

To use USB mini microphone on Raspbian

From Wiki

Introduction



This is a tiny USB Microphone that plugs into your laptop or desktop computer. No microphone on your computer? No problem - just plug this incredibly small microphone into a USB port and add microphone functionality. No need to install any extra software; Microsoft Windows will detect the device and automatically install it. Simply launch within any program such as Skype or Google Hangouts.

There is no need to configure the USB mini microphone, it can be used directly. You can also use it in Rasperry Pi which has been burned with Raspbian, Here are the steps.

Components

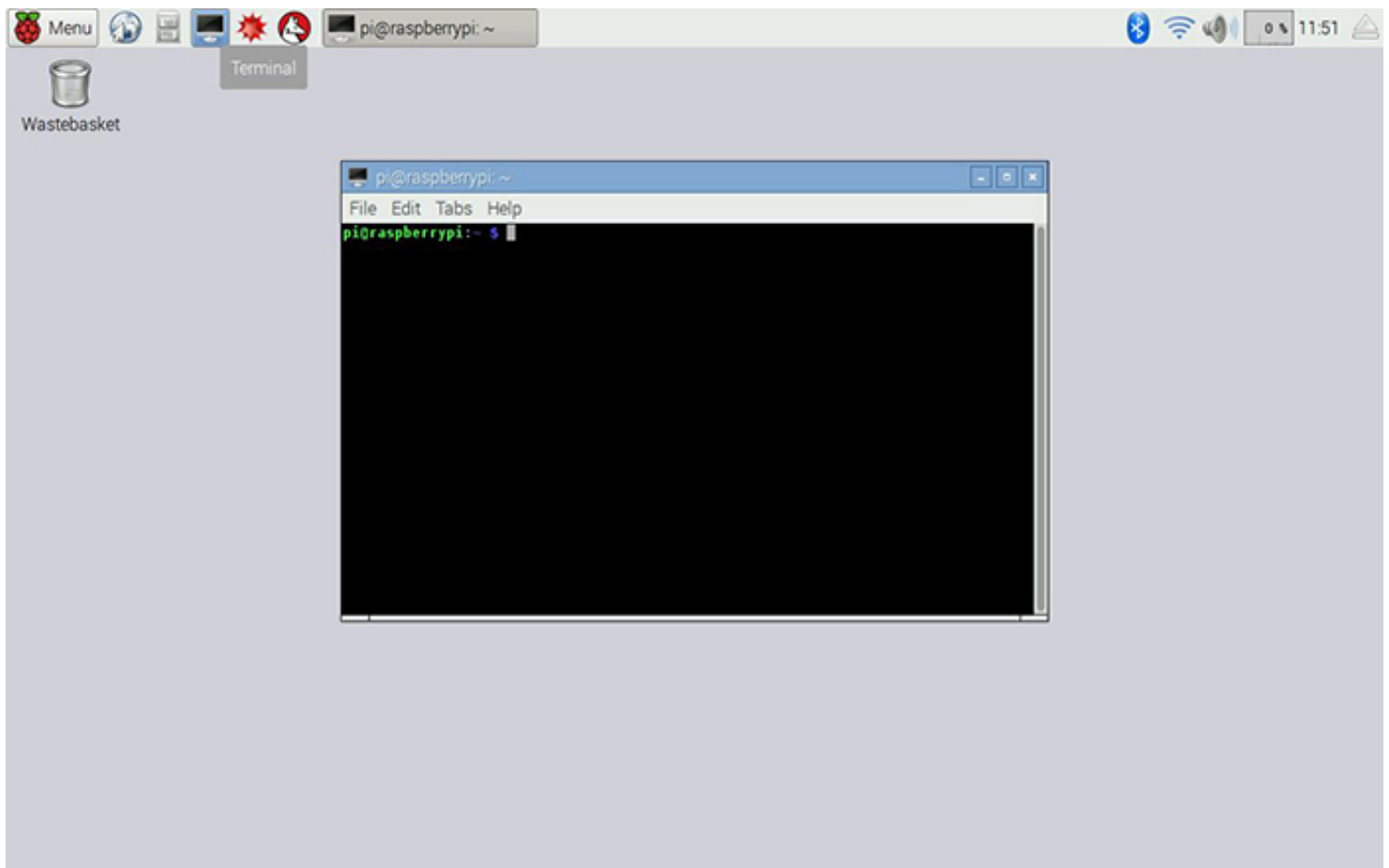
- Raspberry Pi
- A TF card burned with the Raspbian
- 5V DC power adapter, 2A or above with micro USB interface

- HDMI interface display (or VGA interface display with a VGA to HDMI adaptor)
- USB mouse and keyboard
- Speakers or headphones in the standard of 3.5mm
- USB mini microphone

Steps

Step1: Ready to start the Raspberry Pi and insert the mini microphone module as well as audio/headphones.

