# BerryNOS 1543

## user manual

Revision 1.0

Labs

# Overview

BerryNOS 1543 is an 16-bit stereo audio reference DAC module designed for Raspberry PI model B. I²S based together with Philips D/A converter with a fully balanced design and a unique discrete buffered output stage.
BerryNOS 1543 has S/PDIF input as an extra option, which makes it a DAC module that can be used with basicly any audio source.

# Power Requirements

External PSU needed:
2x7.5-9VAC 25-40VA (DAC)
5VDC (Raspberry PI)

# Configuration (optional S/PDIF input)

BerryNOS 1543 is easy configured with an onboard jumper for different output frequencies when S/PDIF input is used. Either no resampling up to 192 kHz or fixed resampling at 176.4 kHz.

# Technical details

Input up to 24bit
Output up to 96 kHz
Output 4.7 Ω balanced
Output 4.7 Ω unbalanced
Frequency 4 Hz - 18 kHz, +0  -0.3dB
THD+N = 0.02% (1 kHz)

# Inputs

Raspberry PI input

Optional:
S/PDIF input

# Outputs

L/R Balanced XLR

L/R Unbalanced RCA

# Optional

S/PDIF input

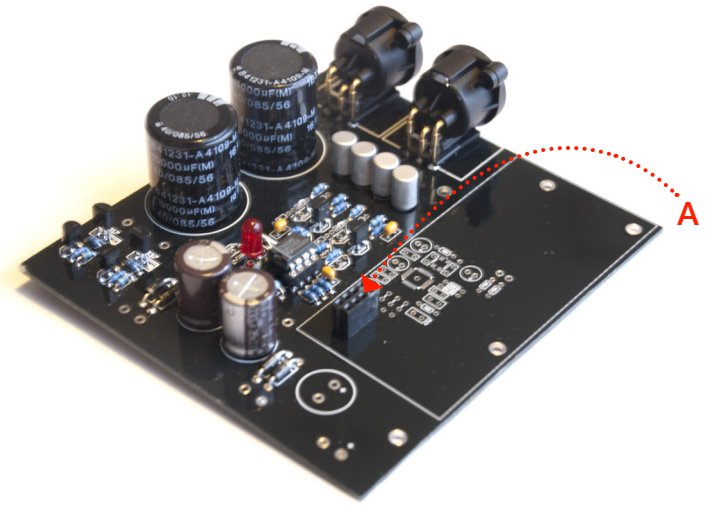
# Installation with Raspberry PI

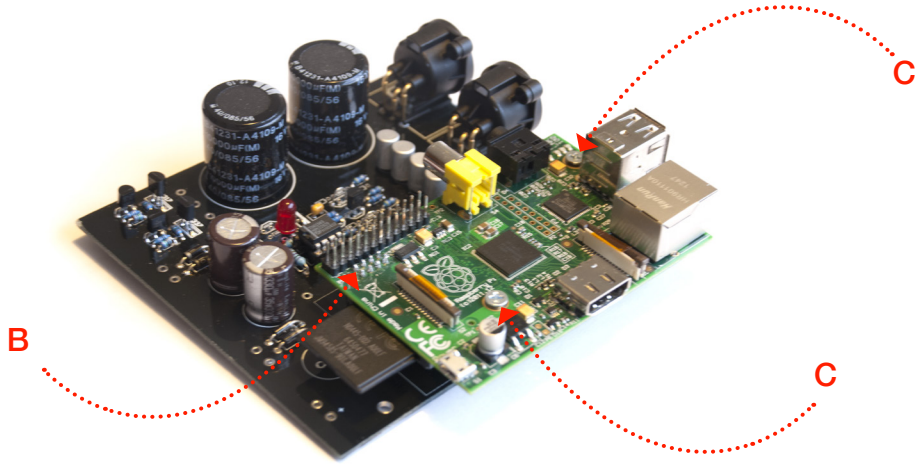
BerryNOS 1543 is easy installed within seconds if you follow this guide.

**A** Attach the BerryNOS 1543 female header to Raspberry PI male header.

**B** Notice Raspberry PI header P5 should be soldered on the bottom.
Otherwise BerryNOS 1543 will not work and the screw installation later on will not fit.

**C** Insert the short spacers between BerryNOS 1543 and Raspberry PI and tighten the screws through BerryNOS 1543-Spacers-Raspberry PI.

