

# Introduction



This is a USB sound card that supports recording and playback, a stereo codec, a built-in microphone, and a speaker. It is suitable for Raspberry Pi/Jetson Nano, driver-free, plug-and-play.

## Features

- Onboard PWR indicators for operating status.
- Onboard microphone and speaker, support audio input/output.
- Driver-free, plug-and-play. Compatible with Windows, Mac OS, Linux, and Android.
- Standard USB 2.0 port, portable size.

## Specification

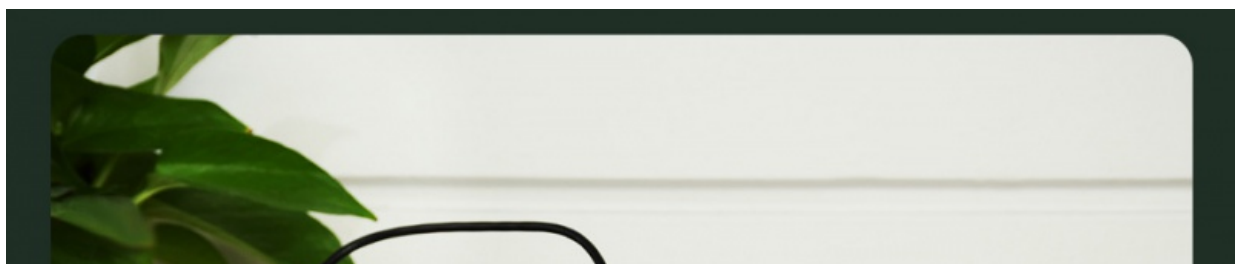
- Power supply: 5V
- Audio encoder/decoder: SSS1629A5
- Control port: USB
- Audio port: PH2.0
- Speaker driver: 2.6W per channel (4Ω BTL)

