

Interfacing Raspberry Pi with S2GO MEMSMIC IM69D (Silicon Microphone)

Part-2 -: Adding Volume control

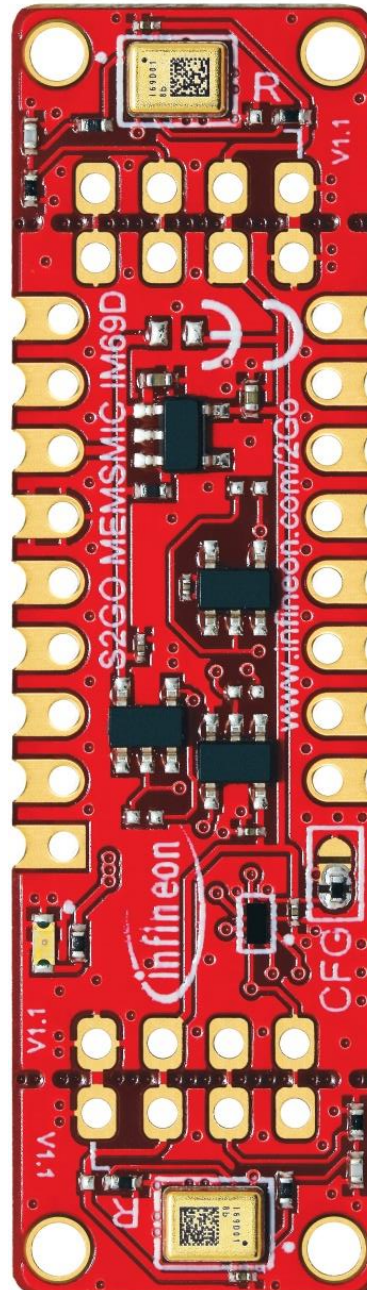


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1 Adding Volume control

This document mainly focuses on increasing the sound capturing capability of Microphone (increase the sensitivity), after implementing the steps mentioned below when Microphone used in stereo mode can easily distinguish the sound coming from near or far source that increases it's accuracy when used in different **Machine Learning** topics for taking audio input through it, more over while playing back the recorded sound it will boost the volume

Note: - After following the first document for interfacing the MEMS Microphone with Raspberry Pi kindly go through this one.

- You can add volume control to your Microphone via **alsamixer & alsa config**.

sudo nano ~/.asoundrc

Append the file with the given lines of code.

```
#This section makes a reference to your I2S hardware, adjust the card name
# to what is shown in arecord -l after card x: before the name in []
#You may have to adjust channel count also but stick with default first

pcm.dmic_hw {
    type hw
    card sndrpiisimplecar
    channels 2
    format S32_LE
}

#This is the software volume control, it links to the hardware above and after
# saving the .asoundrc file you can type alsamixer, press F6 to select
# your I2S mic then F4 to set the recording volume and arrow up and down
# to adjust the volume
# After adjusting the volume - go for 50 percent at first, you can do
# something like
# arecord -D dmic_sv -c2 -r 48000 -f S32_LE -t wav -V mono -v myfile.wav

pcm.dmic_sv {
    type softvol
    slave.pcm dmic_hw
    control {
        name "Boost Capture Volume"
        card sndrpiisimplecar
    }
    min_dB -3.0
    max_dB 30.0
}
```

- Now before you can change the volume you need to use the device once (this is an alsa thing) i.e. you need to record the sound once before you can do the changes in volume control.