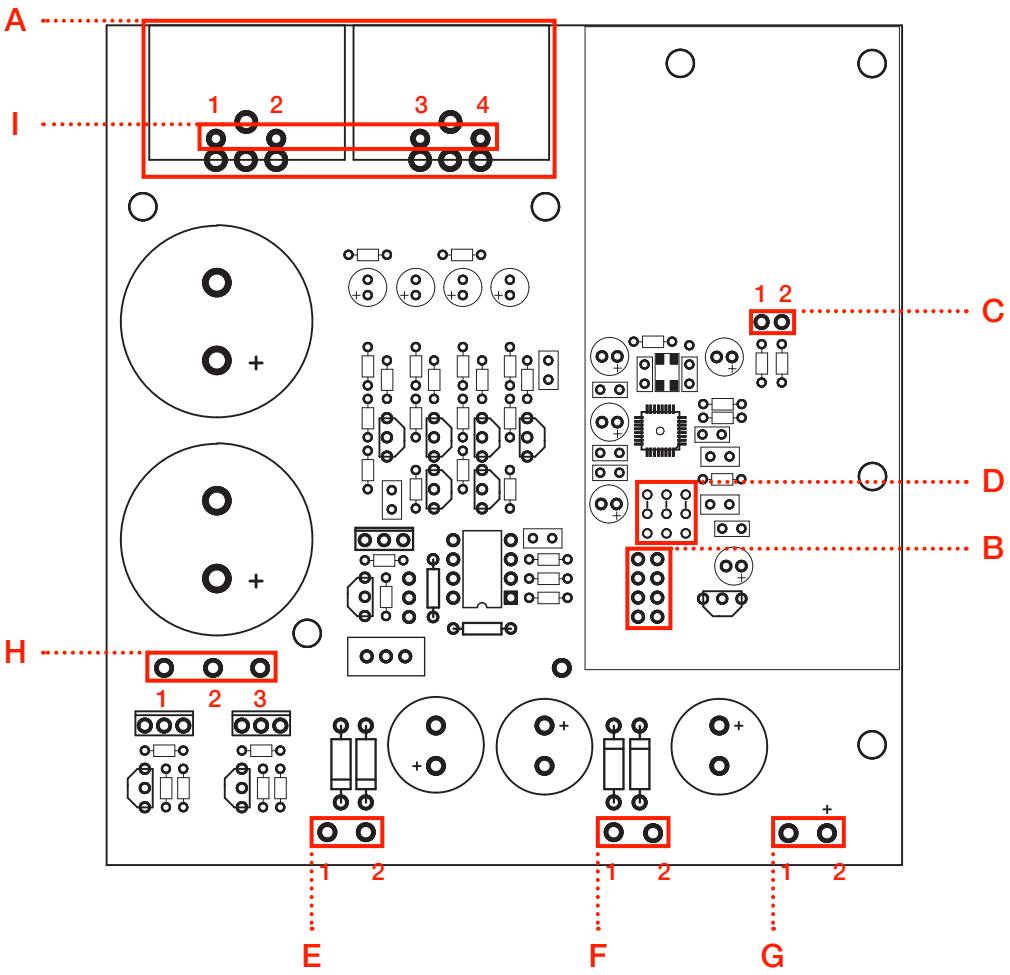


# PCB Layout

Overview of BerryNOS 1543 PCB layout.

| | | | |
|---|---|---|---|
| **A** | L/R Balanced XLR, L/R Unbalanced RCA | **F** | CON_2 |
| **B** | Raspberry PI header P5 | **G** | CON_3 |
| **C** | Optional S/PDIF input | **H** | CON_4 |
| **D** | Optional I2S configuration | **I** | CON_5 |
| **E** | CON_1 | | |




1 2

**CON_1**
Pin 1 0VAC
Pin 2 7.5-9VAC

1 2

**CON_2**
Pin 1 7.5-9VAC
Pin 2 0VAC

1 2

**CON_3**
Pin 1 GROUND
Pin 2 5VDC

1 2 3

**CON_4**
Pin 1 +7.2VDC
Pin 2 -7.2VDC
Pin 3 0VDC

**CON_5** (Note! Top view)
Pin 1 RCA L+ SIGNAL
Pin 2 RCA L GND
Pin 3 RCA R+ SIGNAL
Pin 4 RCA R GND

1 2

**Optional S/PDIF input**
This is an alternativ input instead of Raspberry PI.
Pin 1 S/PDIF input
Pin 2 GROUND

**Optional I2S configuration for S/PDIF**
Configure with provided onboard jumpers.
Connect according to blue schematic for no resampling up to 192 kHz.
Connect according to green schematic for fixed resampling at 176.4 kHz