RPI-HIFI-DAC

1、Overview

The RPI has one major problem with i2s audio interface. The clocks coming from CPU can only output one frequency clock perfect, resulting in major problems with audio files sampled at 44khz and multiple. Too much jitter on i2s clocks. So we enter the master mode for i2s. Instead of The RPI giving the clock on the line, the DAC itself sends the clocks and RPI sends the data (file to be played). Since we used 2 clocks the problem above solved.

RPI-HIFI-DAC is unique, because of the way we have implemented the design. First we separated the power on 3 channels and filter it: one for the digital side, the second for analog and third for the clocks themselves. We use some of the good brand LDOs on the market. In addition, we used two oscillators with very low jitter for clock units. Finally, on the analog stage we are using a film capacitor (not ceramic) for a quiet DC to feed the TI IC to reduce signal distortion.

2、Functions and Features

1, Dedicated 384kHz/32bit high-quality DAC PCM5122 for best sound quality.

2, Audio output connectors: 2x RCA (LEFT &Right) &3.5mm head phone Jack.

3, With 138mw headphone Amplifier can directly drive headphone.

4, Work status indicators facilitate the understanding of the system working status.

5, HAT size.

6, DAC SNR is 112Db .

7, DAC THD+N   @ -1 dBFS   -78dB.

8,Full Scale Output of DAC is 2.1Vrms.

9,Dynamic Range of DAC is 112dB

10,Sampling Frequency ranges from 8kHz to 384kHz

11,Ultra-low noise voltage regulators for optimal audio performance.

12, Integrated EEPROM for automatic configuration(Option).

13, Automatically switching frequencies according to the input I2S signals.

14, Dual low jitter crystal oscillators for Master Clock generation.

15, Infrared remote control connector (using GPIO26).

16, DAC output coupled with Film capacitor .

3、Hardware connection

Connect the   RPI-HIFI-DAC module and RPI with 40 pin connector .While installing the module attention to align the first leg of the raspberry pi and   RPI-HIFI-DAC module.

4、Software Installation

RPI-HIFI-DAC module compatible with many Raspberry pi music playback system such as: OSMC / Max2Play / RuneAudio / Volumio / Moode / PiCorePlayer / PiMusicBox / OpenELEC etc. The user can choose a suitable for their own .

Like max2play and Volumio User can easily download the latest software from the official website, follow the 按 official user guide do some simple configuration then you can enjoy it.

MAX2PLAY
https://www.max2play.com/en/max2play-image/#close

inno

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Max2Play Raspberry Pi Image

for Raspberry Pi 1 Model A/A+/B/B+, Pi 2 Model B, Pi 3 Model B, Pi Zero

Max2Play for the Raspberry Pi based on the official Rasbian Debian Jessie-Image.
After the start, the web interface can be reached through the browser at http://max2play
The sound cards of all listed manufactures can be installed with only one click. If booting without connected network cable and available WiFi interface (e.g. Pi Zero, RPI3) a hotspot is started (name *max2play*, password *mypasscode*) to setup WiFi by smartphone.

Download "Max2Play Raspberry Pi ALL (SD-Card Image based on Raspbian Jessie Lite)"
m2p_rpi_default_244_wps_ap_expand.img.zip – Downloaded 33515 times – 1 GB

VOLUMIO

https://volumio.org/get-started/

VOLUMIO

DOWNLOAD VOLUMIO FOR YOUR PLATFORM

RASPBERRY PI

PC (X86/X64)

ODROID C1

ODROID C2

CUBOX-I

SPARKY

Volumio Audiophile Music Player for Raspberry Pi

VERSION: 2.295

RELEASE DATE: 15-10-2017
TOTAL DOWNLOADS: 1481795
IMAGE MD5: 60d723f14258c5637d00e024fc2b2057

CHANGELOG LINK

DOWNLOAD ⬇

For the convenience of fast experience here we can supply Volumio preset software image:
volmio-2.2.46-ok.img, operation as follows：
Prepare a capacity of more than4 GB TF card and card reader .

