

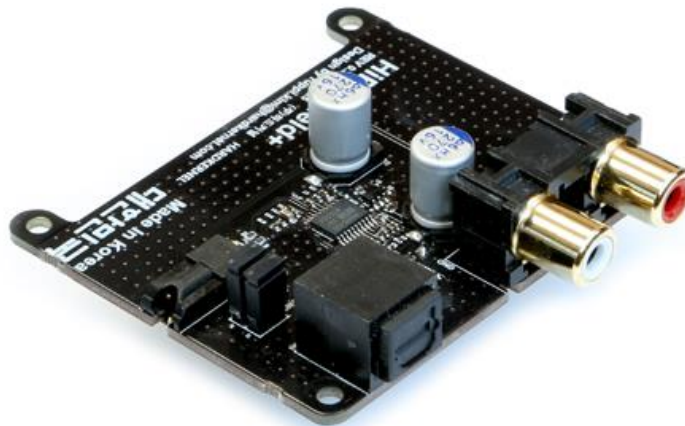
HiFi Shield Plus

Works with the ODROID-C2 / C1+. This is not compatible with the original ODROID-C1.

The HiFi Shield Plus provides both stereo RCA connectors and a 3.5mm stereo jack (all gold-plated) to connect to external amplifiers and other audio equipment. Via TI's high-end PCM5102 DAC chip(known as Burr-Brown), it supports 16, 24, **32 bit** audio formats with minimal distortion (-93dB) and ideal dynamics (110dB+), plus amazing sampling rates of**384kHz**

The dedicated S/PDIF interface is newly added which supports up to 192kHz/24bit resolution via new Optical (Toslink) output.

Using the I2S expansion on the C2 / C1+, we save a USB port and allow the user to select their audio playback system of choice, such as Volumio, RuneAudio or XBMC/Kodi for HiFi audio playback.

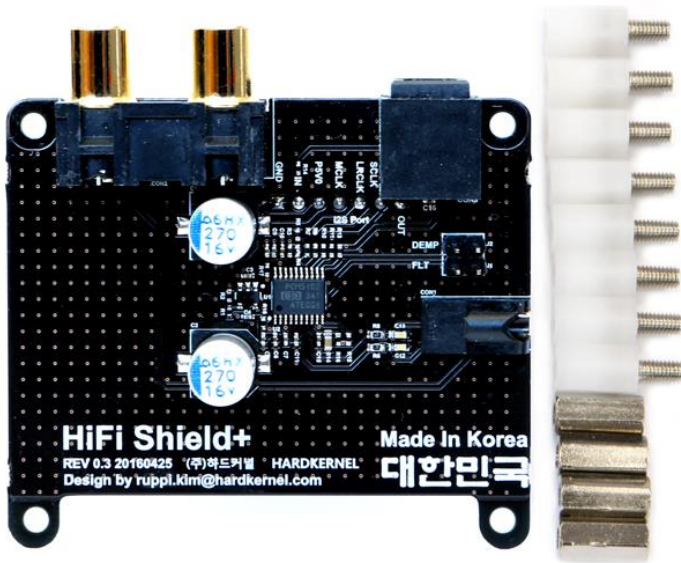


Functional introduction :

1. The output ports include gold-plated stereo RCA terminals and a 3.5mm audio jack.
2. An ultra-low noise dropout regulator is coupled with two solid capacitors for the power supply, significantly reducing power supply noise and greatly increasing the signal to noise ratio.
3. The I2S interface allows for direct decoding of the digital input to analog output using master clock synchronization.
4. The PCB surface is comprised of gold-plating on top of 2 oz. of copper, ensuring signal continuity and reducing signal reflection and refraction.

*** This HiFi shield is not functional with Android. We have no plan to support the Android OS to enable the I2S driver for Android Kernel and HAL.**

