

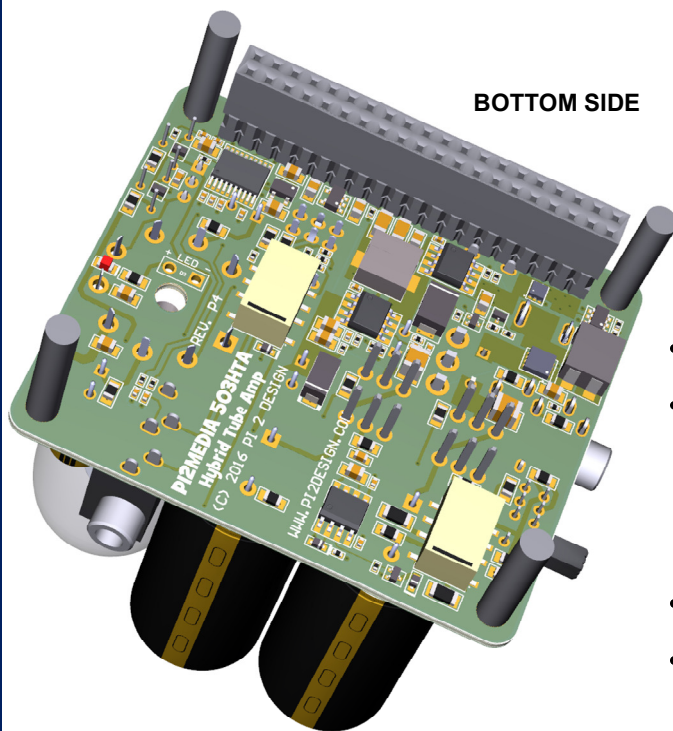
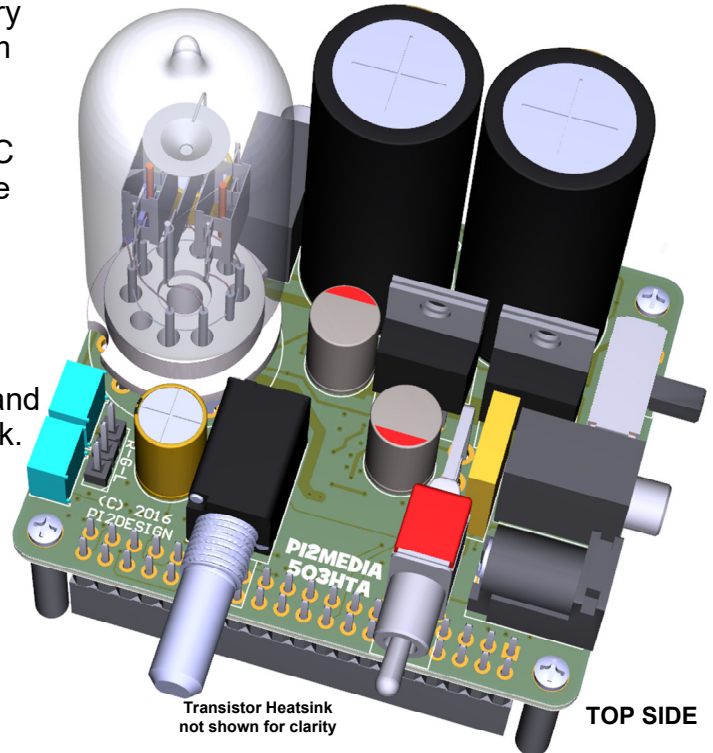
# PI2MEDIA 503HTA Hybrid Tube Amp-HAT

## Introduction and Overview

The 503HTA, designed and manufactured by Pi2Media (a division of Pi 2 Design), is a High Quality I/O Shield designed to bring "Sweet Tube Sound" to the Raspberry Pi® family of Single Board Computers. This HAT allows the Raspberry Pi® SBC to drive Headphones from 32 - 300 ohm with ease and fidelity.

The On-Board PCM5102A, 24-Bit @ 192Khz DAC drives the single stage 6DJ8 (aka 6922) tube. The Class-A Output Buffer consists of the Audiophile grade IRL510 MOSFET and LM317A Constant Current Source. A dedicated 6.3V Heater supply insures lowest crosstalk.

In addition, the 503HTA can be operated as a Stand Alone Headphone Amp via the 3.5mm Line In jack.

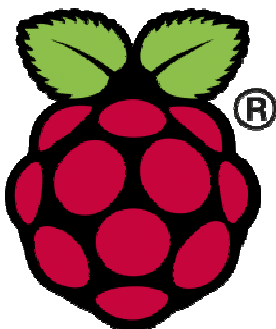


BOTTOM SIDE

TOP SIDE

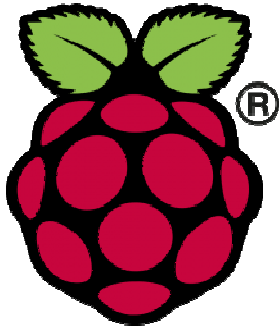
## Specifications and Features

- **FORM FACTOR** – Raspberry Pi® HAT Compliant Size w/40-Pin mating connector
- **24-Bit DAC** – The well regarded -112db THD PCM5102 is used to convert the I2S Stream to drive the Single Triode Tube Stage at 24-Bit up to 192Khz Frame Rate
- **TUBE ROLLING** – The 503HTA supports both 6DJ8 (default is JJ 6DJ8) and 12AU7 type tubes. Individual Anode Bias Adjustment Pots plus selectable Series/Parallel Heater Configuration insure the perfect setup for virtually any tube!
- **HEADPHONE OUT** – Rugged 3.5mm Jack plus selectable output resistance between 1.5, 32 and 100 ohms.
- **VOLUME POT AND GAIN SELECT** – High Quality ALPS Potentiometer and dual Gain settings allow the user to select the output voltage to the optimal level for each Headphone.
- **SINGLE POWER INPUT** – A Single 24V @ 2A input powers the 503HTA as well as the attached PI, providing 5V @ 3A.
- **STAND ALONE OPERATION** – The 503HTA can also be operated in stand alone mode using the 3.5mm Line In Jack.



# Pi 2 Design

[www.Pi2Design.com](http://www.Pi2Design.com)



# Pi 2 Design

www.Pi2Design.com

