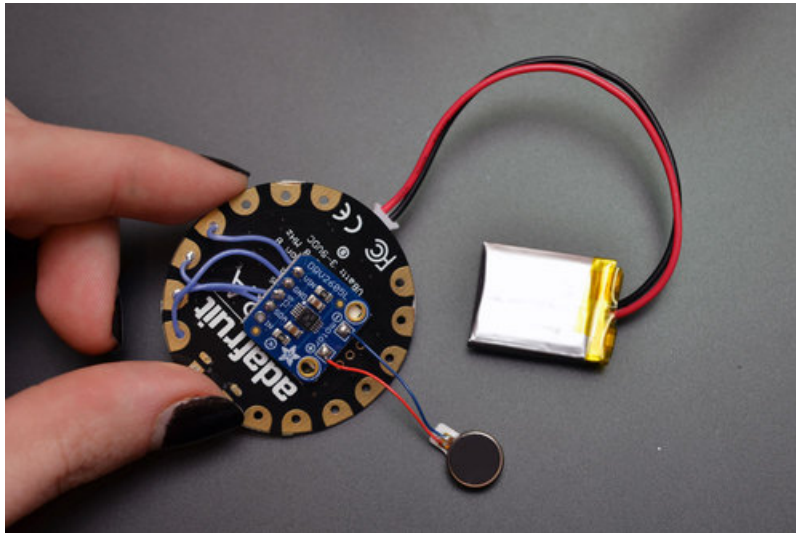




## Haptic Headband

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## Overview

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Create a vibration notification wearable for timing your meditation sessions and so much more! The haptic motor controller can execute waveforms, taps, clicks, fuzzes, hums, and bumps-- different patterns of vibrating that you can recognize. Build it into a bandana or headband for a meditation timer that gently signals you without the need for your phone's alarm.

Before you begin, make sure you've read the following prerequisite guides:

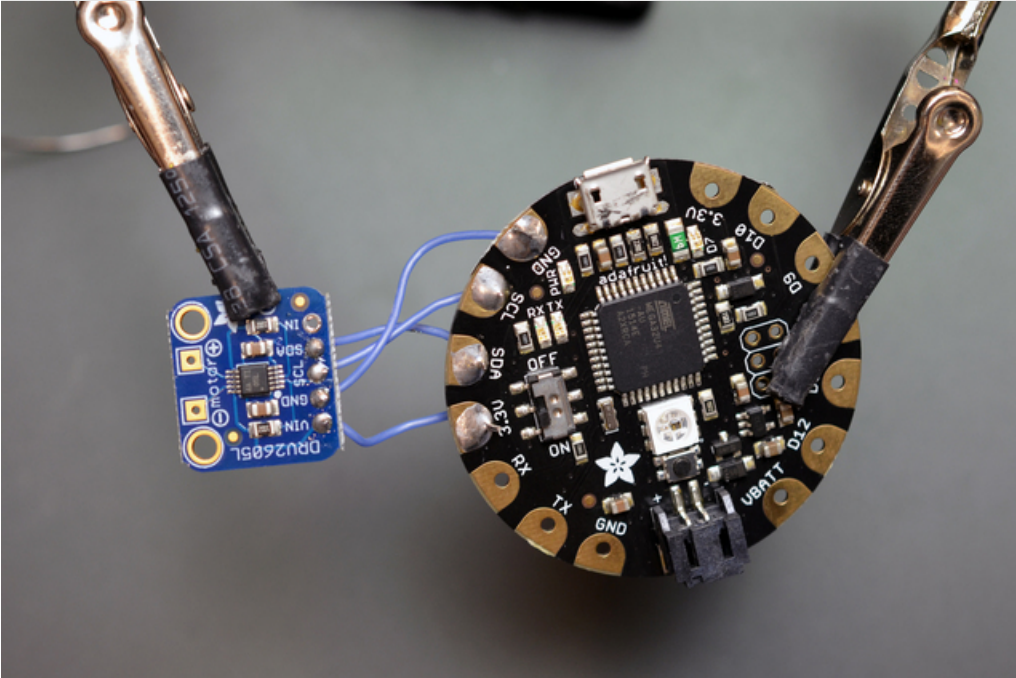
- [Getting Started with Flora \(https://adafru.it/dwi\)](https://adafru.it/dwi)
- [Adafruit Guide To Excellent Soldering \(https://adafru.it/drl\)](https://adafru.it/drl)
- [Battery Powering your Wearable Electronics \(https://adafru.it/e4c\)](https://adafru.it/e4c)
- [Adafruit DRV2605 Haptic Controller Breakout \(https://adafru.it/jDA\)](https://adafru.it/jDA)