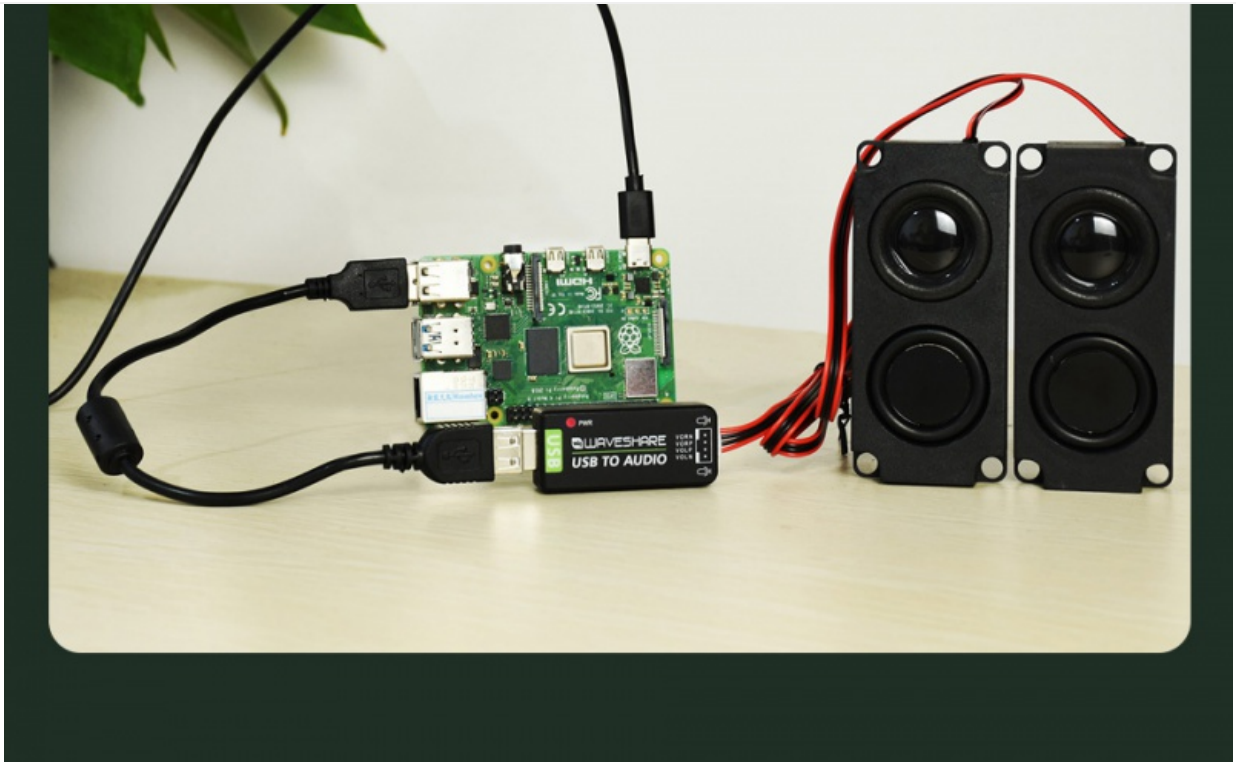
# Working with Raspberry Pi

## Hardware Configuratoin

- Raspberry Pi x1
- [Speaker](#)
- [USB TO AUDIO](#)

Hardware connection:



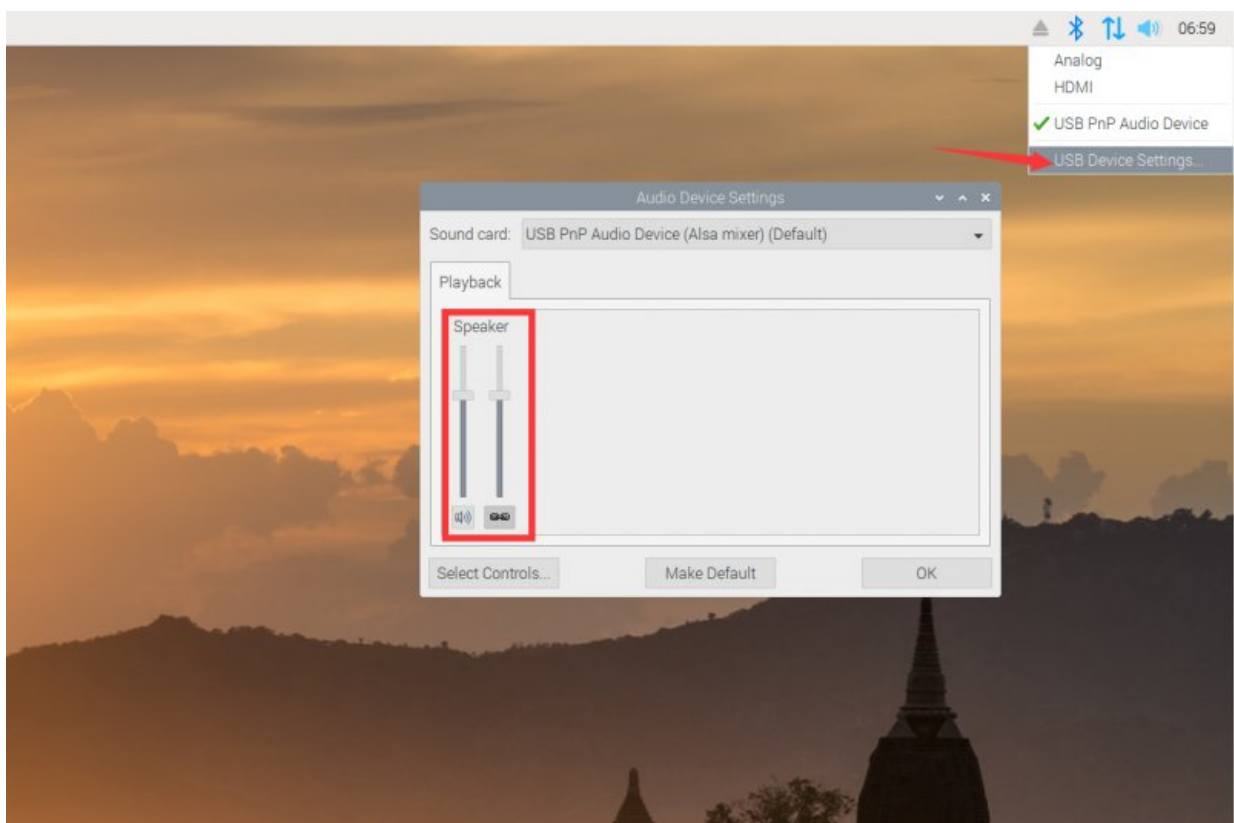


## Play and Record

- Right-click the Audio logo of Raspberry Pi -> Choose USB PnP Audio Device -> Play or recording.