1, Open Win32DiskImager.exe and select volmio-2.2.46-ok.img   click 「write」wait for it complete .

 2, Insert the TF card into the Raspberry pi then power on the system.

Note: Once power on the system module on board power status LED will light on, work status LED will change the status from dim, light on to off , this indicate the initial process of the module ,while playback music the status led will light on .
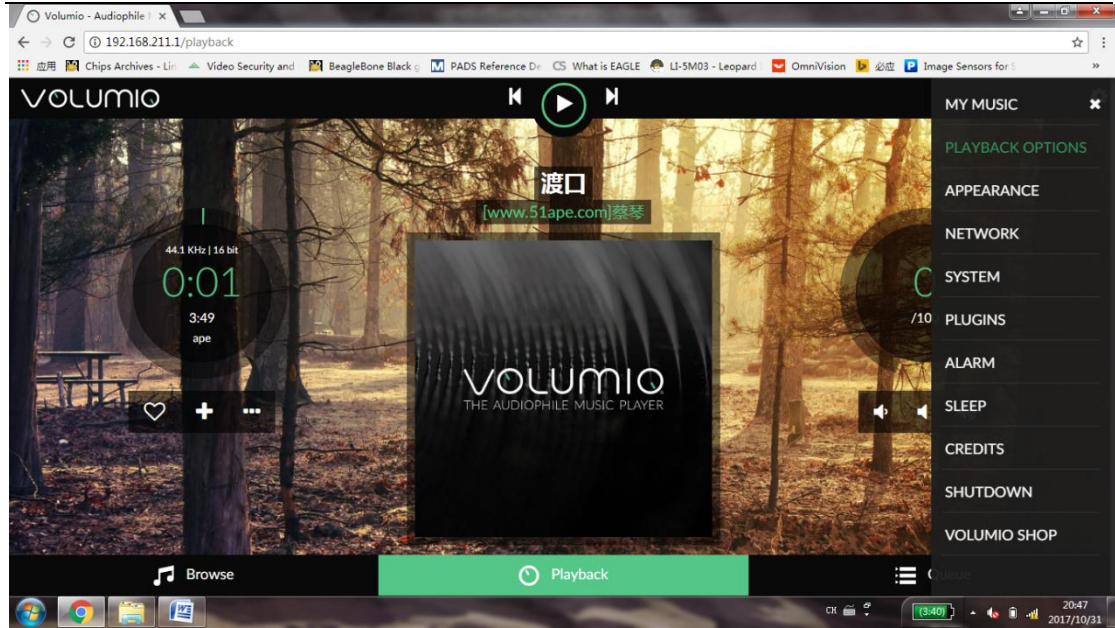
3, Using your smart phone or tablet or any device with wifi and browser search for wifi hotpots.

