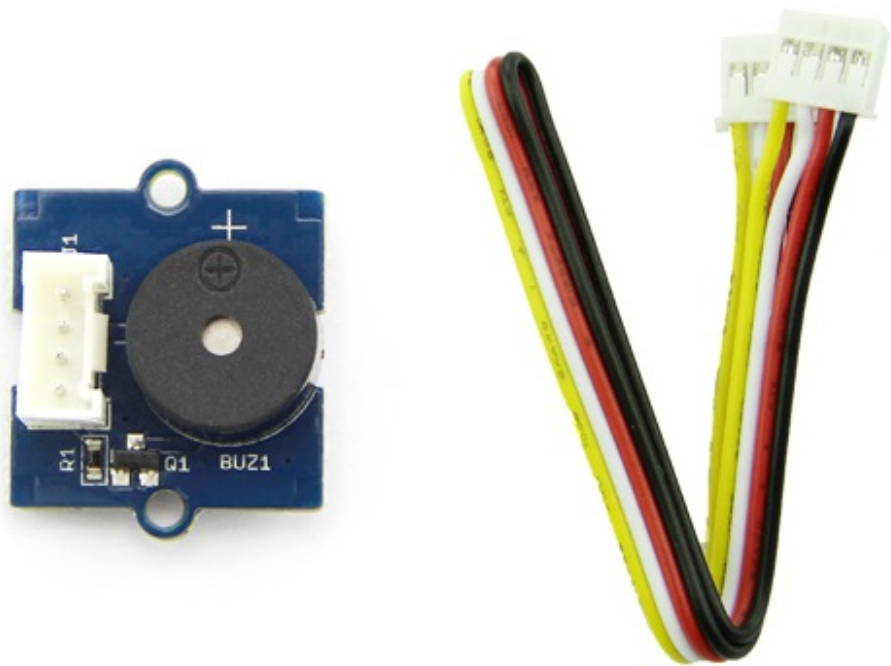


Grove - Buzzer SKU:107020000



The Grove - Buzzer module has a [piezo buzzer](#) as the main component. The piezo can be connected to digital outputs, and will emit a tone when the output is HIGH. Alternatively, it can be connected to an analog pulse-width modulation output to generate various tones and effects.

Version

Product Version	Changes	Released Date
Grove-Buzzer V1.0	Initial	Nov 25 2010
Grove-Buzzer V1.1	Add S9013 Transistor	May 30 2014

Features

- Easy to use piezoelectric buzzer
- Uses Standard 4-pin Grove Cables to connect to other Grove modules such as - [Grove Power Modules](#) and Grove - Base Shield

!!!Tip More details about Grove modules please refer to [Grove System](#)

Specifications

Items	Specification
Operating Voltage	3.3V/5V
Sound Output	≥85dB

Items	Specification
Resonant Frequency	2300±300Hz
Size	L:20mm W:20mm H:9.8mm
Weight	2.6g
Certification	ROHS

Platforms Supported

Arduino	Raspberry Pi	BeagleBone	Wio	LinkIt ONE
				




!!!Caution The platforms mentioned above as supported is/are an indication of the module's software or theoretical compatibility. We only provide software library or code examples for Arduino platform in most cases. It is not possible to provide software library / demo code for all possible MCU platforms. Hence, users have to write their own software library.