arecord -D dmic_sv -c2 -r 44100 -f S32_LE -t wav -V mono -v file.wav

- Close the recording

Ctrl +C

- Now run alsamixer – press **F6** and select snd_rpi_simple_card

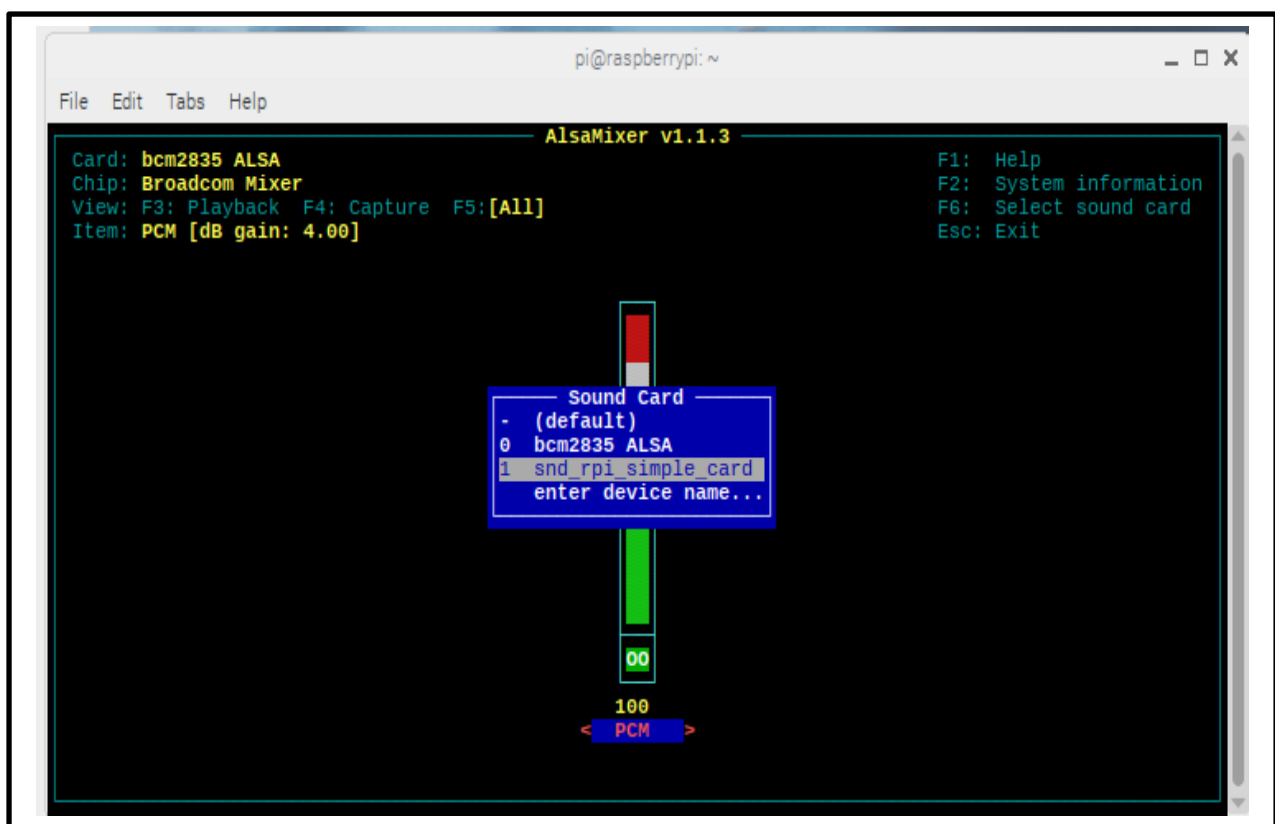
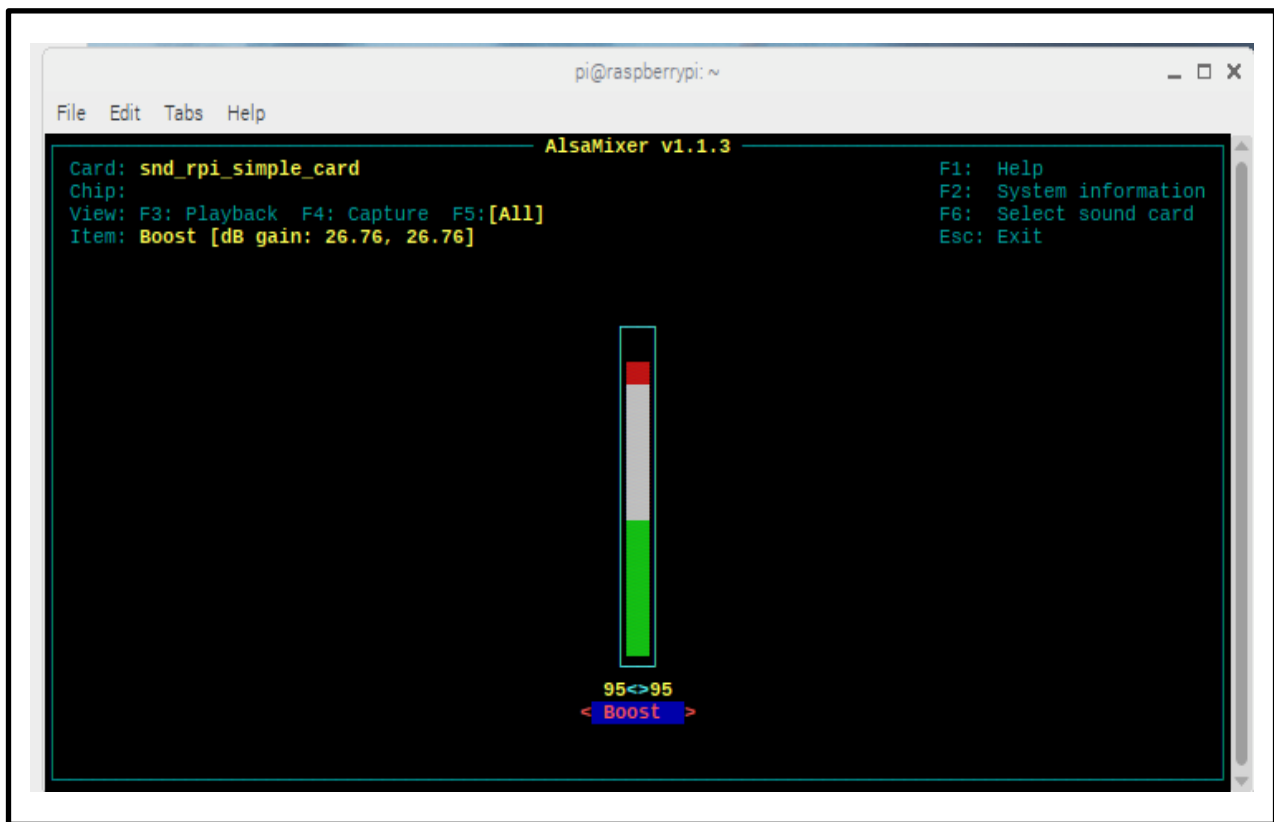


Figure 1 Select snd_rpi_simple_card

- Press **F5** to change the volume.



- Press **Esc**
- Now you can record with the I2C mic device.
[`arecord -D dmic_sv -c2 -r 48000 -f S32_LE -t wav -V mono -v recording.wav`](#)

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Email: [Swarnam Panday](#)

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