Open the Terminal of the Raspberry Pi

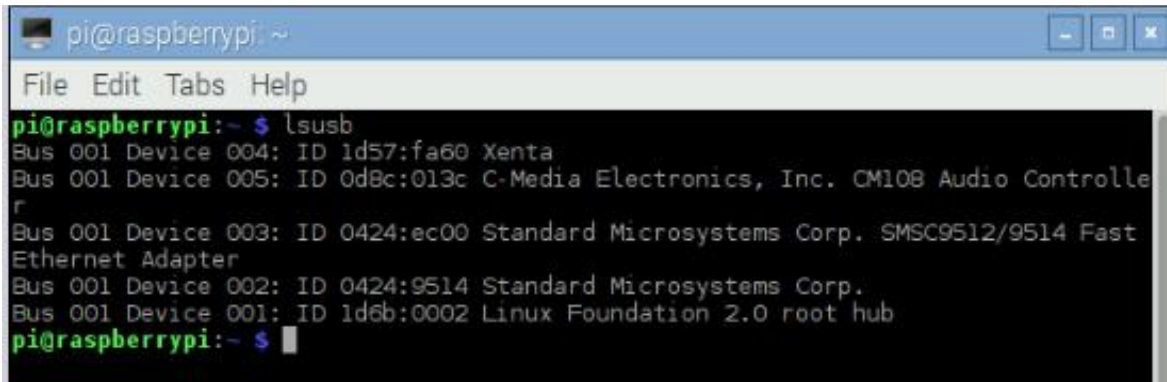


Step2: Check the USB connection

Enter the following commands to check the usb connection

```
lsusb
```

You can see the USB devices connected by the Raspberry Pi



```
pi@raspberrypi:~  
File Edit Tabs Help  
pi@raspberrypi:~ $ lsusb  
Bus 001 Device 004: ID 1d57:fa60 Xenta  
Bus 001 Device 005: ID 0d8c:013c C-Media Electronics, Inc. CM108 Audio Controller  
Bus 001 Device 003: ID 0424:ec00 Standard Microsystems Corp. SMSC9512/9514 Fast Ethernet Adapter  
Bus 001 Device 002: ID 0424:9514 Standard Microsystems Corp.  
Bus 001 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub  
pi@raspberrypi:~ $
```

“C-Media Electronics, Inc. CM108 Audio Controller” is the USB mini microphone. Check the microphone with arecord

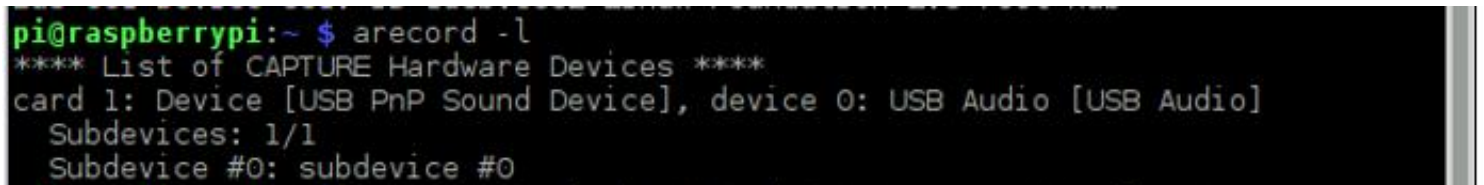
```
arecord -l
```

(“l” is lower “L”). You will see the recording device :



```
pi@raspberrypi:~  
File Edit Tabs Help  
pi@raspberrypi:~ $ lsusb  
Bus 001 Device 004: ID 1d57:fa60 Xenta  
Bus 001 Device 005: ID 0d8c:013c C-Media Electronics, Inc. CM108 Audio Controller  
Bus 001 Device 003: ID 0424:ec00 Standard Microsystems Corp. SMSC9512/9514 Fast Ethernet Adapter  
Bus 001 Device 002: ID 0424:9514 Standard Microsystems Corp.  
Bus 001 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub  
pi@raspberrypi:~ $ arecord -l  
**** List of CAPTURE Hardware Devices ****  
card 1: Device [USB PnP Sound Device], device 0: USB Audio [USB Audio]  
Subdevices: 1/1  
Subdevice #0: subdevice #0  
pi@raspberrypi:~ $
```

You will see device card1, device0. Use plughw:1,0 to represent.




