PaintPot

Arduino-based brushed controller for Adobe Photoshop
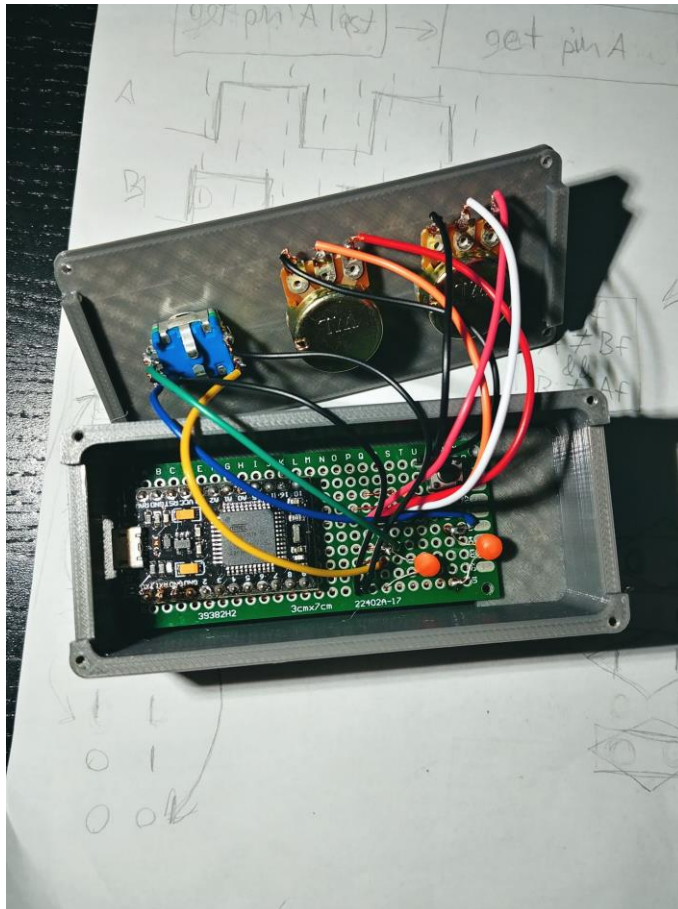
Yuriy Murenko – 2019

About

When using Adobe Photoshop or other raster graphics software, there's a significant fault in the user experience: the size of the brush tool and its opacity, as well as its flow rate are normally controlled by sliders in the Adobe Photoshop interface. When drawing or painting with a pen, one must either drag the slider around or press a button multiple times to get the desired brush size, sometimes this requires pressing the brush size hotkey 10 or more times.
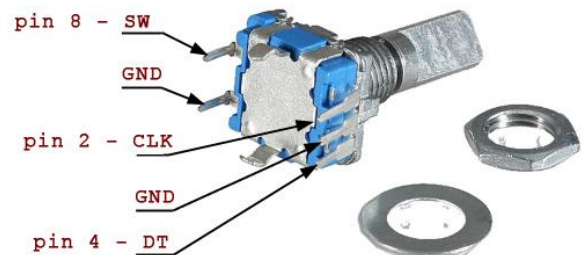
With the intent to solve this UX fault and speed up the productivity of my own creative endeavours, I've created a peripheral that can control the brush size and the opacity with a twist of a knob, not unlike the volume knob on a set of speakers.

I've opted to use the Arduino Pro Micro (functionally identical to the Arduino Leonardo, but in a smaller form factor). The ATmega32u4 processor has built-in USB communication, allowing the user to create USB based peripherals (something that isn't practically possible with the Arduino Uno).

Wiring

Rotary Encoder EC/EN-11 Wiring
(all pins are digital)

pin 8 - SW
GND
pin 2 - CLK
GND
pin 4 - DT

Additionally, connect a 0.1uF capacitor between pin 2 and ground, and another between pin 4 and ground
(NECESSARY FOR DEBOUNCE)

Potentiometer Wiring
(analog pins, one pot for 0 and 3)

GND
pin - 0 or 3
VCC