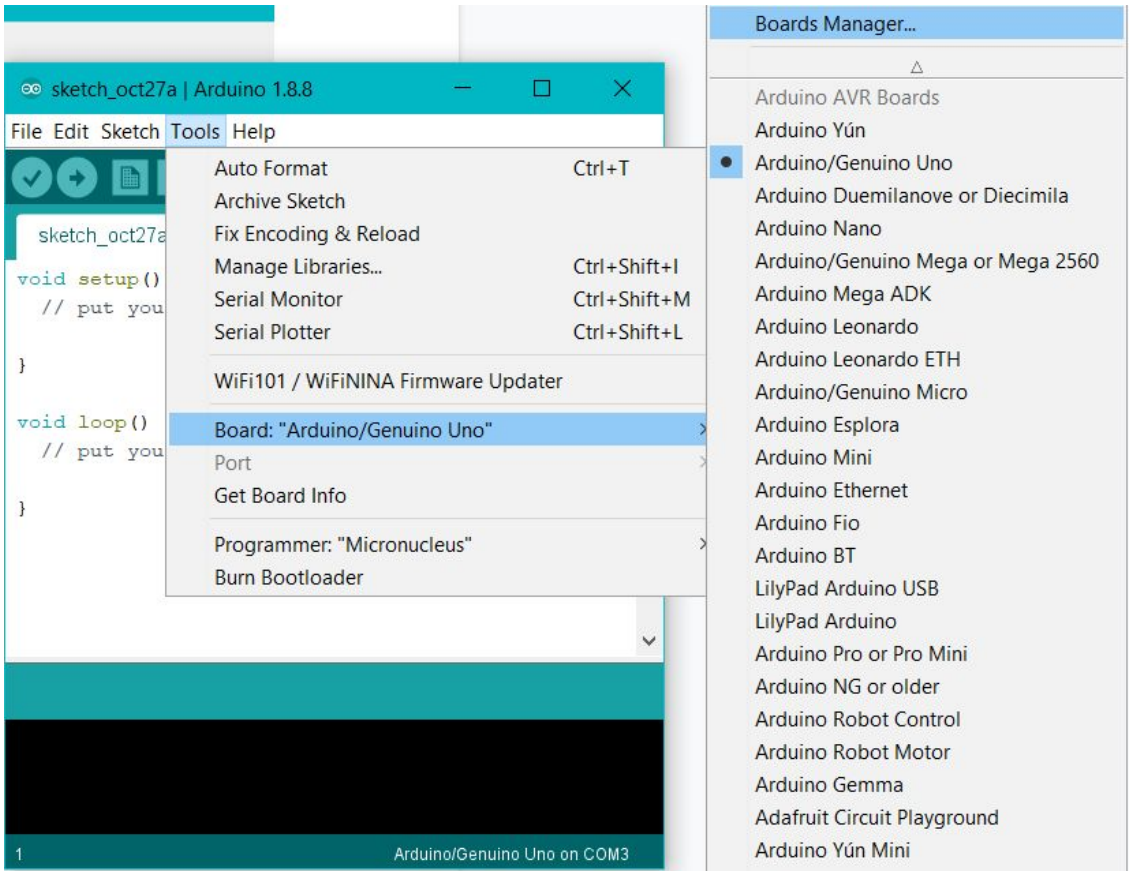
9) Copy and paste the following URL into the box:
http://digistump.com/package_digistump_index.json



