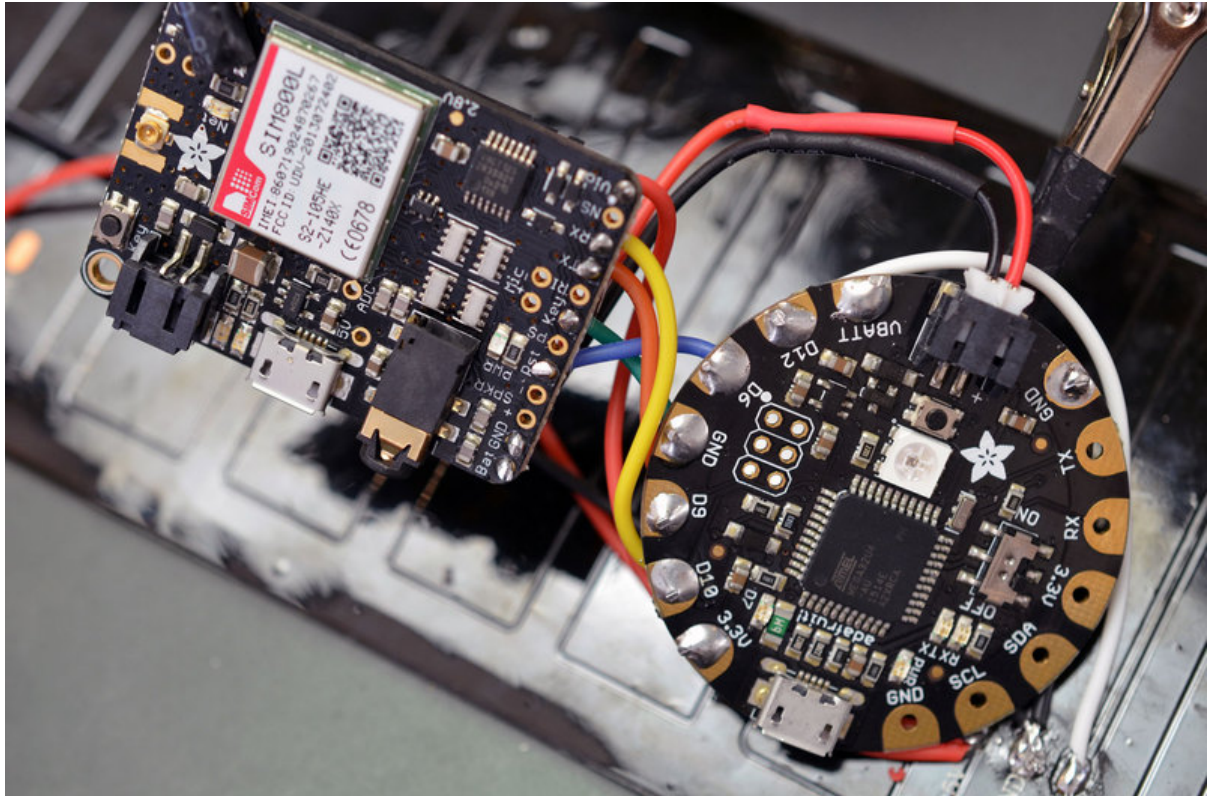




# FLORA + FONA

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<https://learn.adafruit.com/flora-plus-fona>

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# Overview

Use Fona with Flora! Combining these two powerful boards can create the wearables projects of your dreams! This quick guide covers the particulars of hooking Fona up to Flora including wiring and code modifications, so you can take most any Fona project and build it with Flora.

