

## Getting Started with OSA DACBerry 400S Audio Card for Raspberry Pi 400

[Download Data Sheet](#) for DACBerry 400S

This getting started with DACBerry 400 for the Raspberry Pi 400 guide will get you up and running in no time. One of the features missing from the Raspberry Pi 400 is an audio output connector for attaching speakers or headphones. This guide for the DACBerry 400 guide will show how to set up and use your DACBerry 400 series audio board on the Raspberry Pi 400 so you can stream music from Spotify and record using Audacity and more!

The DACBerry 400 comes in two versions to suit different audio requirements. The 400-S has a single 3.5mm 4-pole TRRS jack for stereo out/mic-in which outputs line level to powered speakers or headphones.

The 400-M version has the same stereo out/mic-in jack plus an additional line-in jack for recording from another audio device. It also has male pin headers soldered to the connector if you still want access to the Pi 400's GPIO connector.

Both boards use the same audio IC and produce a very clear, high-quality sound when played through powered speakers.

### FIT THE BOARD

Both the DACBerry 400-S and 400-M boards fit the same way, with the audio jacks facing away from the SD card.

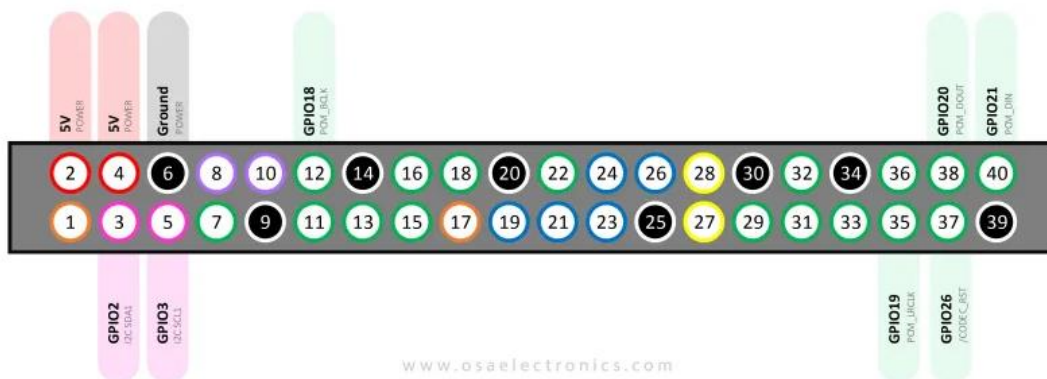
- Align the board connector with the 40 pin GPIO headers and gently push to fit.

**Make sure the connector is exactly aligned with the GPIO pins to avoid damaging the board.**



The DACBerry uses the following pins on the Raspberry Pi GPIO header:

DACBerry 400 GPIO use:



## SOFTWARE DRIVER

Installing the software drivers to make the board work is very easy. We assume that your Raspberry Pi 400 is set up and connected to the internet via Wifi or Ethernet. There's a Getting Started that shows how to do this [here](#).

Open a Terminal from the desktop taskbar and install the drivers using the following commands:

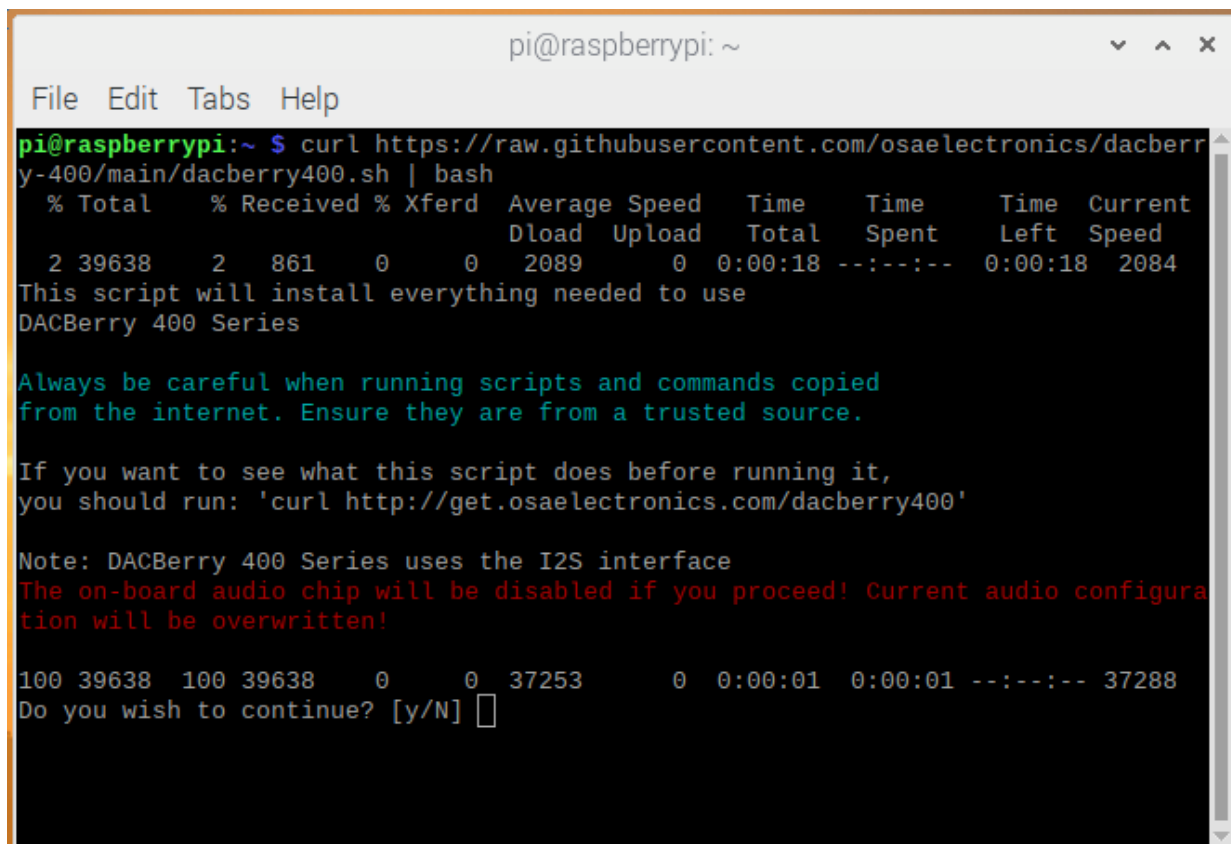
```
sudo apt update
```

```
sudo apt upgrade
```

```
curl https://raw.githubusercontent.com/osaelectronics/dacberry-400/main/dacberry400.sh | bash
```