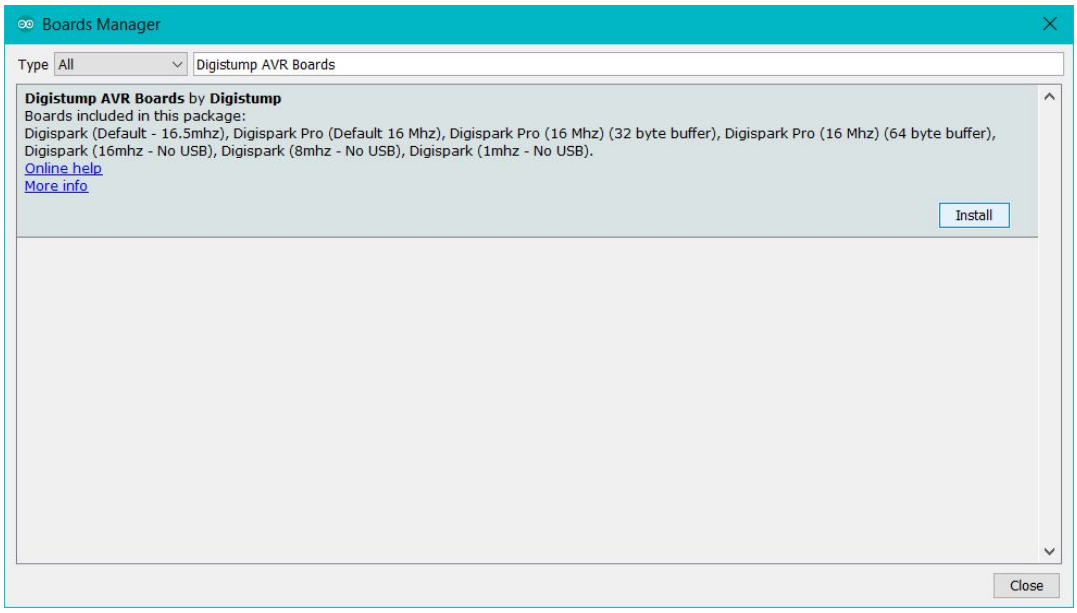
We found Digistump's Digispark V-USB implementation to be the best and most stable board configuration for ATTiny85 V-USB based

microcontrollers, and we choose to use theirs over developing our own.

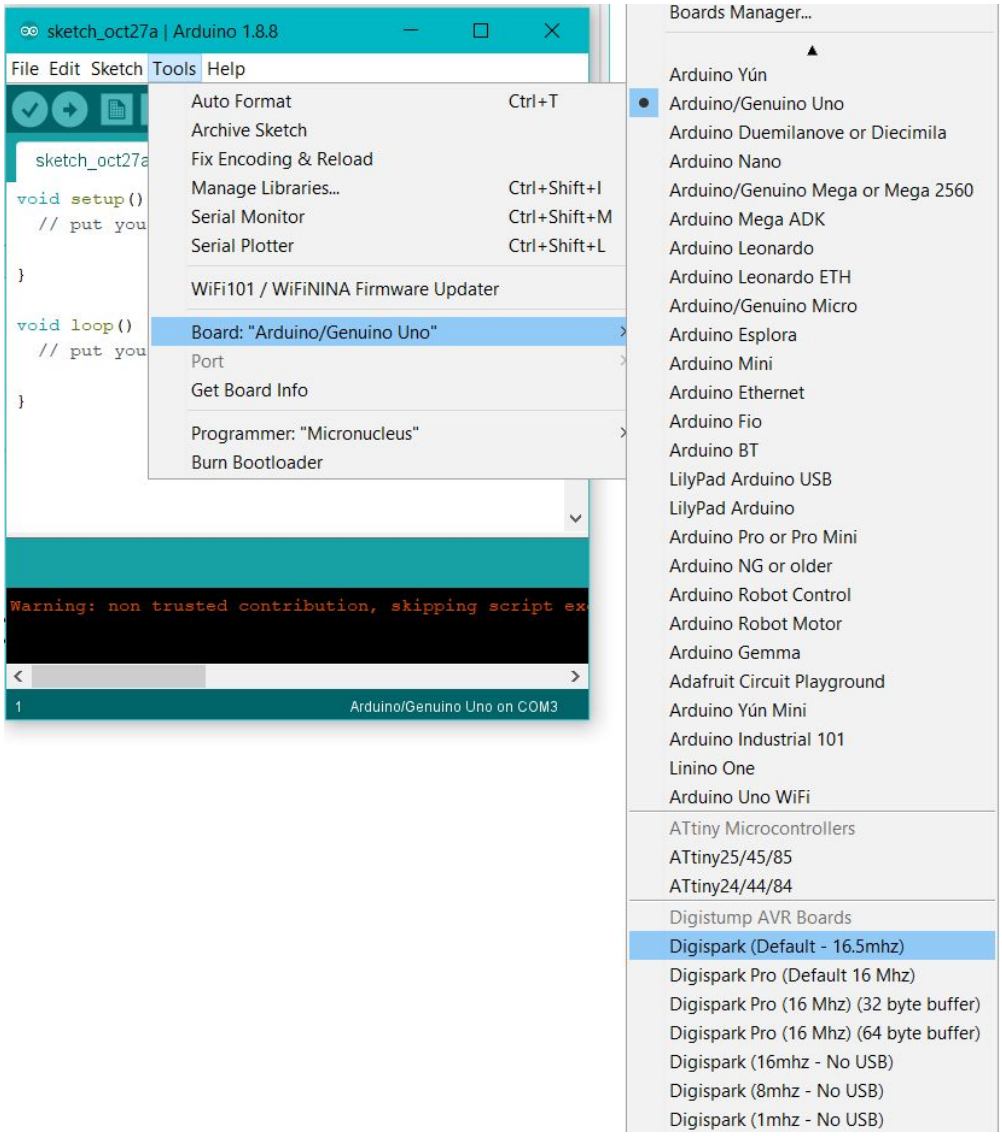
10) Click Ok, then Ok again. Click Tools -> Board -> Boards Manager