Before you begin, make sure to familiarize yourself with the following prerequisite guides:

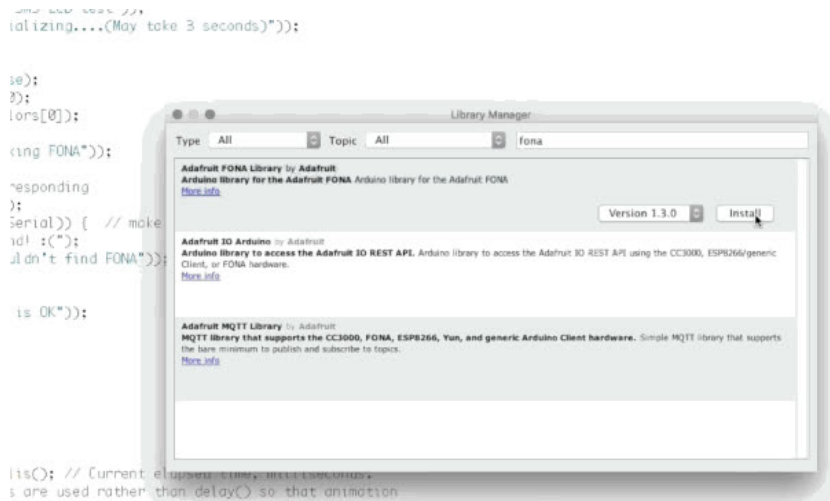
- [Getting Started with FLORA \(https://adafru.it/dwi\)](https://adafru.it/dwi)
- [Adafruit Fona \(https://adafru.it/iDO\)](https://adafru.it/iDO)



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## Code Library & Modifications

Before you can start communicating with Fona, you'll need the Fona library for Arduino. You can install it directly from the Arduino app under **Sketch -> Include Library -> Manage Libraries** (Arduino 1.6 and above).



The older, slower way to install the library is to download it directly from github:

**Download the Adafruit\_FONA  
Library**

<https://adafru.it/dDD>

Rename the uncompressed folder **Adafruit\_FONA** and check that the **Adafruit\_FONA** folder contains **Adafruit\_FONA.cpp** and **Adafruit\_FONA.h**

Place the **Adafruit\_FONA** library folder your **arduinofolder/libraries/** folder. You may need to create the **libraries** subfolder if its your first library. Restart the IDE.

We also have a great tutorial on Arduino library installation at:

<http://learn.adafruit.com/adafruit-all-about-arduino-libraries-install-use> (<https://adafru.it/aYM>)

In any Fona sketch you use, change the following variables to better suit Flora's layout:

```
#define FONA_RX 10
#define FONA_TX 9
#define FONA_RST 6
```

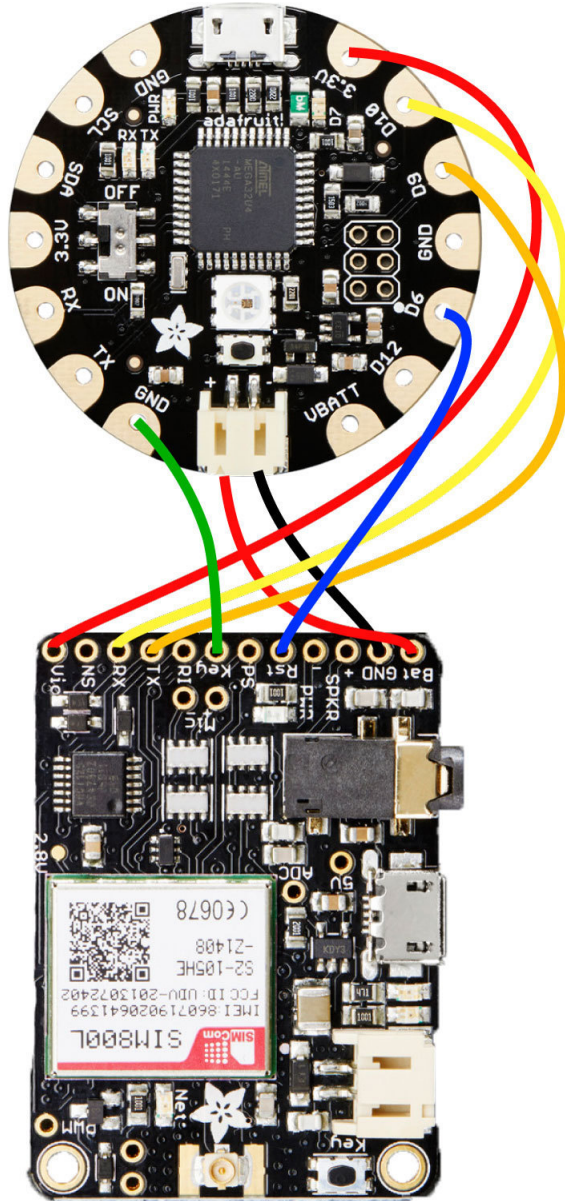
For testing the different functions of Fona, head to [instructions on the main Fona guide](https://adafru.it/iDO) (<https://adafru.it/iDO>)! It's tons of fun to experiment with the SMS function using the Arduino Serial Monitor interface (FONAtest).