For this project you will need:

- [Flora microcontroller \(https://adafru.it/dgx\)](https://adafru.it/dgx) (or other I2C capable microcontroller)
- [DRV2605L Haptic Motor Controller \(https://adafru.it/jDB\)](https://adafru.it/jDB)
- [Vibrating Mini Motor Disc \(https://adafru.it/fbV\)](https://adafru.it/fbV)
- [Lipoly battery \(http://adafru.it/1317\)](http://adafru.it/1317) and [charger \(http://adafru.it/1304\)](http://adafru.it/1304)
- [Soldering tools and supplies \(https://adafru.it/drl\)](https://adafru.it/drl)
- double sided foam tape or velcro tape (optional)
- Headband or bandana
- needle and thread (optional)

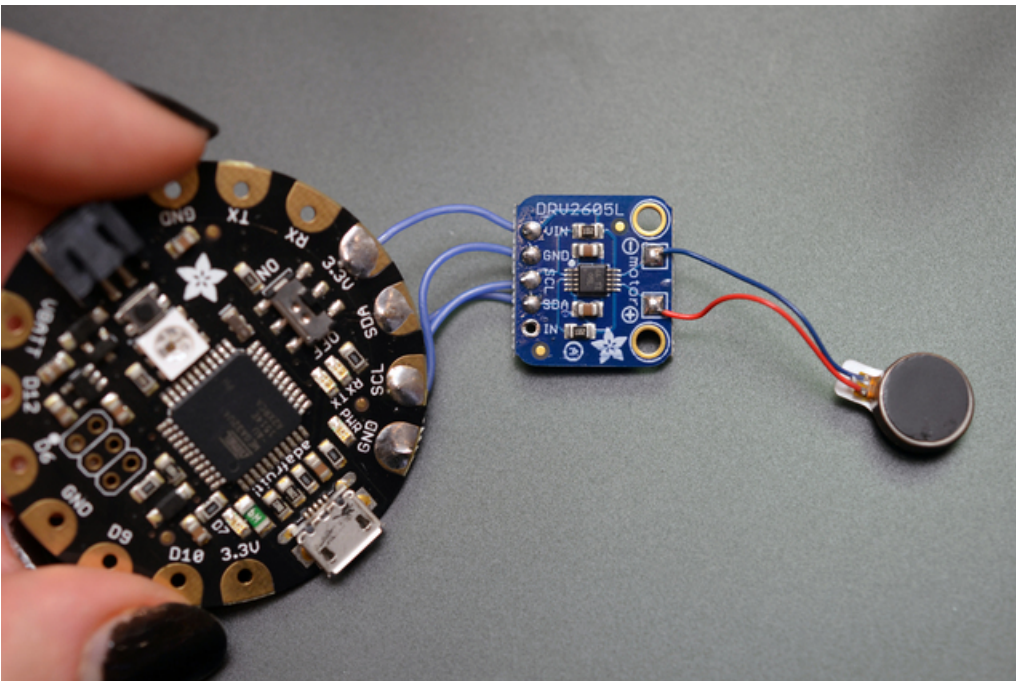
For a similar circuit without haptic gestures (but with slightly smaller components), check out the [Gemma Mindfulness Bracelet \(https://adafru.it/jDC\)](https://adafru.it/jDC)!

## Solder Circuit

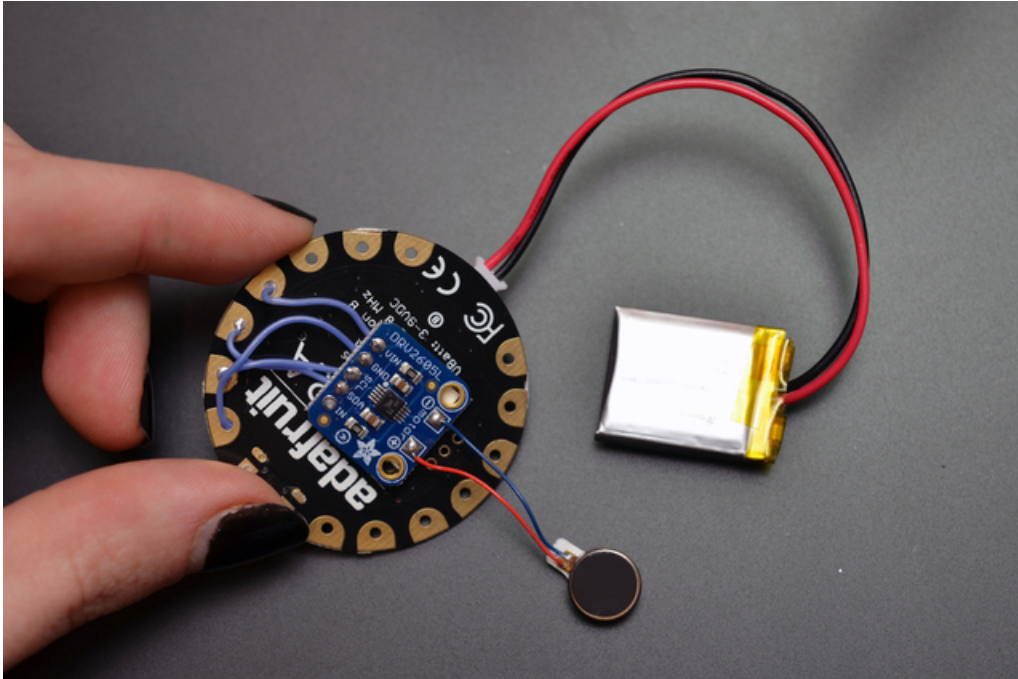


Solder four wire connections as follows:

- motor controller VIN -> Flora 3.3V
- motor controller GND -> Flora GND
- motor controller SCL -> Flora SCL
- motor controller SDA -> Flora SDA



Solder the vibration motor to the + (red) and - (blue) on the motor controller.



Use a piece of double sided foam tape (or velcro tape) to affix the moto controller to the back of Flora, and plug in your battery.

## Code

Upload the following code to your Flora using the Arduino IDE. Change the 'interval' variable to your desired timer. Requires the [DRV2605 \(https://adafru.it/eh0\)](https://adafru.it/eh0) library.

This basic code creates a variable delay between pulses-- adjust the 'interval' value to your liking.

For a more complex, power saving example, check out the [Gemma Mindfulness Bracelet \(https://adafru.it/jDC\)](https://adafru.it/jDC).

```
/*
Basic timer circuit to trigger haptic motor controller at a specified interval.
Uses Flora and DRV2605L Haptic Motor Controller
Tutorial: https://learn.adafruit.com/haptic-headband
*/

#include <Wire.h>
#include "Adafruit_DRV2605.h"

Adafruit_DRV2605 drv;

uint8_t effect = 7;
uint32_t wait = 10; // Time between reminders, in seconds

void setup() {
  Serial.begin(9600);
  drv.begin();

  drv.selectLibrary(1);

  // I2C trigger by sending 'go' command
  // default, internal trigger when sending GO command
  drv.setMode(DRV2605_MODE_INTTRIG);
}

void loop() {
  Serial.print("Effect #"); Serial.println(effect);

  // set the effect to play
  drv.setWaveform(0, effect); // play effect
  drv.setWaveform(1, 0);     // end waveform

  // play the effect!
  drv.go();

  delay(wait * 60 * 1000);
}
```

Wear it!



Plug in your battery, power Flora's switch ON, and roll up the circuit in a headband or bandana. Wear for timing your meditation, reminding you to check the laundry, etc.!