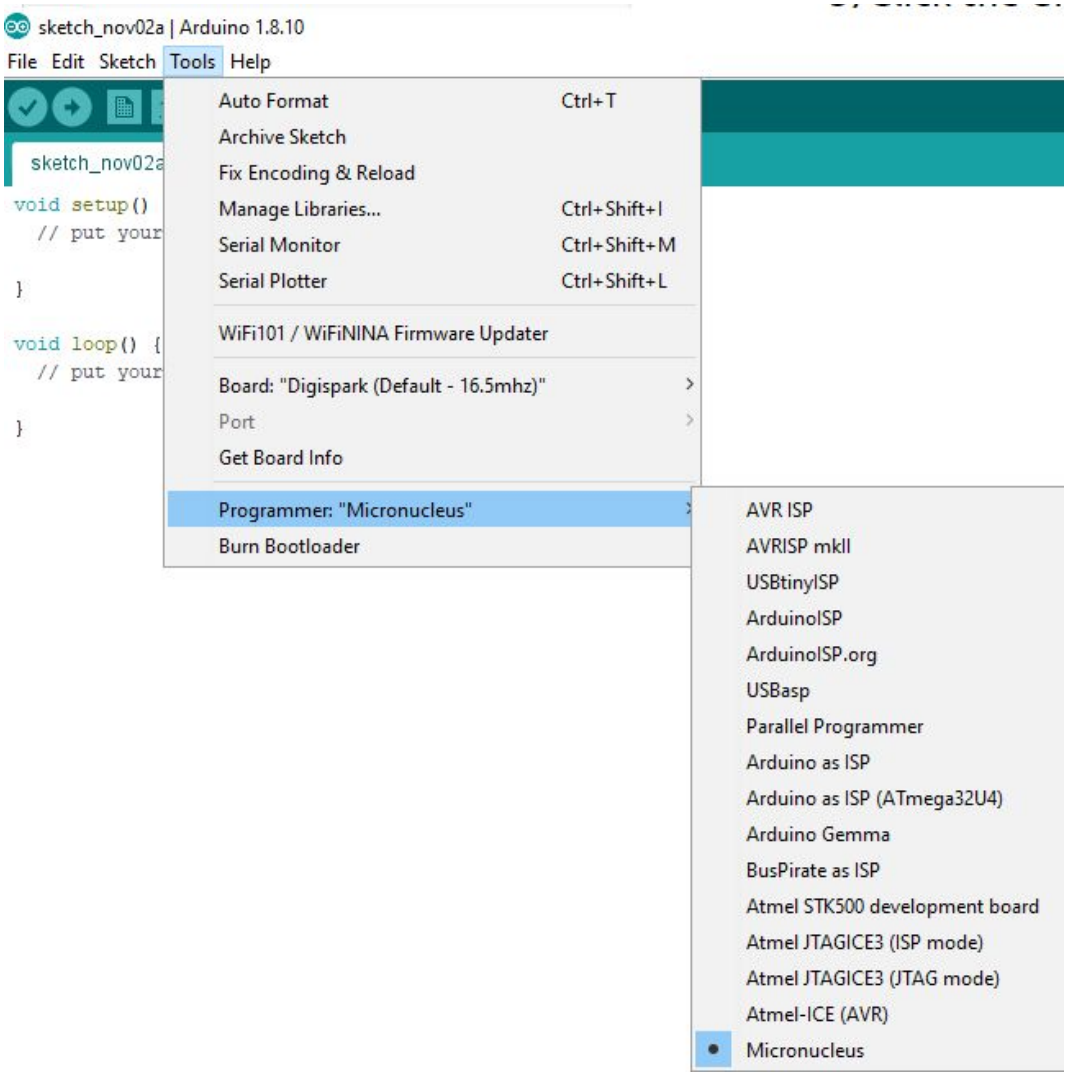
11) Search for “Digistump AVR Boards” and click install