## Configure Volume

- Right-click USB Device Settings -> The left spider is the volume of the speaker and the right one is a microphone.





## Working with Jetson Nano

### Hardware Configuration

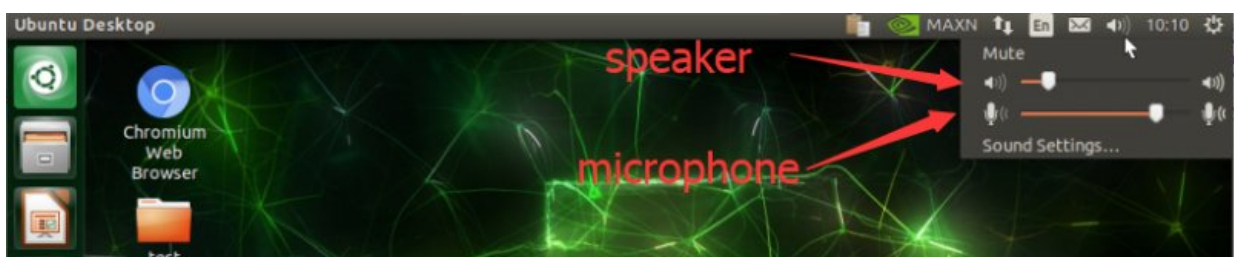
- [Jetson Nano](#)
- [8Ω 5W Speaker](#)
- [USB to Audio](#)

Connection diagram:



### Configure Play & Recording Volume

- Right-click on the top right speaker icon -> the speaker volume bar and microphone volume bar appear -> you can drag the volume bar to adjust the volume and microphone volume.





## Working with PC

- Connect the USB TO AUDIO to the PC and it will be auto-recognized as a USB audio device.

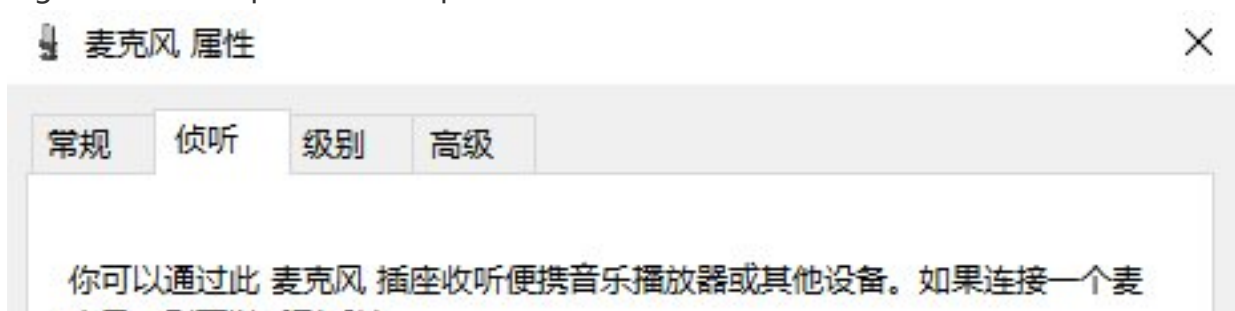


- Open the Control panel. choose Hardware and Sound-> Sound -> Recording and a USB microphone is listed.



- Connect the speaker to the USB TO AUDIO, please keep the speaker away from the USB TO AUDIO module.

Right-Click Microphone -> Properties -> Listen and set it as below:



无风，则可以听到反馈。



侦听此设备

通过此设备播放:

扬声器 (8- USB PnP Audio Device)

电源管理

- 使用电池电源时继续运行
- 自动禁用以节能

确定

取消

应用(A)

- Try to say to the microphone and check if the speaker works normally. **Please keep the speaker away from the USB TO AUDIO Module, or it causes an echo problem.**

## Working with Horizon Sunrise X3 PI

- Open the command terminal, connect USB TO AUDIO, and enter the following commands:

```
lsusb
```

- Seeing the content as shown means that the USB device has been detected:

```
sunrise@ubuntu:~$ lsusb
Bus 002 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
Bus 001 Device 004: ID 0c76:1203 JMTEK, LLC.
Bus 001 Device 003: ID 1a40:0101 Terminus Technology, Inc.
Bus 001 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
sunrise@ubuntu:~$
```