Getting Started

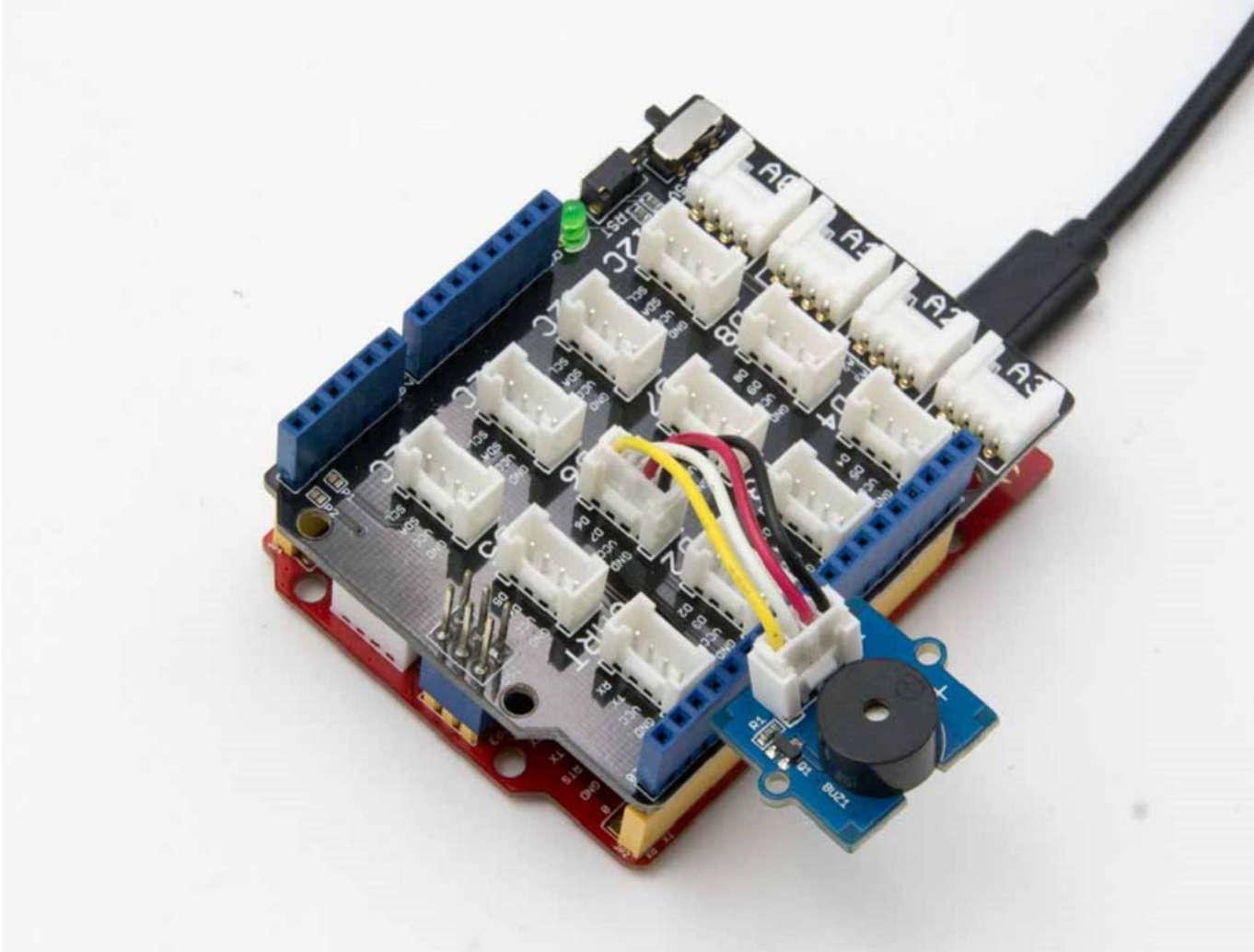
Play With Arduino

Hardware

- **Step 1.** Prepare the below stuffs:

Seeeduino V4.2	Base Shield	Grove - Buzzer
		

- **Step 2.** Connect Grove-Buzzer to port D6 of Grove-Base Shield.
- **Step 3.** Plug Grove - Base Shield into Seeeduino.
- **Step 4.** Connect Seeeduino to PC through a USB cable.



!!!Note If we don't have Grove Base Shield, We also can directly connect Grove-buzzer to Seeeduino as below.

Seeeduino	Grove-Buzzer
5V	Red
GND	Black
Not Conencted	White
D6	Yellow

Software

- Step 1. Copy the code into Arduino IDE and upload.

```
void setup()
{
  pinMode(6, OUTPUT);
}

void loop()
{
  digitalWrite(6, HIGH);
  delay(1000);
}
```

```
digitalWrite(6, LOW);  
delay(1000);  
}
```

- Step 2. We will hear the buzzer on and off.