12) Click close. Click Tools -> Boards -> Digispark (Default - 16.5mhz)

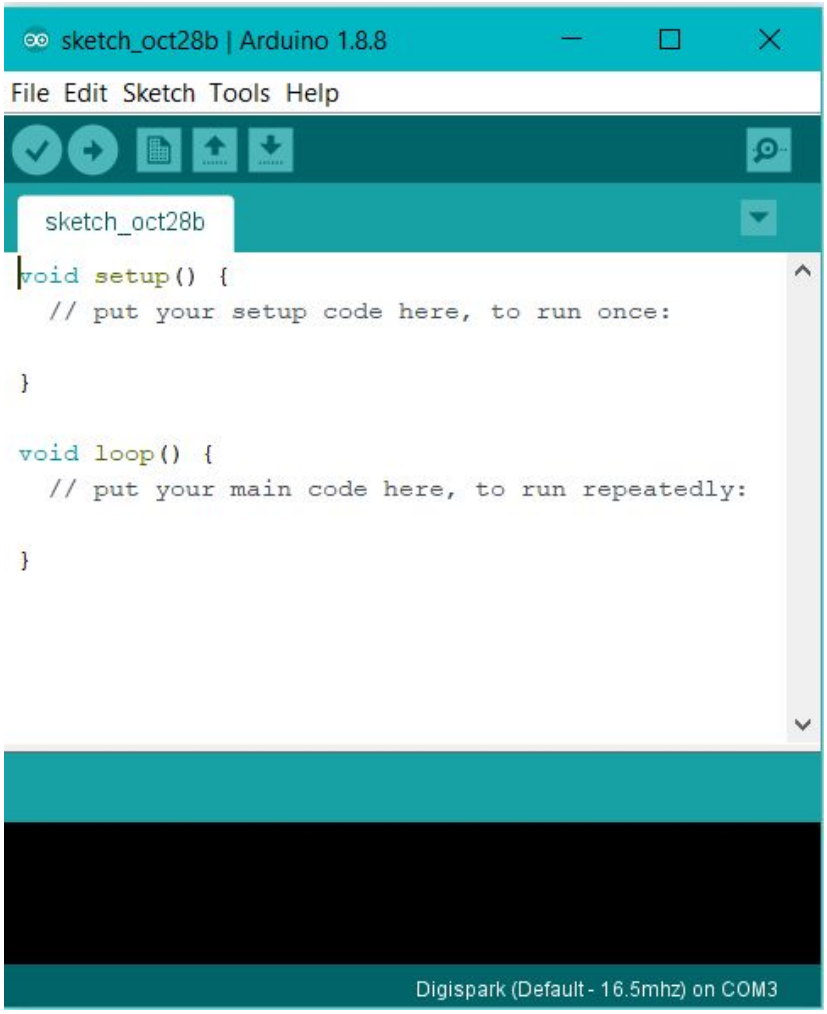


13) Click Tools -> Programmer -> Micronucleus

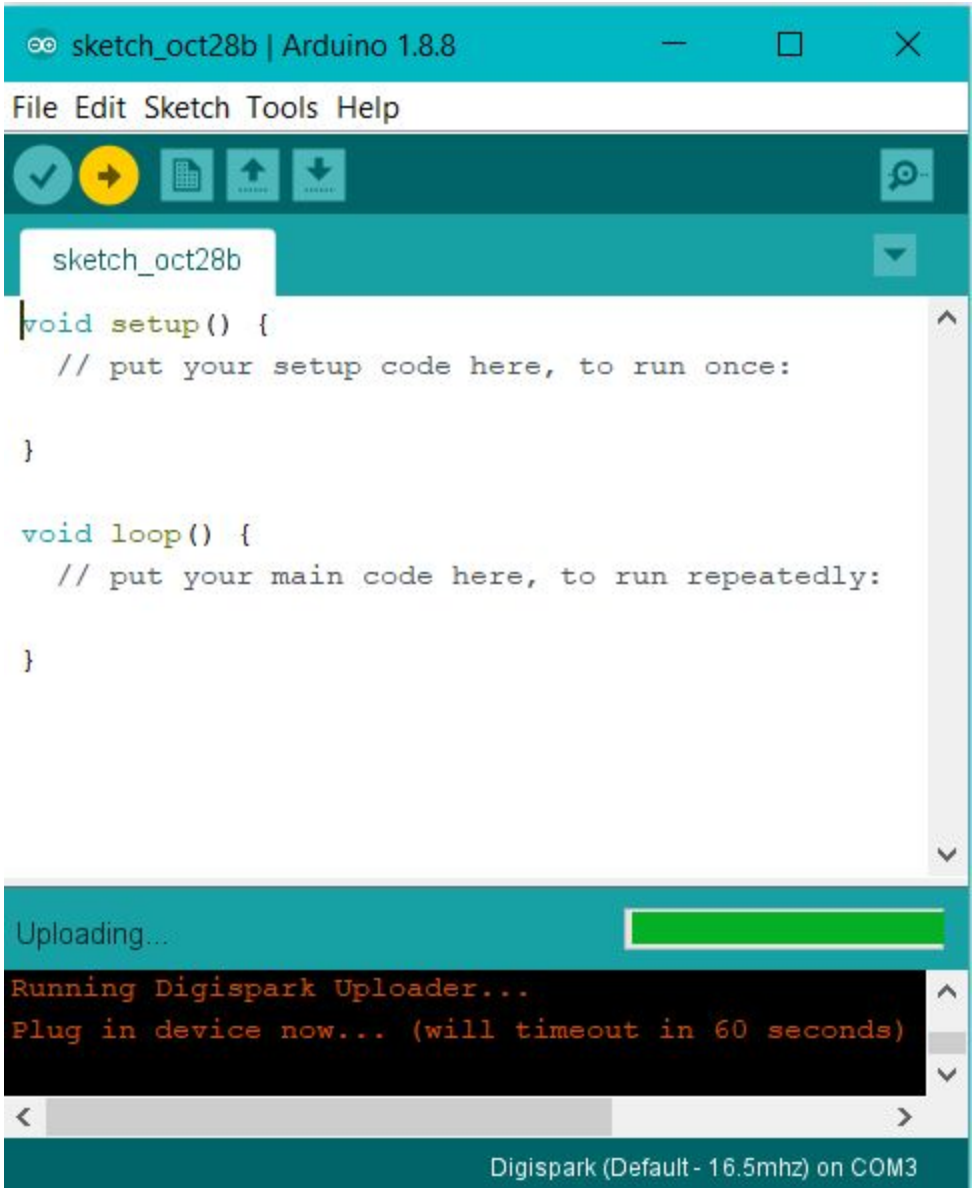