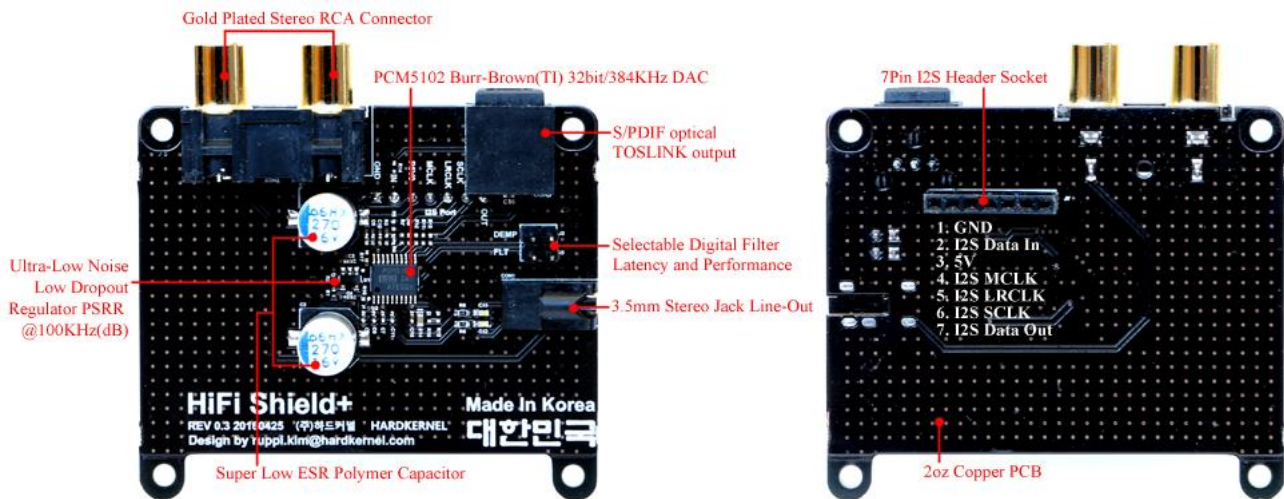
- Ubuntu/Linux setup guide for ODROID-C2 : [HERE](#) / for ODROID-C1+ : [HERE](#)
- Official Volumio OS support : <https://volumio.org>
- Official Runeaudio OS support : <https://runeaudio.com>
- PCB mechanical drawings (AutoCAD format) : [Download HERE](#)
- Schematics : [Download HERE](#)



Package include

- HiFi Shield Plus Board
- 4 x 11mm PCB spacer (Metal)
- 8 x 10mm PCB spacer (Plastic)

BOARD DETAIL



ODROID-C2 / C1+ 7PIN I2S PINMAP

ODROID-C2/C1+ 7pin Layout	
HEADER	Label
1	GND
2	I2S Data In (for ADC)
3	5V
4	I2S MCLK (Master Clock)
5	I2S LRCLK (LR Clock)
6	I2S SCLK (Bit Clock)
7	I2S Data Out (for DAC)

The HiFi Shield Plus is a high-resolution Digital to Analog Converter(DAC) for the ODROID-C2 and ODROID-C1+. This is a special sound card for the C2 and C1+, that is optimized for **the best fidelity audio playback quality**.

It delivers a nicely balanced sound, solid, deep, wide and nicely layered.

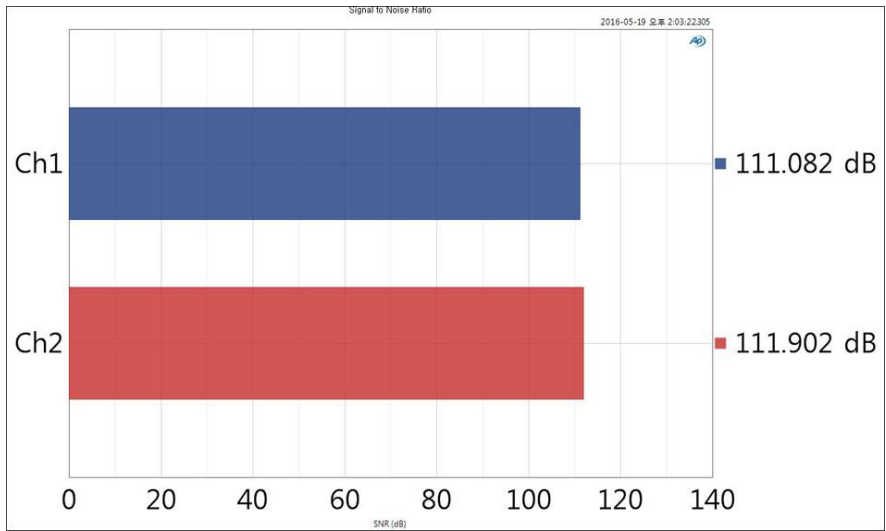
We've analysed the the audio quality of the HiFi Shield Plus DAC output with the famous industry standard equipment, Audio Precision. The Audio Precision is a high performance audio analyser optimized for the digital audio product.

The analog output of the HiFi Shield Plus is connected to the equipment and measurement data shows on the host PC.