Other pin configurations are possible, but for simplicity and consistency with the diagram on the next page, we've chosen to set the software serial port to pins 10 and 9, and the Fona reset pin to 6.

Flora is capable of hardware serial communication, and although not yet officially supported in the Fona library, advanced users may wish to try this code modification!

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## Circuit Assembly



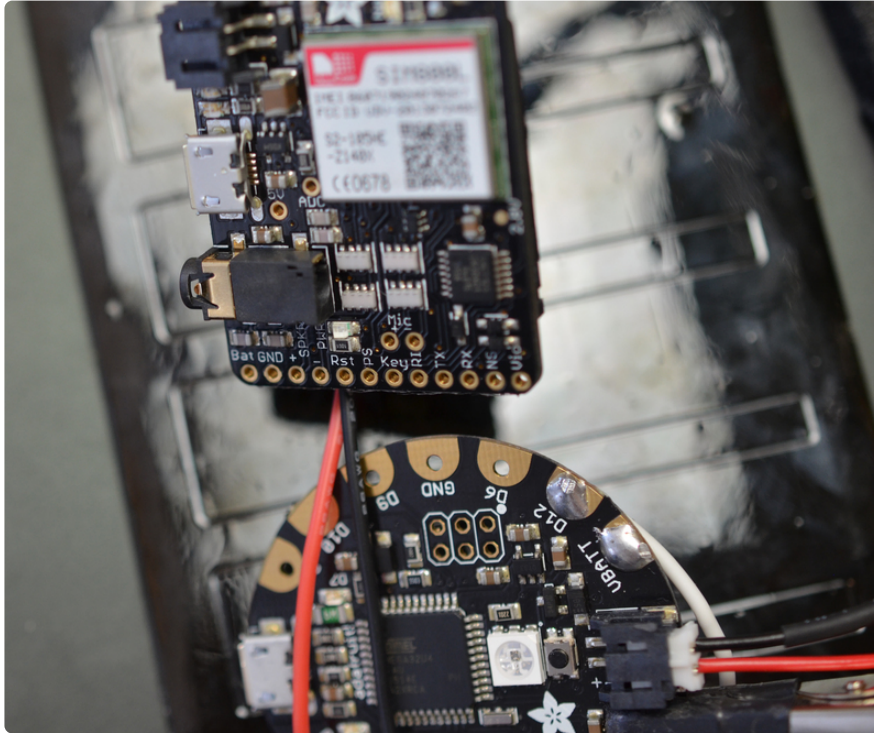
Wiring connections are as follows:

- Fona Vio -> Flora 3.3v
- Fona RX -> Flora D10 (configurable)
- Fona TX -> Flora D9 (configurable)
- Fona Key -> Flora GND
- Fona RST -> Flora D6 (configurable)
- Fona GND and BAT -> Flora JST port