14) Add your code. It may be helpful to see the programming tips section.

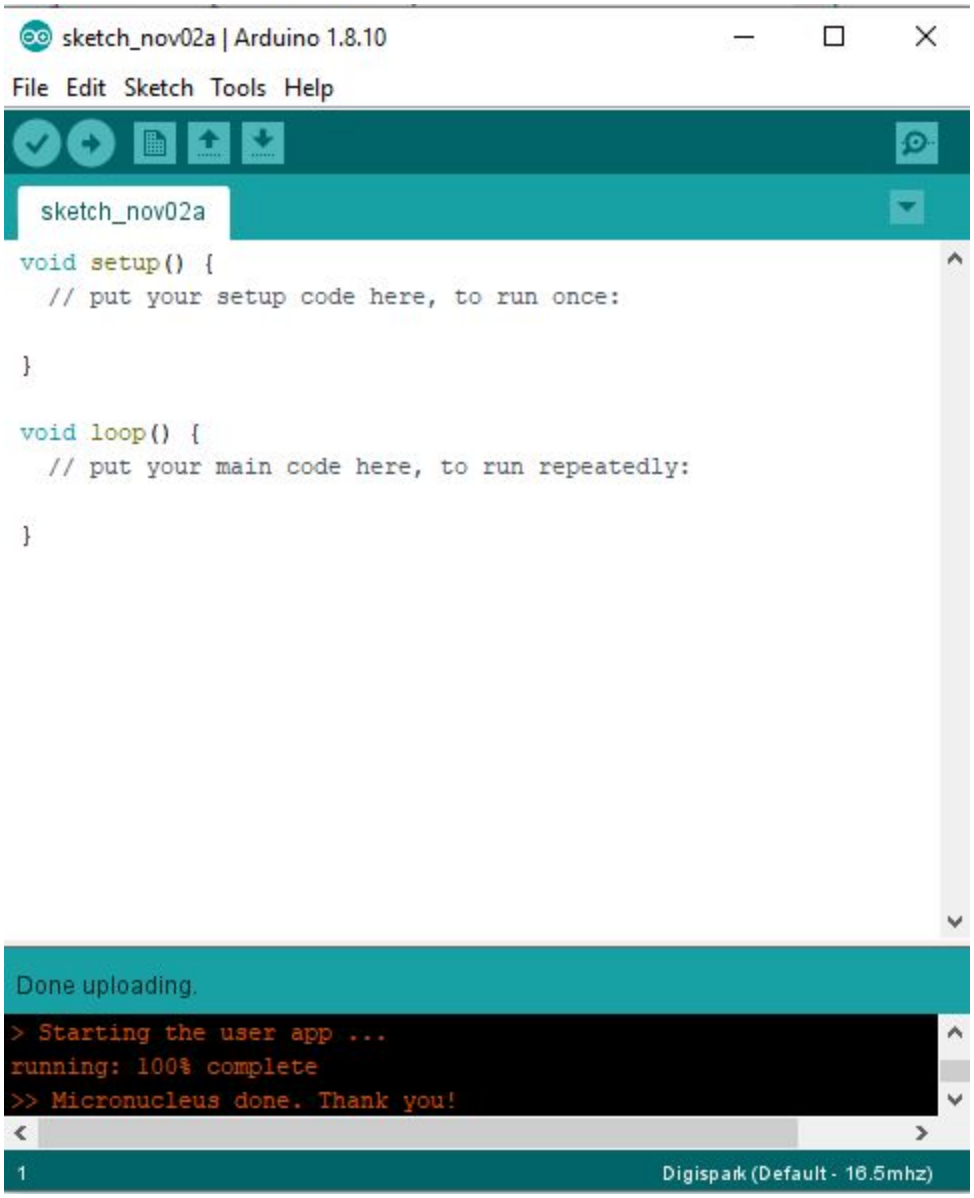
15) Click the upload button, but do not plug SunriseRGB in yet.