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

Step3: Records testing

Record for three seconds and play it

```
arecord -D plughw:1,0 -d 3.0 test.wav && aplay test.wav
```

A screenshot of a terminal window titled 'pi@raspberrypi: ~'. The window has a menu bar with 'File', 'Edit', 'Tabs', and 'Help'. The terminal shows the following commands and output:

```
pi@raspberrypi:~ $ lsusb
Bus 001 Device 004: ID 1d57:fa60 Xenta
Bus 001 Device 005: ID 0d8c:013c C-Media Electronics, Inc. CM108 Audio Controller
Bus 001 Device 003: ID 0424:ec00 Standard Microsystems Corp. SMSC9512/9514 Fast Ethernet Adapter
Bus 001 Device 002: ID 0424:9514 Standard Microsystems Corp.
Bus 001 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
pi@raspberrypi:~ $ arecord -l
**** List of CAPTURE Hardware Devices ****
card 1: Device [USB PnP Sound Device], device 0: USB Audio [USB Audio]
  Subdevices: 1/1
  Subdevice #0: subdevice #0
pi@raspberrypi:~ $ arecord -D plughw:1,0 -d 3.0 temp.wav && aplay temp.wav
Recording WAVE 'temp.wav' : Unsigned 8 bit, Rate 8000 Hz, Mono
Playing WAVE 'temp.wav' : Unsigned 8 bit, Rate 8000 Hz, Mono
pi@raspberrypi:~ $
```

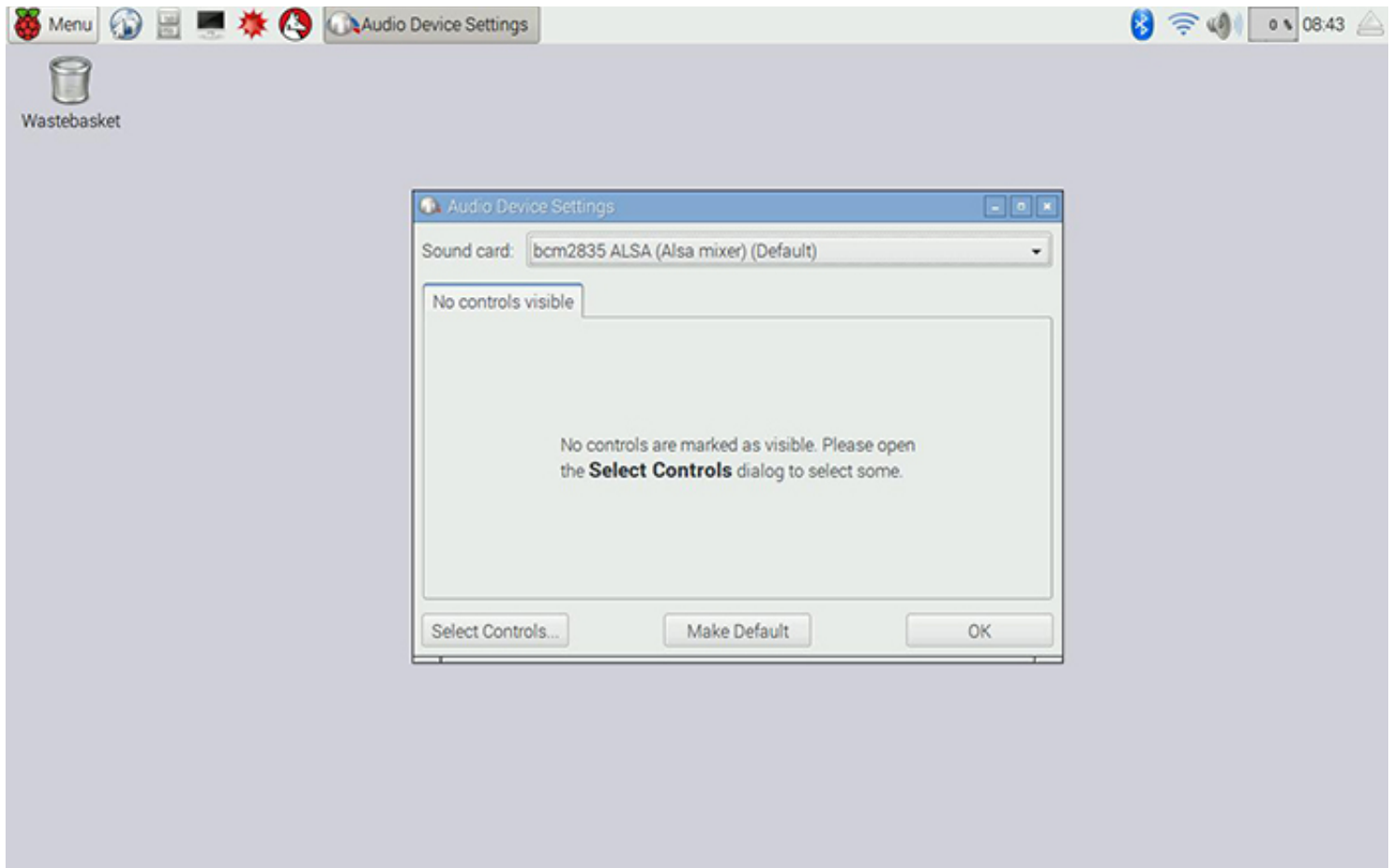
Here we use arecord to record and aplay to play;“-D” to choose the device and “-d” to set the recording time

You can input “arecord --help” and “aplay --help” for details.

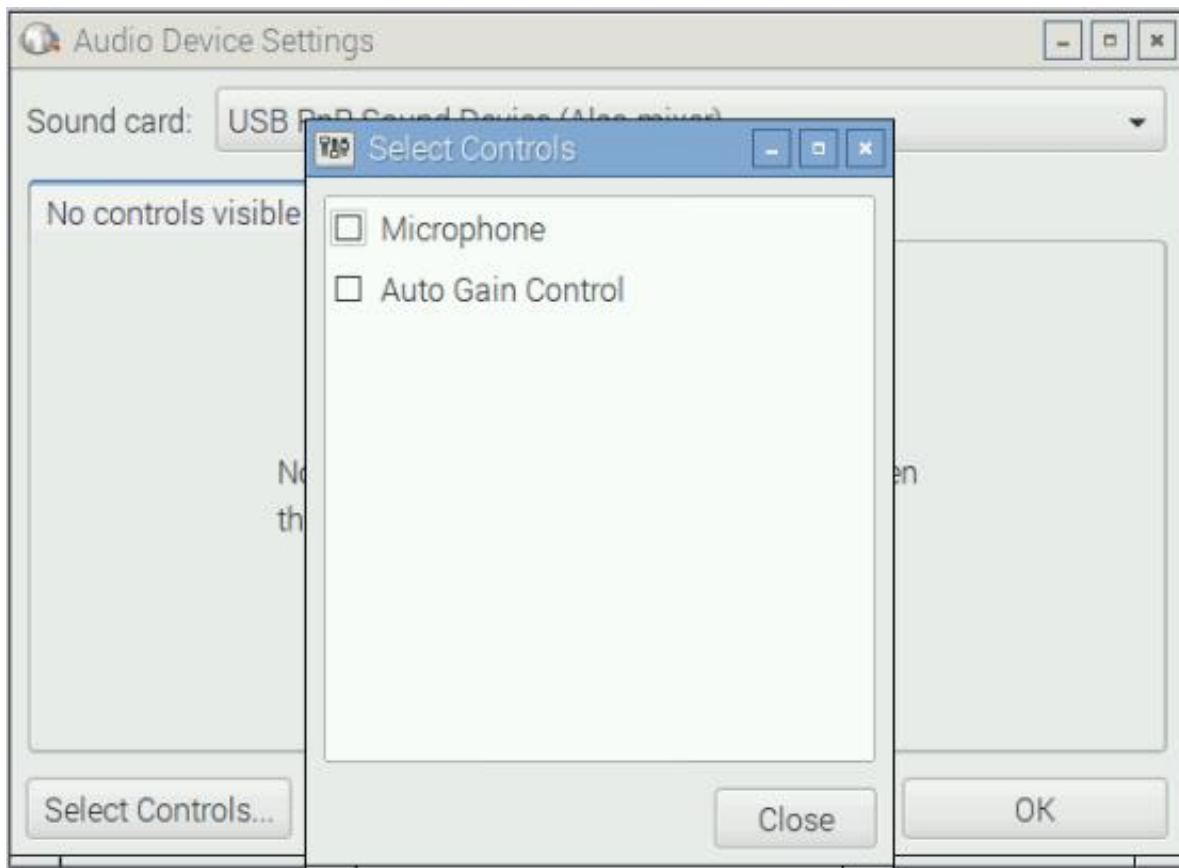
If the sound is low, you can adjust the gain of the microphone.