Play with Codecraft

Hardware

Step 1. Connect Grove - Buzzer to port D6 of a Base Shield.

Step 2. Plug the Base Shield to your Seeeduino/Arduino.

Step 3. Link Seeeduino/Arduino to your PC via an USB cable.

Software

Step 1. Open [Codecraft](#), add Arduino support, and drag a main procedure to working area.

!!!Note If this is your first time using Codecraft, see also [Guide for Codecraft using Arduino](#).

Step 2. Drag blocks as picture below or open the cdc file which can be downloaded at the end of this page.



Upload the program to your Arduino/Seeeduino.

!!!Success When the code finishes uploaded, you will hear the buzzer sound intermittently.

Play With Raspberry Pi (With Grove Base Hat for Raspberry Pi)

Hardware

- **Step 1.** Things used in this project:

Raspberry pi

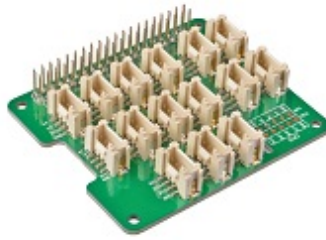
Grove Base Hat for RasPi

Grove - Buzzer

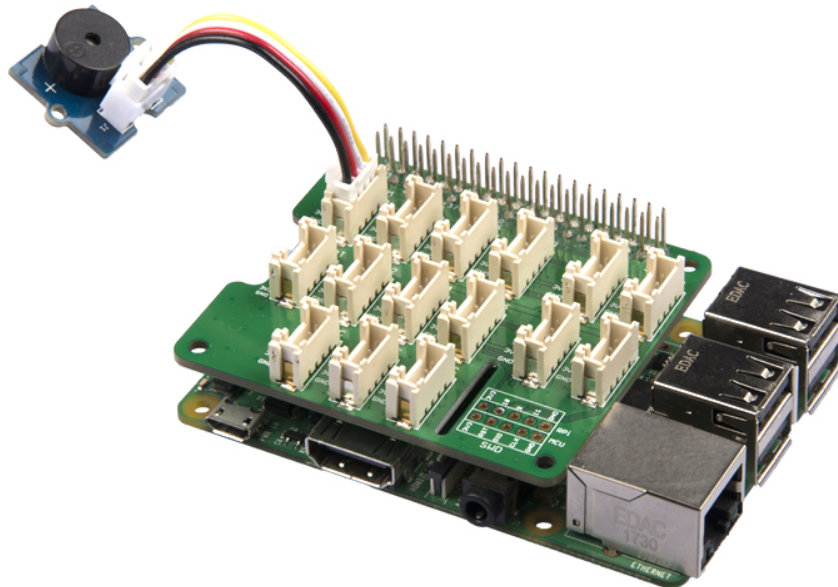
Raspberry pi

Grove Base Hat for RasPi

Grove - Buzzer



- **Step 2.** Plug the Grove Base Hat into Raspberry Pi.
- **Step 3.** Connect the Grove Buzzer to PWM port of the Base Hat.
- **Step 4.** Connect the Raspberry Pi to PC through USB cable.



Software

- **Step 1.** Follow [Setting Software](#) to configure the development environment.
- **Step 2.** Download the source file by cloning the grove.py library.

```
cd ~  
git clone https://github.com/Seeed-Studio/grove.py
```

- **Step 3.** Execute below command to run the code.

```
cd grove.py/grove
python grove_pwm_buzzer.py
```

Following is the grove_led.py code.

```
from __future__ import print_function

import time
from mraa import getGpioLookup
from upm import pyupm_buzzer as upmBuzzer

def main():
    print("Insert Grove-Buzzer to Grove-Base-Hat slot PWM[12 13 VCC GND]")

    # Grove Base Hat for Raspberry Pi
    #   PWM JST SLOT - PWM[12 13 VCC GND]
    pin = 12
    #
    # Create the buzzer object using RaspberryPi GPIO12
    mraa_pin = getGpioLookup("GPIO%d" % pin)
    buzzer = upmBuzzer.Buzzer(mraa_pin)

    chords = [upmBuzzer.BUZZER_DO, upmBuzzer.BUZZER_RE, upmBuzzer.BUZZER_MI,
              upmBuzzer.BUZZER_FA, upmBuzzer.BUZZER_SOL, upmBuzzer.BUZZER_LA,
              upmBuzzer.BUZZER_SI];

    # Print sensor name
    print(buzzer.name())

    # Play sound (DO, RE, MI, etc.), pausing for 0.1 seconds between notes
    for chord_ind in range (0,7):
        # play each note for a half second
        print(buzzer.playSound(chords[chord_ind], 500000))
        time.sleep(0.1)

    print("exiting application")

    # Delete the buzzer object
    del buzzer

if __name__ == '__main__':
    main()
```