16) When you see “Plug in device now…”, plug in SunriseRGB. Make sure no LED strips are connected when you do this.



17) You should see the message “Micronucleus Done. Thank You!” and your program should begin running shortly.


sketch_nov02a | Arduino 1.8.10
File Edit Sketch Tools Help
sketch_nov02a
void setup() {
// put your setup code here, to run once:
}
void loop() {
// put your main code here, to run repeatedly:
}
Done uploading.
> Starting the user app ...
running: 100% complete
>> Micronucleus done. Thank you!
1
Digispark (Default - 16.5mhz)

Troubleshooting

Software:

- If you're installing the driver on a non Windows system, follow the instructions here: https://learn.sparkfun.com/tutorials/how-to-install-an-attiny-bootloader-with-virtual-usb#install-usb-drivers
- If you receive a "USB device not recognized error", disregard this message. This is a compatibility issue between V-USB and Windows 10
- If plugging the device in causes nothing to happen, and Arduino does not give the "Micronucleus Done. Thank You!" message, you may need to reinstall the driver. Sometimes Windows will automatically try to install a driver, in which case you should leave the device plugged in for a while, then try uploading again.
- If your using a USB C to USB C cable to connect the device to a computer and the program does not upload, it may be due to a compatibility problem. We've tested USB 3.1 / 3.2 ports on several desktop motherboards and they appear to work fine, but we have not tested Thunderbolt ports or laptops. This is unlikely to occur, but if it does, use a USB A to USB C cable.

- If you are still having problems, you can follow this Digispark setup guide, which is compatible with SunriseRGB: https://digistump.com/wiki/digispark/tutorials/connecting

Hardware:

- Exposure to electrostatic discharge may cause SunriseRGB to freeze. If this occurs, unplug the device and plug it back in.
- If your LED strip works intermittently or is dim, this may be due to your USB power supply, in which case you should find one that can supply more current. (SunriseRGB is designed for up to 5v 3 amp USB C chargers)
- Since SunriseRGB has no reset button, if your program locks up, you have to unplug and replug the device

Programming Tips:

- LED strip is connected to pin 1
- Button under black side is connected to pin 2
- Button under silver/gold side is connected to pin 0
- Add one to your LED count to account for the integrated LED
- You have 6KB of program storage space
- You have 512B of RAM
- Depending on whether you use FastLED or Neopixel libraries and your configurations, you can have up to 110 LEDs (other lightweight libraries may allow for more LEDs, but keep in mind that unless you can keep the total current draw under 3 amps, you may have to solder external power leads to your LED strips)
- Pinout: