

Raspberry Pi volume control

I am writing to congratulate Tom Skevington on his contribution (December 2019; Mailbag) to make the TDA1543A DAC chip work in the speech synthesiser project (July 2019; siliconchip.com.au/Article/11703). I ordered the PCB and TDA1543 from the SILICON CHIP Online Shop, but unfortunately, I was provided with TDA1543A chips, so I ran into the same difficulties as Tom. His modification saved the day.

I would also like to describe how it is possible to provide a master volume control for the “hat”, which can be done in software.

The Pi operating system images are all loaded with alsamixer, which controls the volume level of your selected audio output. To make alsamixer work with this project, edit or create a file named “/etc/asound.conf” using your favourite text editor and put the following in it:

```
pcm.hifiberry {
    type softvol
    slave.pcm "plughw:0"
    control.name "Master"
    control.card 0
}

pcm.!default {
    type plug
    slave.pcm "hifiberry"
}
```

This mod works as-is with either the TDA1543 or TDA1543A chips with no changes.

To adjust the volume, type “alsamixer” on the command line, which brings up the graphical screen, and use the up/down arrows to change the volume and ESC to quit.

This will also work over a serial connection, as long as you are using a suitably capable terminal emulator and have set the correct terminal type. When logged in using SSH, you can also use your mouse to control the master volume.

Alternatively, the volume can be to any percentage via the command line like this:

```
amixer set Master 50%
```

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Comment: it appears that our suppliers are now sending either TDA1543 or TDA1543A chips, depending on what they can get. We'll see if we can get some TDA1543 chips as that version was used in another project (the Bad Vibes Infrasound Snooper from July 2015).

At least the A-suffix chips can be made to work with the relatively simple changes provided by Tom Skevington (which can be downloaded from siliconchip.com.au/Shop/6/5097).