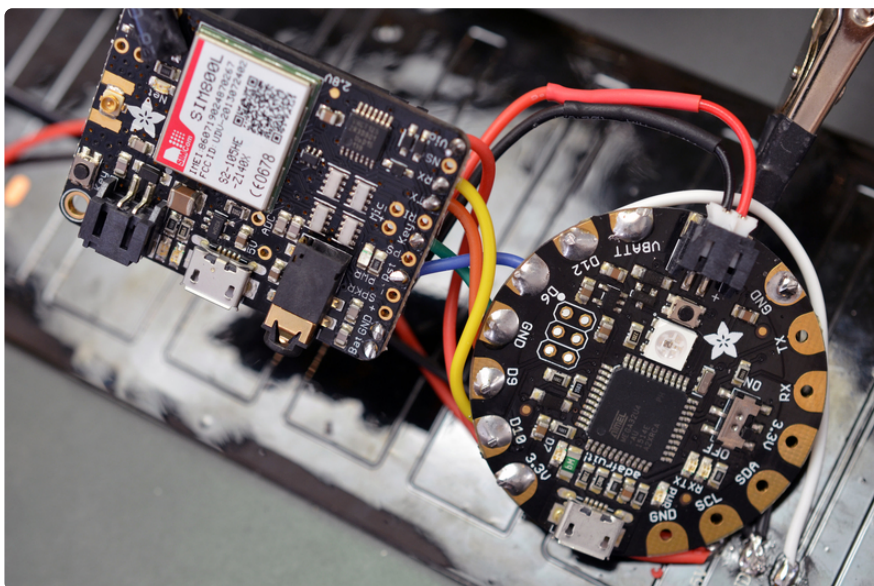


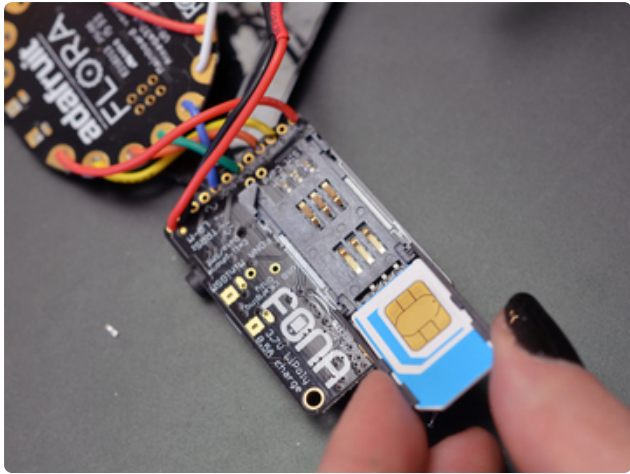
Flora can only be powered from the JST or USB port, so solder a JST cable to Fona's Bat and GND connections and plug it into Flora.

This wiring configuration takes advantage of Fona's onboard USB lipoly battery charger. But it does mean that either a battery or USB power must be connected to Fona even when Flora is plugged into USB for debugging-- Fona can't be powered from Flora's USB port.

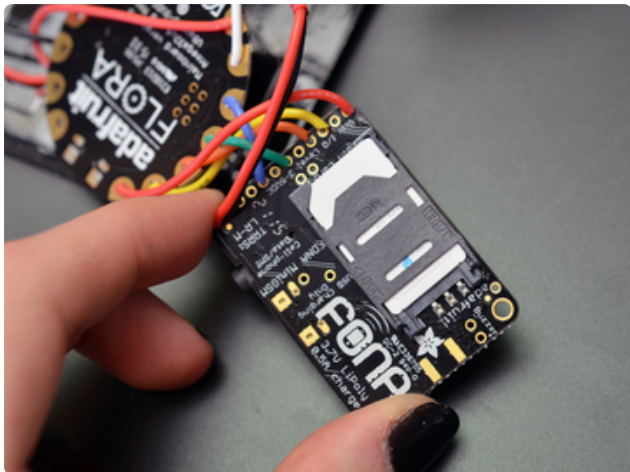


Solder the other wire connections as described in the circuit diagram.





Open the SIM door and install your SIM card, then replace and latch the SIM door closed (it will only fit one way).



Now you're ready to test out the Fona demo sketch (don't forget to update your pin variables to reflect the connections to Flora)!

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## Projects



The [SMSsenger bag](https://adafru.it/jAS) (<https://adafru.it/jAS>) uses the wiring in this guide, with the addition of a flex NeoPixel matrix to display received SMSs, and is a good example project on which to base your own SMS Fona project!

[Geofencing with the FONA 808 & Adafruit IO \(https://adafru.it/jAT\)](https://adafru.it/jAT) - Build a geofencing project that will send alerts when it goes out of the perimeter!

[Track Your Treats: Halloween Candy GPS Tracker \(https://adafru.it/jdn\)](https://adafru.it/jdn) - This GPS logging + marking project could easily be used for any route-tracking wearables!