- Enter the commands, and list the sound card and the digital audio device:

```
aplay -l
```

See the content as shown in the figure indicates that the corresponding audio output is detected, remember the two positions shown in the label, later to carry out the use of the device needs:

```
Subdevice #0: subdevice #0
sunrise@ubuntu:~$ aplay -l
**** List of PLAYBACK Hardware Devices ****
card 0: Device [USB PnP Audio Device], device 0: USB Audio [USB Audio]
Subdevices: 1/1
  Subdevice #0: subdevice #0
sunrise@ubuntu:~$
```

Enter the command to list sound cards and recording devices:

```
arecord -l
```

See the content as shown in the figure indicates that the corresponding audio input is detected, remember the two positions shown in the label, the latter for the use of the device needs:

```
sunrise@ubuntu:~$ arecord -l
**** List of CAPTURE Hardware Devices ****
card 0: Device [USB PnP Audio Device], device 0: USB Audio [USB Audio]
Subdevices: 1/1
  Subdevice #0: subdevice #0
```

Enter the commands, and adjust the volume in the interface:

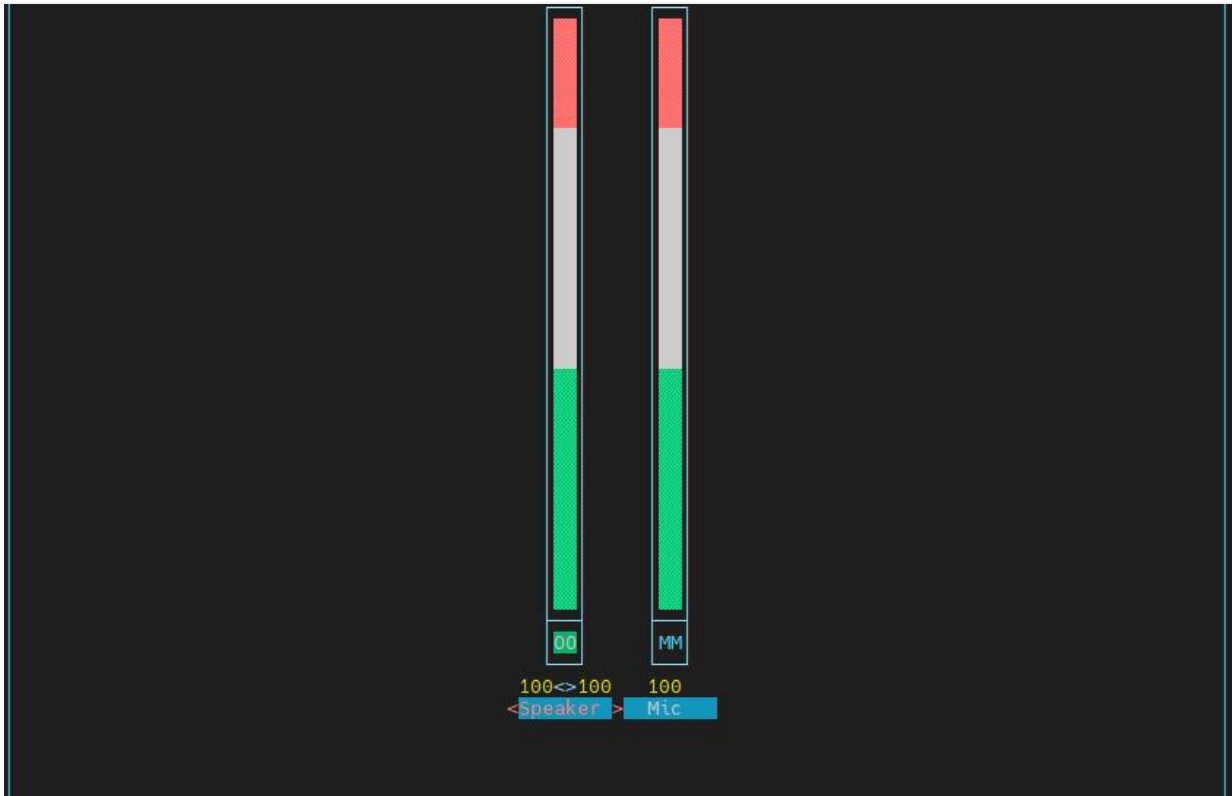
```
sudo alsamixer
```

Press F6, choose the corresponding device and adjust the volume:

```
Sound Card
- (default)
0 USB PnP Audio Device
  enter device name...

Card: USB PnP Audio Device
Chip: USB Mixer
View: F3:[Playback] F4: Capture F5: All
Item: Speaker [dB gain: 0.00, 0.00]

F1: Help
F2: System information
F6: Select sound card
Esc: Exit
```



Start recording 10 seconds of audio:

```
arecord -Dhw:0,0 -f S16_LE -r16000 -c2 -d 10 -t wav sound_16b_16k.wav
```

Note the markings of the location shown, here to be consistent with the previously detected.

```
sunrise@ubuntu:~$ arecord -Dhw:0,0 -f S16_LE -r16000 -c2 -d 10 -t wav sound_16b_16k.wav
Recording WAVE 'sound_16b_16k.wav' Signed 16 bit Little Endian, Rate 16000 Hz, Stereo
```

Start playing the audio you just recorded:

```
aplay -Dhw:0,0 -f S16_LE -r16000 -t wav sound_16b_16k.wav
```

Note the markings of the location shown, here to be consistent with the previously detected:

```
sunrise@ubuntu:~$ aplay -Dhw:0,0 -f S16_LE -r16000 -t wav sound_16b_16k.wav
Playing WAVE 'sound_16b_16k.wav' Signed 16 bit Little Endian, Rate 16000 Hz, Stereo
```

## Working With VisionFive2

Install usbutils library:

```
apt install usbutils
```

Enter lsusb to view the corresponding USB device, and the device shown in the figure indicates that the device is connected.

```
root@starfive:~# lsusb
Bus 002 Device 001: ID 1d6b:0003 Linux Foundation 3.0 root hub
Bus 001 Device 003: ID 0c76:1203 JMTEK, LLC. USB PnP Audio Device
Bus 001 Device 002: ID 2109:2424 VIA Labs, Inc. Hub
Bus 001 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
root@starfive:~#
```

Install alsa-utils:

```
apt install alsa-utils
```

Enter the commands, list the sound card and the digital audio device:

```
aplay -l
```

```
root@starfive:~# aplay -l
**** List of PLAYBACK Hardware Devices ****
card 0: StarfiveMultiSo [Starfive-Multi-Sound-Card], device 0: pwmdac-pwmdac-dit-hifi pwmdac-dit-hifi-0 [
pwmdac-pwmdac-dit-hifi pwmdac-dit-hifi-0]
  Subdevices: 1/1
  Subdevice #0: subdevice #0
card 1: Device [USB PnP Audio Device], device 0: USB Audio [USB Audio]
  Subdevices: 1/1
  Subdevice #0: subdevice #0
root@starfive:~#
```

Enter the commands, list the sound card and the recording device:

```
arecord -l
```

```
root@starfive:~# arecord -l
**** List of CAPTURE Hardware Devices ****
card 1: Device [USB PnP Audio Device], device 0: USB Audio [USB Audio]
  Subdevices: 1/1
  Subdevice #0: subdevice #0
root@starfive:~#
```

Enter the command to adjust the volume on the terminal screen:

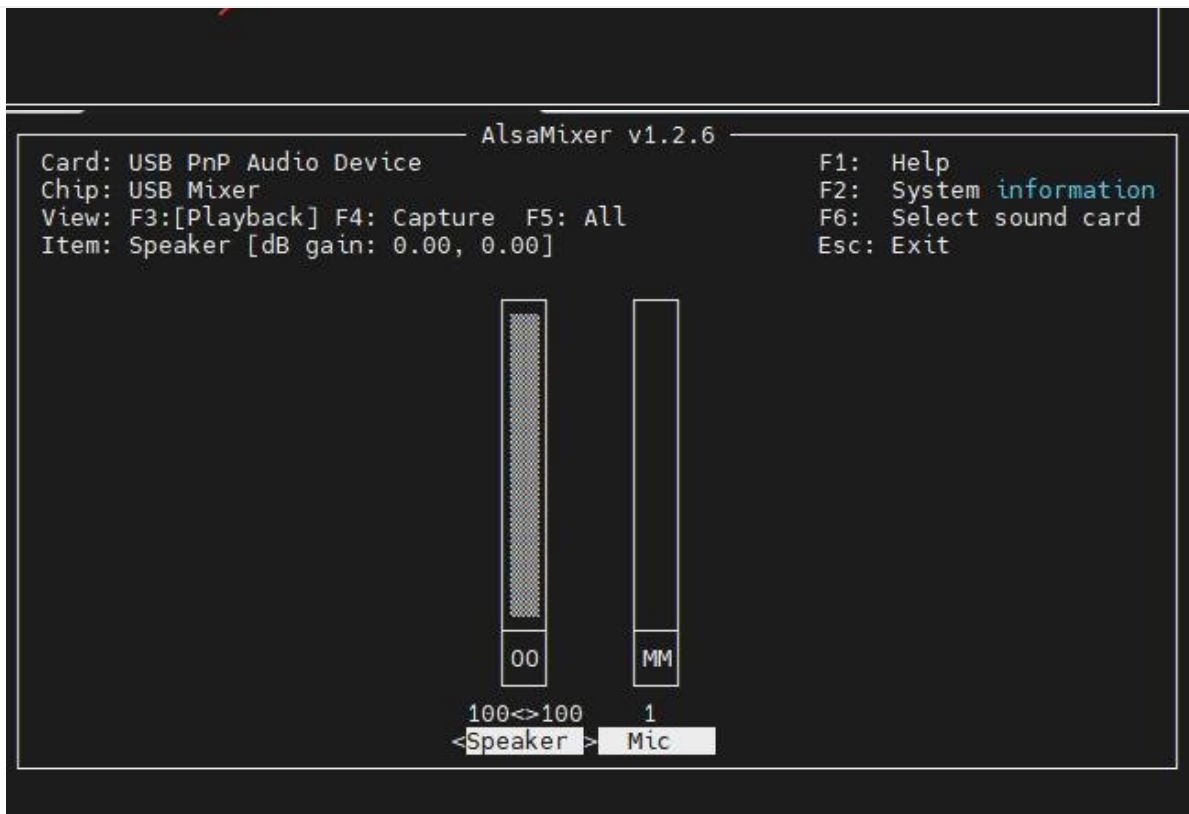
```
sudo alsamixer
```

```
----- ALSAMixer v1.2.6 -----
Card: Starfive-Multi-Sound-Card
Chip:
View: F3:[Playback] F4: Capture F5: All
Item: data_mode [inverter]
F1: Help
F2: System information
F6: Select sound card
Esc: Exit

----- Sound Card -----
- (default)
default:0 Starfive-Multi-Sound-Card
default:1 USB PnP Audio Device
enter device name...

<data mod invert 8bit
ift bit
```





Enter the command to adjust the volume on the terminal screen:

```
sudo alsamixer
```

## Resources

- [APA2068KAI-TRG](#)
- [SSS1629A5](#)

## FAQ

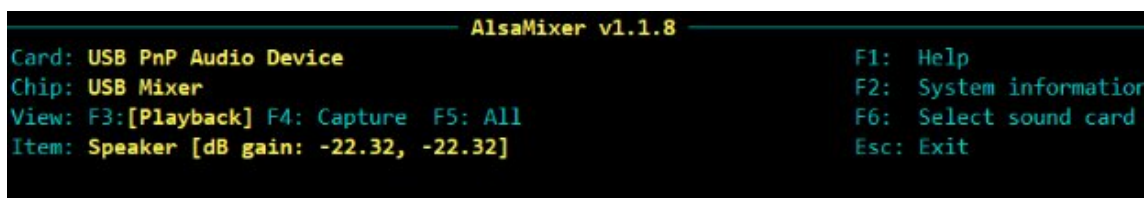
**Question:**How to change the volume by command on raspbian system of raspberry pi?