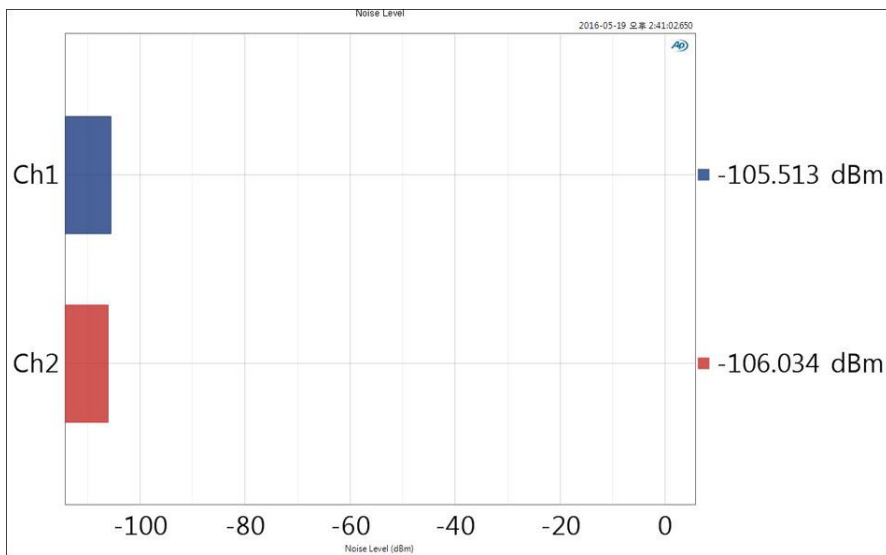
This picture shows a basic configuration of the set-up..



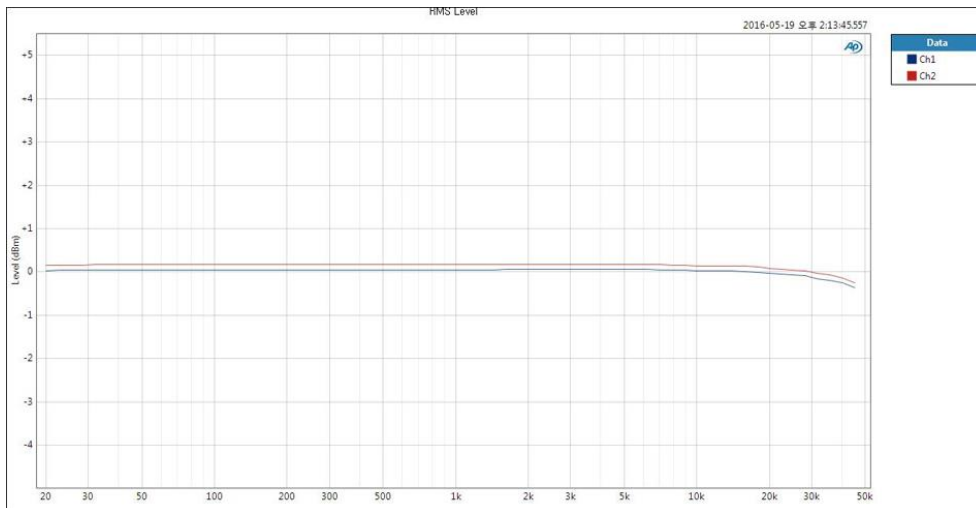
The Signal to Noise Ratio (SNR)