COPY

- When prompted enter **y**.
- The system will reboot and your board will be enabled.



```
pi@raspberrypi: ~  
File Edit Tabs Help  
pi@raspberrypi:~ $ curl https://raw.githubusercontent.com/osaelectronics/dacberry-400/main/dacberry400.sh | bash  
% Total % Received % Xferd Average Speed Time Time Time Current  
 Dload Upload Total Spent Left Speed  
 2 39638 2 861 0 0 2089 0 0:00:18 --:--:-- 0:00:18 2084  
This script will install everything needed to use  
DACBerry 400 Series  
  
Always be careful when running scripts and commands copied  
from the internet. Ensure they are from a trusted source.  
  
If you want to see what this script does before running it,  
you should run: 'curl http://get.osaelectronics.com/dacberry400'  
  
Note: DACBerry 400 Series uses the I2S interface  
The on-board audio chip will be disabled if you proceed! Current audio configura  
tion will be overwritten!  
  
100 39638 100 39638 0 0 37253 0 0:00:01 0:00:01 --:--:-- 37288  
Do you wish to continue? [y/N] 
```

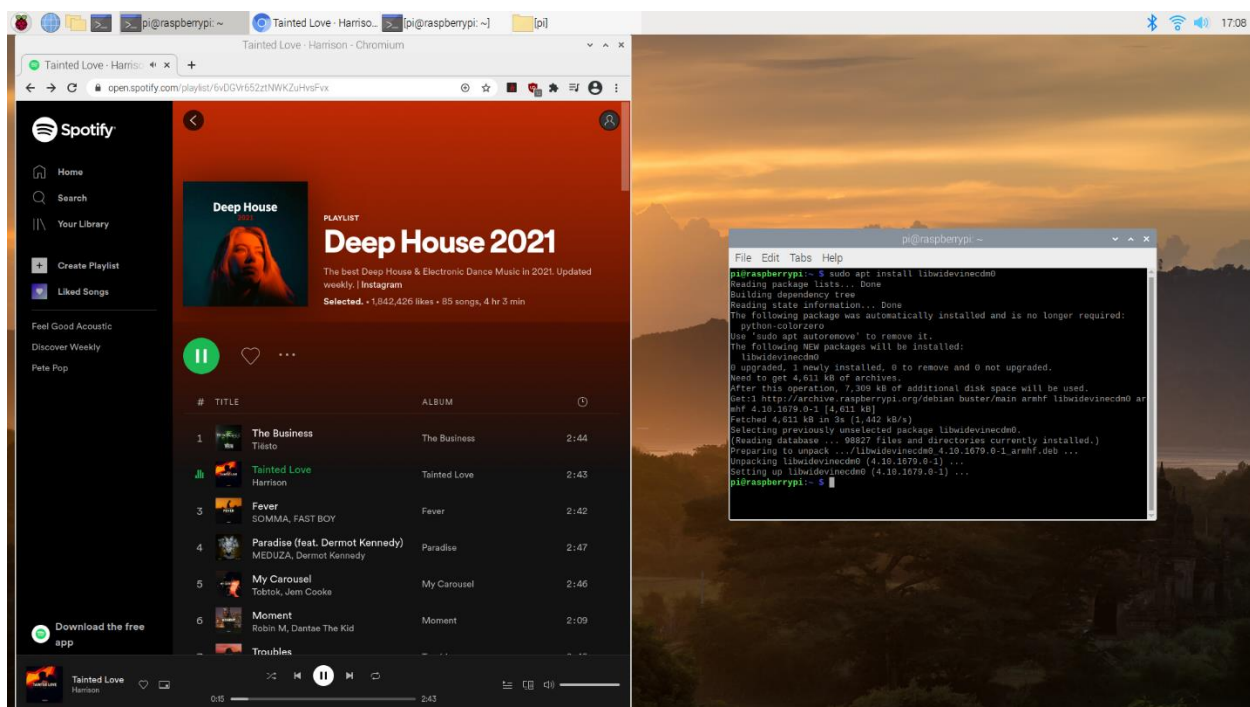
**STREAM SPOTIFY**

Streaming music from Spotify on the Raspberry Pi requires the installation of Widevine, which is a Digital Rights Management (DRM) library. This can be obtained from the official repository with the following command and works for free and premium Spotify accounts:

```