!!!success If everything goes well, the buzzer will ring a few times and then stop, the program will automatically exit.

Play With Raspberry Pi (with GrovePi_Plus)

Hardware

- **Step 1.** Prepare the below stuffs:

Raspberry pi



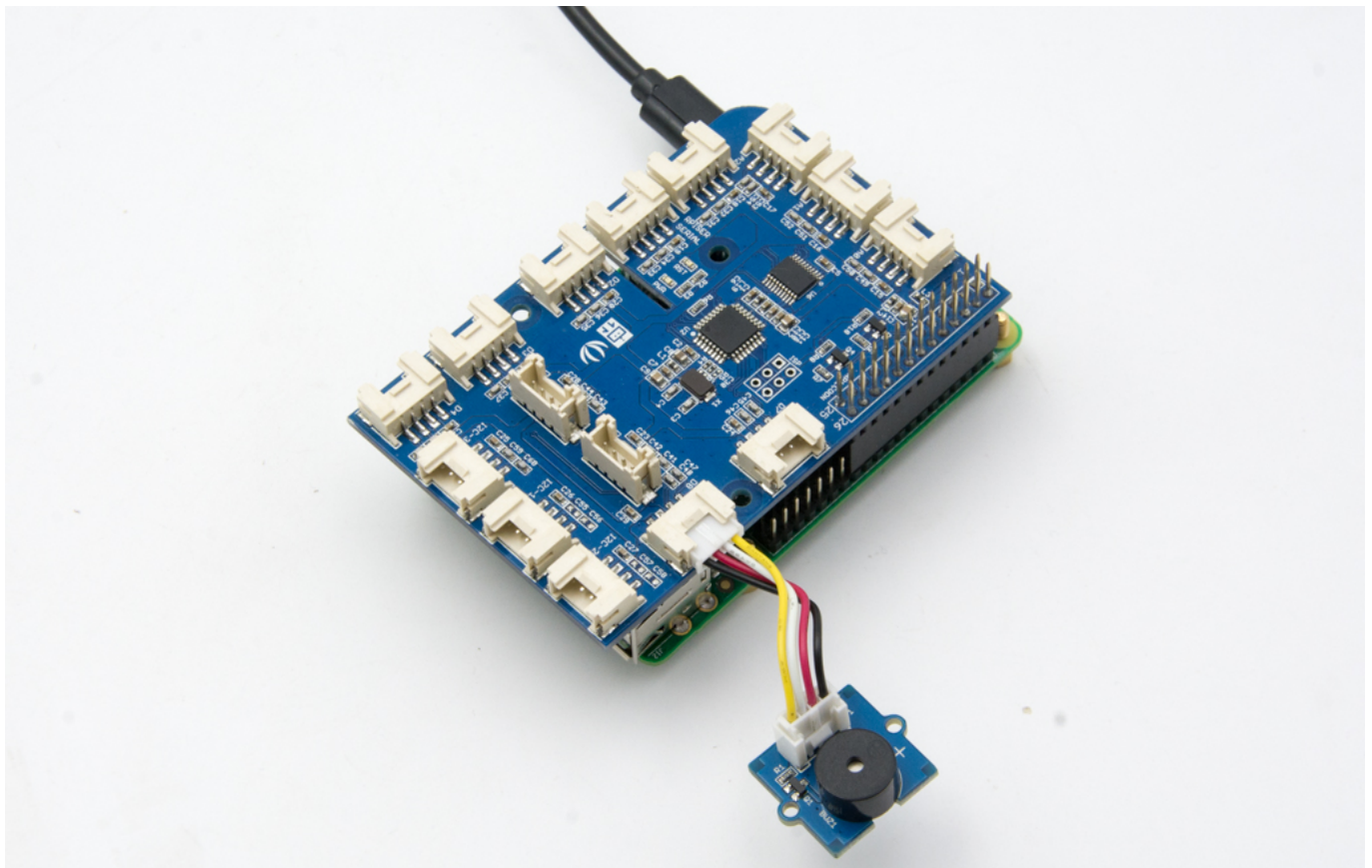
GrovePi_Plus



Grove - Buzzer



- **Step 2.** Plug the GrovePi_Plus into Raspberry.
- **Step 3.** Connect Grove-Buzzer to D8 port of GrovePi_Plus.
- **Step 4.** Connect the Raspberry to PC through USB cable.



Software

- **Step 1.** Follow [Setting Software](#) to configure the development environment.
- **Step 2.** Git clone the Github repository.

```
cd ~
git clone https://github.com/DexterInd/GrovePi.git
```

- **Step 3.** Excute below commands.

```
cd ~/GrovePi/Software/Python
