

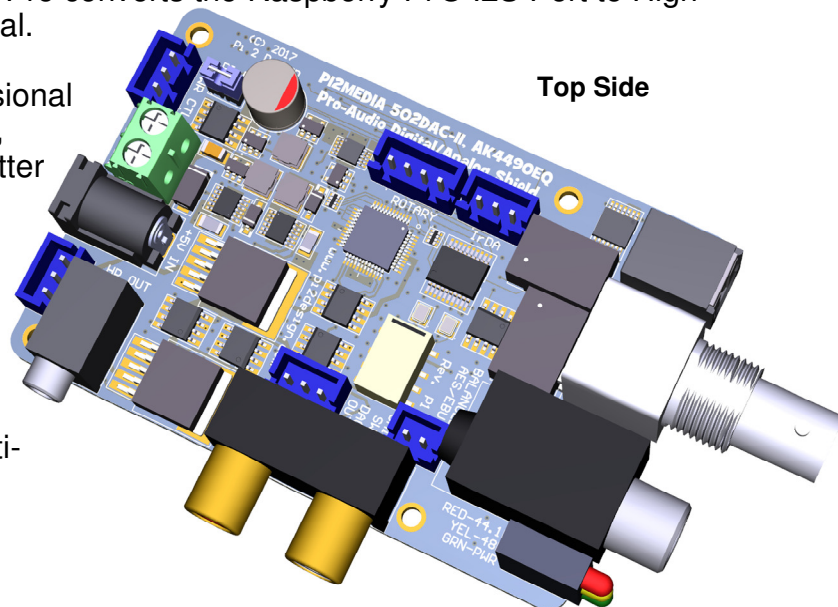
# PI2MEDIA 502DAC Pro Audio Shield

## Introduction and Overview

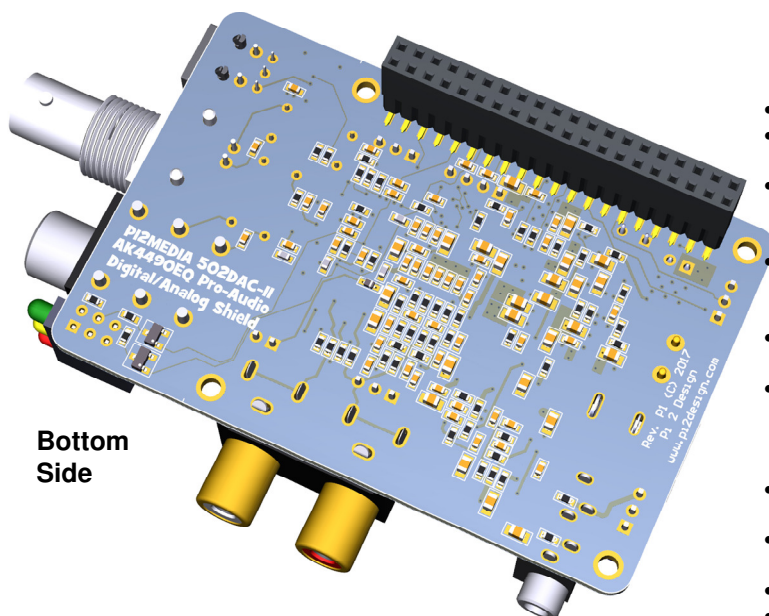
The 502DAC Pro, designed and manufactured by Pi2Media (a division of Pi 2 Design), is a professional I/O Shield designed to bring audiophile quality to the Raspberry Pi® family of Single Board Computers. The 502DAC Pro converts the Raspberry Pi® I2S Port to High Resolution Pro-Audio, Analog and Digital.

The 502DAC Pro combines the Professional Grade 24-Bit@192Khz PCM1792 DAC, WM8804 Digital Audio S/PDIF Transmitter along with two Ultra-Low Jitter NDK Oscillators for Highest Quality Analog and Digital Audio.

When combined with a Raspberry Pi2 or Pi3, and our 502MFC with up to 1TByte SSD Storage, you can quickly create low cost, high performance, multi-room streaming Pro-Audio servers.



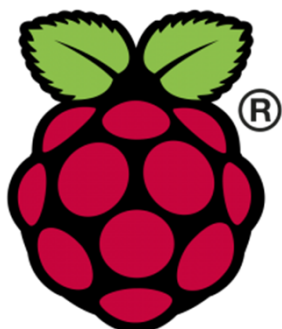
Top Side



Bottom Side

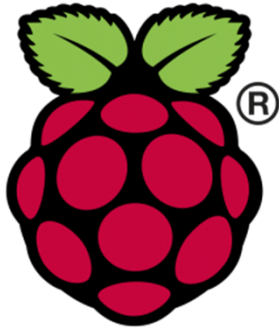
## Specifications and Features

- **FORM FACTOR** – Raspberry Pi® Full Size Shield.
- **24-Bit DAC** – Professional Grade PCM1792 running in Slave Mode converts the I2S Stream to Analog at 24-Bit up to 192Khz
- **DIGITAL AUDIO** – Industry standard WM8804 running in master mode converts the I2S stream to Pro-Audio Standard AES/EBU and SPDIF formatted data at 24-Bit up to 192Khz Frame Rate
- **ULTRA-LOW NOISE CLOCKS** – Two NDK NZ2520SD Oscillators feed the WM8804 I2S Master to insure the lowest possible Jitter and Phase Noise
- **ANALOG OUT** – 2Vrms Stereo Line Out, buffered by a pair of LME49720's, is available via Dual RCA Gold Plated Jacks
- **HIGH POWERED HEADPHONE AMP** – A pair of LME49720 Op Amps and LME49600 Buffers drive up to 8V RMS @ 200ma and can handle high and low impedance headphones with ease. Integrated DC Servo protects Headphones from DC bias
- **BALANCED OUT** – Isolated Balanced AES/EBU Pro-Audio is via 1/4" Connector, XLR Male Adapter included
- **COAX OUT** - A BNC COAX connector provides single ended, isolated S/PDIF with RCA Adapter included
- **OPTICAL OUT** – Via TX179 TOSLINK Transmitter
- **HIGH-PSRR LDO** – A Low-Noise Linear Tech LT3042 delivers 3.3V to all sections with 88db+ PSRR from 10hz to 100khz
- **EXTERNAL 5V** – This option allows the 502DAC Pro to be powered from an external low noise supply if desired
- **EXPANSION CONNECTORS** – A number of JST XH connectors allow access to functions and GPIO for IrDA, Rotary and Power Control.



# Pi 2 Design

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