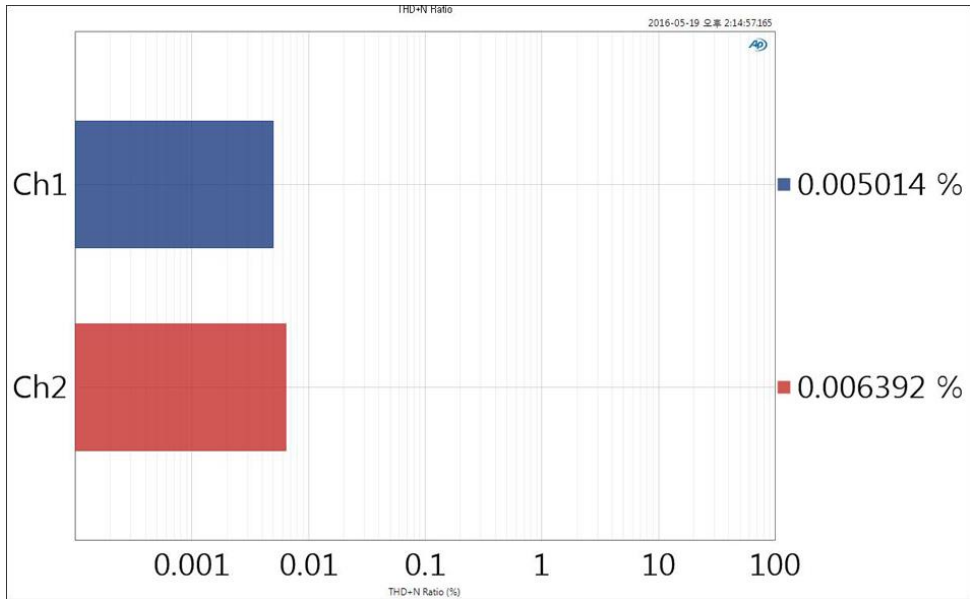
The Noise Level in dBm



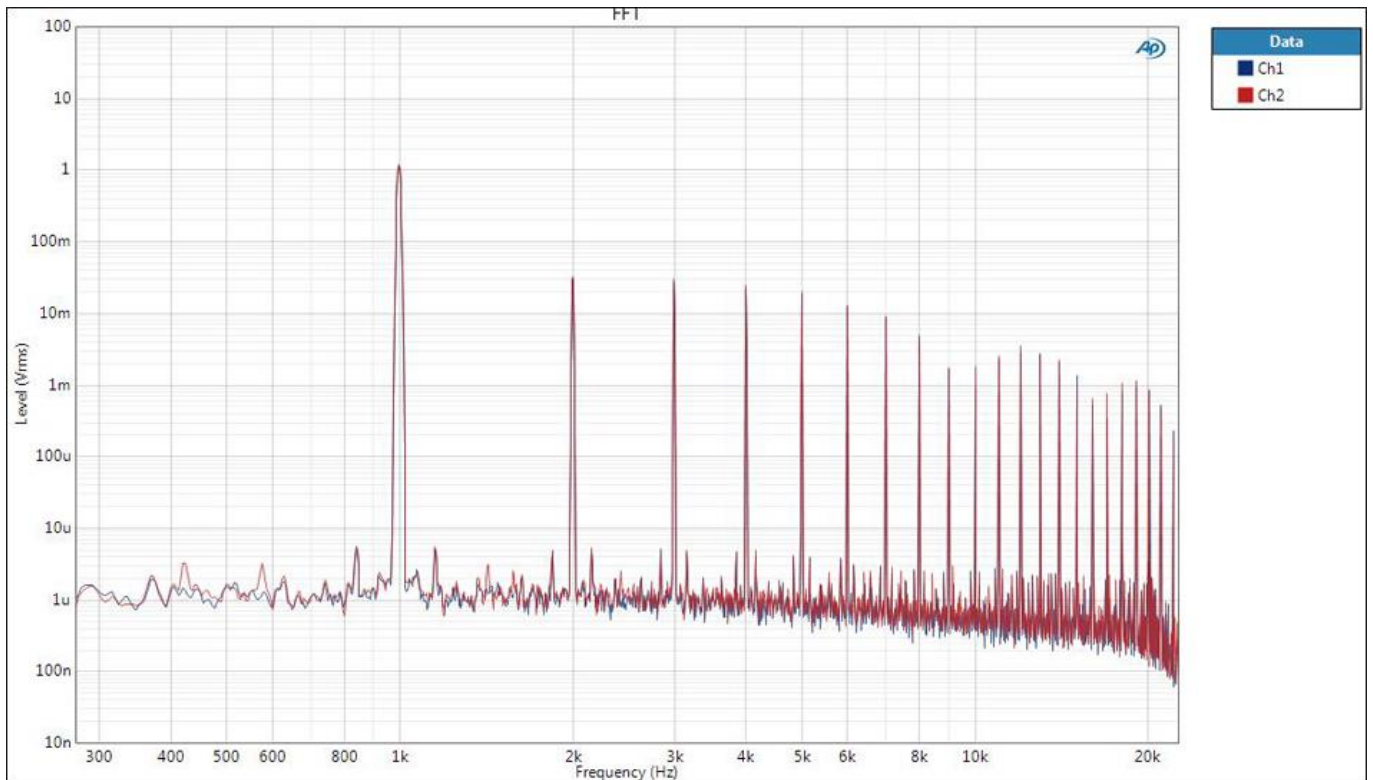
The Frequency Response and RMS output level in dBV



The Total Harmonic Distortion + Noise Ratio (THD+N)



The FFT spectrum analyzer for 1KHz signal



This is a great idea if you want an audiophile set-up with ODROID-C2/C1+. Enjoy a variable output connecting directly into a power amp or active speakers.