python grove_buzzer.py
```

Here is the grove_buzzer.py code.

```
import time
import grovepi

# Connect the Grove Buzzer to digital port D8
# SIG,NC,VCC,GND
buzzer = 8

grovepi.pinMode(buzzer,"OUTPUT")

while True:
    try:
        # Buzz for 1 second
        grovepi.digitalWrite(buzzer,1)
        print ('start')
        time.sleep(1)

        # Stop buzzing for 1 second and repeat
        grovepi.digitalWrite(buzzer,0)
        print ('stop')
        time.sleep(1)

    except KeyboardInterrupt:
        grovepi.digitalWrite(buzzer,0)
        break
    except IOError:
        print ("Error")
```

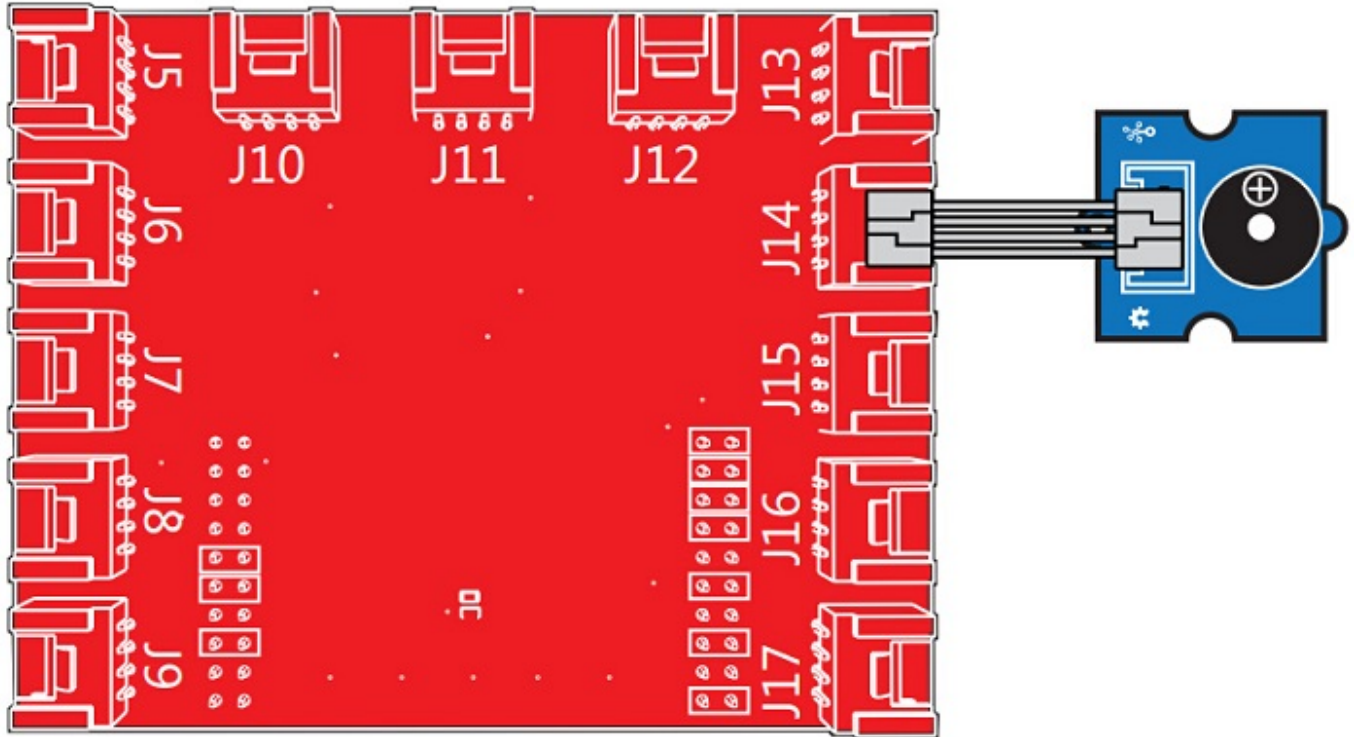
- Step 4. We will hear the buzzer on and off.

```
pi@raspberrypi:~/GrovePi/Software/Python $ python grove_buzzer.py
start
stop
start
stop
```