Step4: Adjust the gain of the microphone

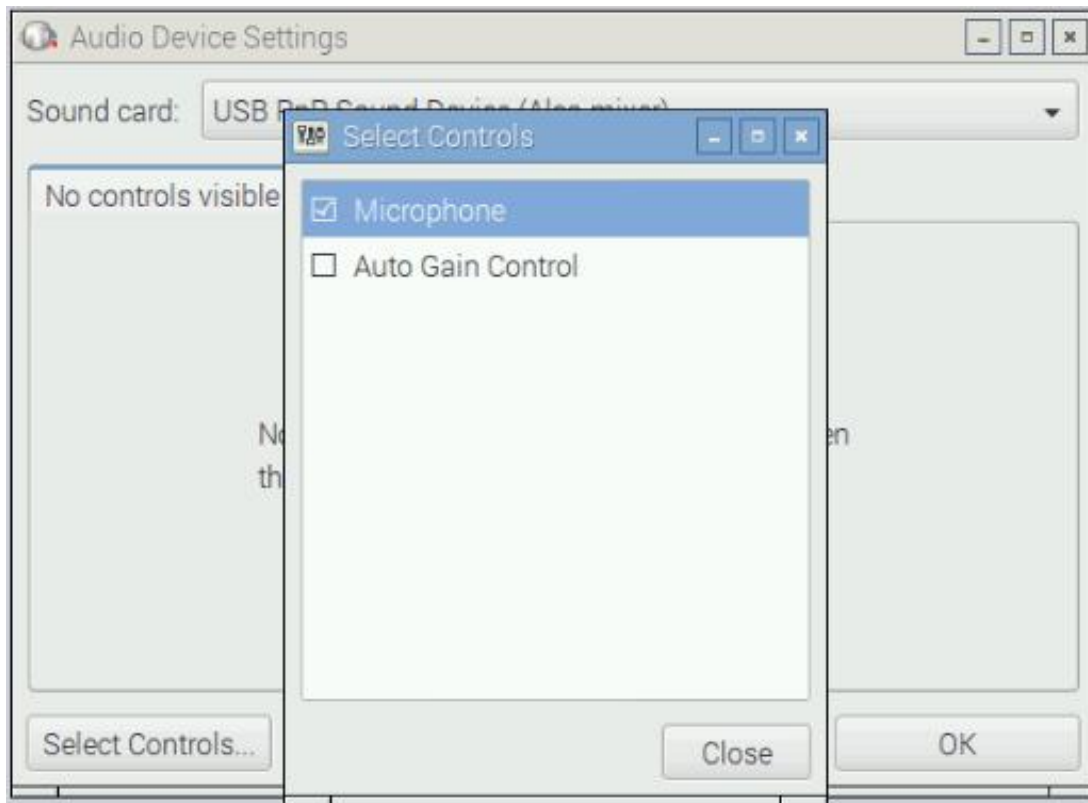
Open the **Audio Device Settings**: Open the **Menu** in the top left corner, and go through **Preferences => Audio Device Settings**.



Choose **USB PnP Sound Device(Alsa mixer)** in the Sound card column. If there appears **No controls visible**, open the **Select Controls** in the lower left corner.



Tick the **Microphone** in the **Select Controls** page and click **Close** in the lower right corner.



At this time, **No controls visible** in the middle of the **Audio Device Settings** page becomes **Capture**.

Adjust the slider below to adjust the gain of the microphone.



After adjusting, record again:

```
arecord -D plughw:1,0 -d 3.0 test.wav && aplay test.wav
```

Enjoy!

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