sudo apt-get install libwidevinecdm0
```

- Open Chromium (web browser).
- Login to Spotify.
- Open Spotify web player.

You will now be able to stream music through your DACBerry 400.



## AUDACITY RECORDING

You can record from a Microphone with a 4-pole TRRS plug by using the bottom jack on the 400-S or 400-M. Only the 400-M version is capable of recording from line-in on the upper jack.

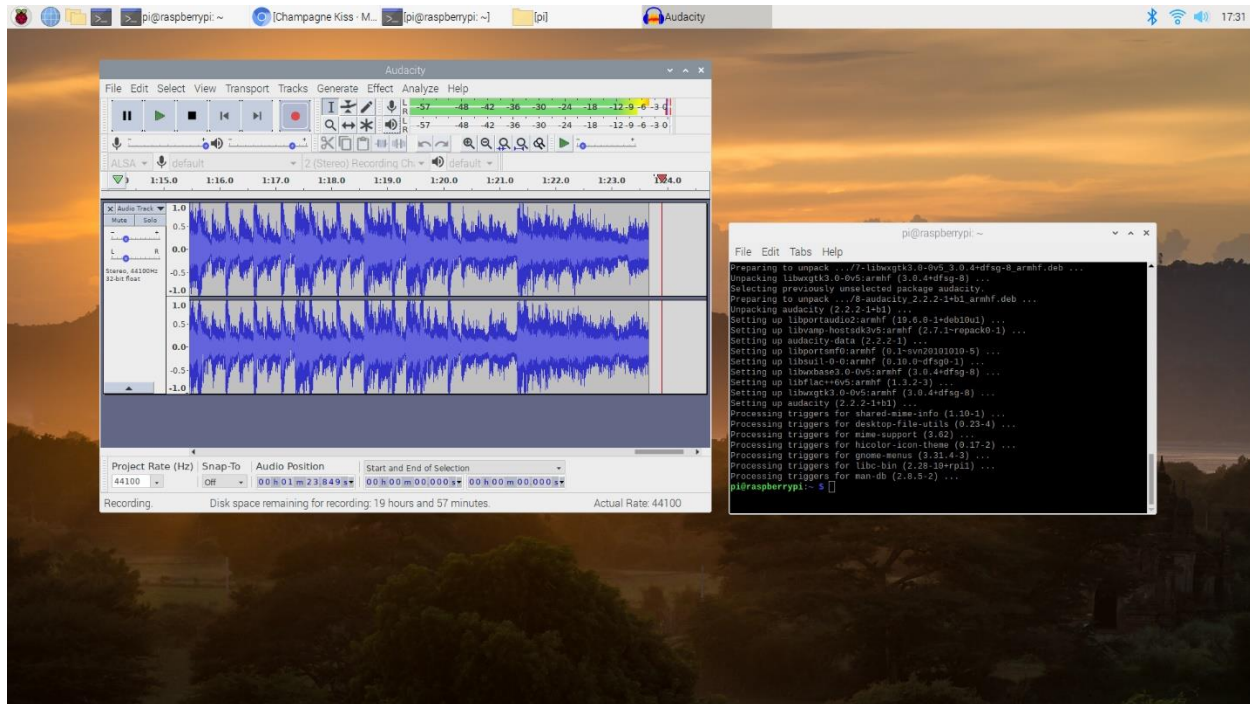
Audacity is a popular open source audio capture application that can be installed on the Raspberry Pi to record audio.

Install the package with the following command:

sudo apt install audacity

COPY

Visit the Audacity website on <https://www.audacityteam.org/> for all the options available.



## SUMMARY

This getting started guide has shown how to fit and install both the DACBerry 400-S and 440-M high-quality audio boards to a Raspberry Pi 400. Although the boards were designed to work with the Pi 400 they can also be fitted to Raspberry Pi 3B+ and 4B models for improved sound quality.

We also showed how to enable streaming from Spotify using the DACBerry 400's audio output and how to record audio using Audacity.

If you just want to play audio through speakers or headphones choose the DACBerry 400-S. If you want access to the GPIO and to be able to record line-in then choose the 400-M version.

Both sound fantastic!