Play With TI LaunchPad

Hardware

- This example shows how to use the Grove buzzer module to play melodies. It sends a square wave of the appropriate frequency to the buzzer, generating the corresponding tone.



Software

```

/*
  Buzzer
  The example use a buzzer to play melodies. It sends a square wave of the
  appropriate frequency to the buzzer, generating the corresponding tone.

  The circuit:
  * Buzzer attached to pin39 (J14 plug on Grove Base BoosterPack)
  * one side pin (either one) to ground
  * the other side pin to VCC
  * LED anode (long leg) attached to RED_LED
  * LED cathode (short leg) attached to ground

  * Note:
  This example code is in the public domain.

  http://www.seeedstudio.com/wiki/index.php?title=GROVE_-_Starter_Kit_v1.1b#Grove_-_Buzzer

  */

/* Macro Define */

```

```

#define BUZZER_PIN          39          /* sig pin of the buzzer */

int length = 15;              /* the number of notes */
char notes[] = "ccggaagffeeddc ";
int beats[] = { 1, 1, 1, 1, 1, 1, 2, 1, 1, 1, 1, 1, 2, 4 };
int tempo = 300;

void setup()
{
    /* set buzzer pin as output */
    pinMode(BUZZER_PIN, OUTPUT);
}

void loop()
{
    for(int i = 0; i < length; i++) {
        if(notes[i] == ' ') {
            delay(beats[i] * tempo);
        } else {
            playNote(notes[i], beats[i] * tempo);
        }
        delay(tempo / 2);    /* delay between notes */
    }
}

/* play tone */
void playTone(int tone, int duration) {
    for (long i = 0; i < duration * 1000L; i += tone * 2) {
        digitalWrite(BUZZER_PIN, HIGH);
        delayMicroseconds(tone);
        digitalWrite(BUZZER_PIN, LOW);
        delayMicroseconds(tone);
    }
}

void playNote(char note, int duration) {
    char names[] = { 'c', 'd', 'e', 'f', 'g', 'a', 'b', 'C' };
    int tones[] = { 1915, 1700, 1519, 1432, 1275, 1136, 1014, 956 };

    // play the tone corresponding to the note name
    for (int i = 0; i < 8; i++) {
        if (names[i] == note) {
            playTone(tones[i], duration);
        }
    }
}

```

Resources

- [\[Eagle&PDF\] Grove - Buzzer Schematic Files v1.1](#)
- [\[Eagle&PDF\] Grove - Buzzer Schematic Files v1.0](#)

- **[DataSheet]** [S9013datasheet](#)
- **[More Reading]** [Wooden Laser Gun](#)
- **[Codecraft]** [CDC File](#)

Tech Support

Please submit any technical issue into our [forum](#) or drop mail to techsupport@seeed.cc.