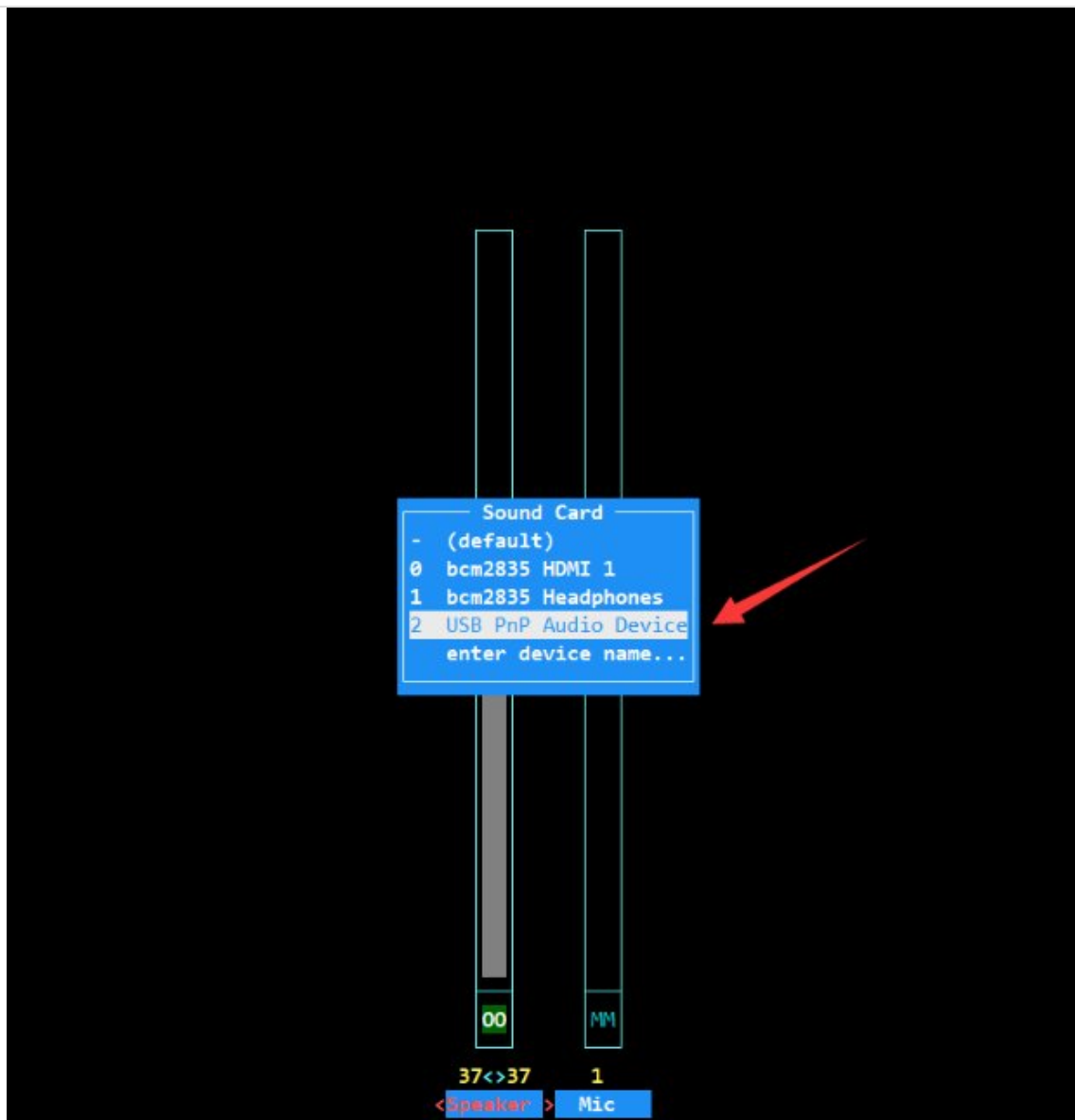
**Answer:**

\*Enter the volume adjustment command in the terminal interface

```
sudo alsamixer
```

- If the USB PnP Audio sound card is not set as the default sound card, you need to press F6 to select the sound card device.





- Switch speaker or microphone volume settings with left and right buttons; switch microphone volume settings with up and down buttons.

**Question:**How to record and broadcast through commands on the raspbian system of Raspberry Pi?

**Answer:**

\*Recording

```
arecord -d 10 test.wav
```

- Broadcast

```
aplay test.wav
```

**Question:**How much the loudspeaker can the sound card connect to?

**Answer:**  
Single channel 2.6W.

## Support

### Technical Support

If you need technical support or have any feedback/review, please click the **Submit Now** button to submit a ticket, Our support team will check and reply to you within 1 to 2 working days. Please be patient as we make every effort to help you to resolve the issue.

Working Time: 9 AM - 6 AM GMT+8 (Monday to Friday)

[Submit Now](#)