



# Arduino Bootcamp : Learning Through Projects

Open Source Phone - Operation - Part 2

# Project Objectives

- In this project you will learn:
  - How to perform phone tests
  - How to make calls and send text messages
  - Ideas for enhancing the project

# Arduino Test

- Download the [Adafruit\\_FONA library](#) and copy to your sketchbook location libraries folder. Restart the IDE
- Open File->Examples->Adafruit\_FONA->FONAtest
  - Ensure that the 3.7/4.2V LiPoly or Lilon battery is plugged into the JST connector and the antenna is attached
  - Plug in headset into audio jack
  - Check to ensure that “Both NL & CR” is selected for the serial sender option and the baud is 115200

```
COM70
FONA basic test
Initializing.... (May take 3 seconds)
OK
-----
[?] Print this menu
[a] read the ADC (2.8V max)
[b] read the Battery V
[C] read the SIM CCID
[i] read RSSI
[n] get Network status
[v] set audio Volume
[V] get Volume
[H] set Headphone audio
[e] set External audio
[T] play audio Tone
[f] tune FM radio
[F] turn off FM
[P] PWM/Buzzer out
[c] make phone Call
[h] Hang up phone
[N] Number of SMSs
[r] Read SMS #
[R] Read All SMS
[d] Delete SMS #
[s] Send SMS
[S] create Serial passthru tunnel
-----
FONA>
```

Autoscroll Both NL & CR 115200 baud

# Perform Tests

- Battery test
  - b, then enter
- Check SIM CCID - Verifies that SIM is inserted correctly and reads unique identifier on it
  - C, then enter
- Check RSSI (network signal strength)
  - i, then enter
- Check network registration - see if you are connected to a cell tower
  - n, then enter
- Set audio to headset
  - H, then enter

# Phone Operation

- Make a phone call
  - c, then enter
  - type in phone number with 1 and area code, no dashes
  - h, then enter to hangup
- Send text message
  - s, then enter
  - type in message
- Reviewing/Delete SMS messages
  - N, then enter, will show how many SMS messages the SIM has
  - R, then enter will read them all
  - r, then enter and a number will read SMS in a particular slot
  - d, then enter and a number will delete an SMS in a slot

# FM Operation (FONA 800 only)

- Tune to a frequency
  - f, then enter
  - provide a frequency e.g. 1015 for (101.5) then enter
- Listen to the radio!!!

# Extras to enhance project

- Can include an external speaker and microphone for enhanced communication
- Can include vibrating disc for when calls come in
- Can include graphical TFT display with menu driven interface

# Summary

- In this project you learnt:
  - About testing out your phone
  - How to make calls and send text messages from your open source phone
  - Ideas to enhance the project

<https://learn.adafruit.com/adafruit-fona-mini-gsm-gprs-cellular-phone-module/overview>