4,   Connect hotspot Volumio with password *volumio2* （you can change your password once you login）the browser will automatically eject playback software UI which is based on web interface (if you connect the   hotspot successfully but for some reason browser can't pop up the playback page automatically, you can using   http://192.168.211.1 login it).
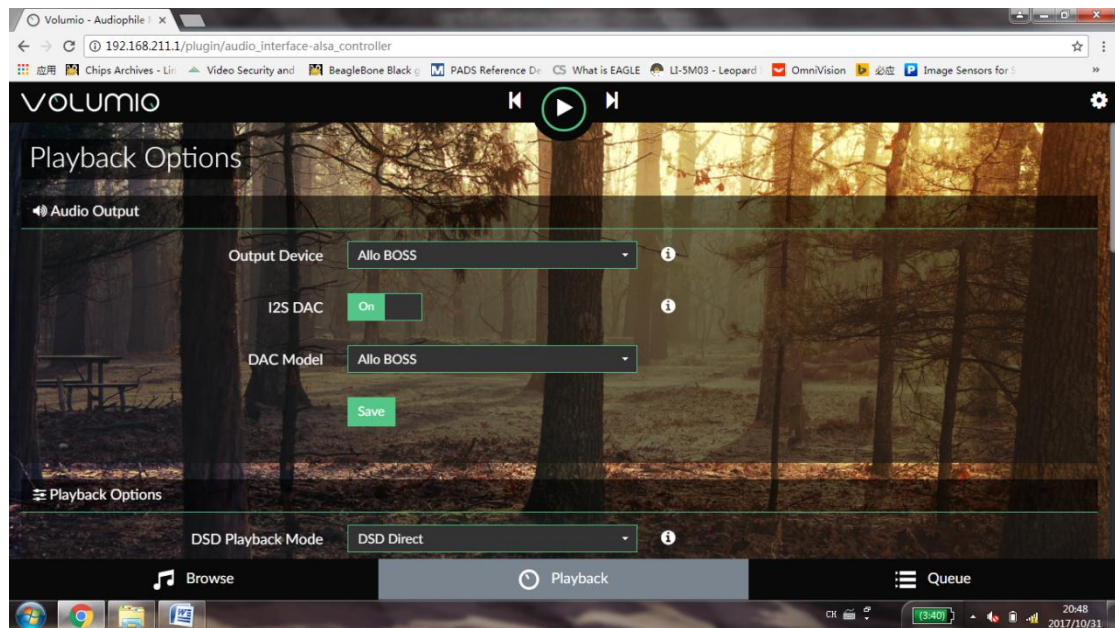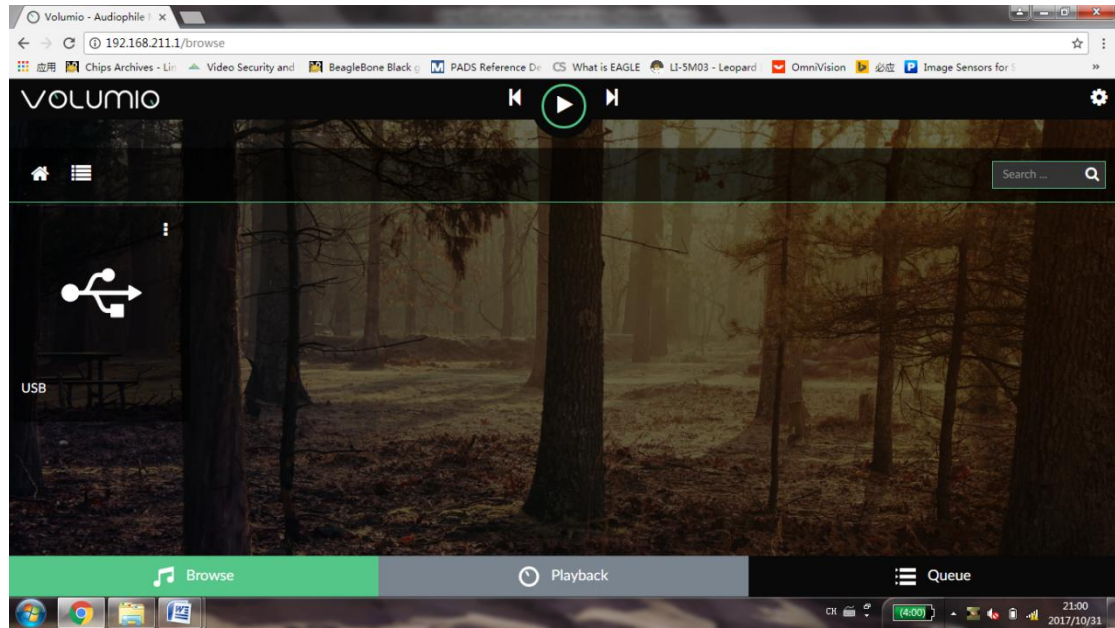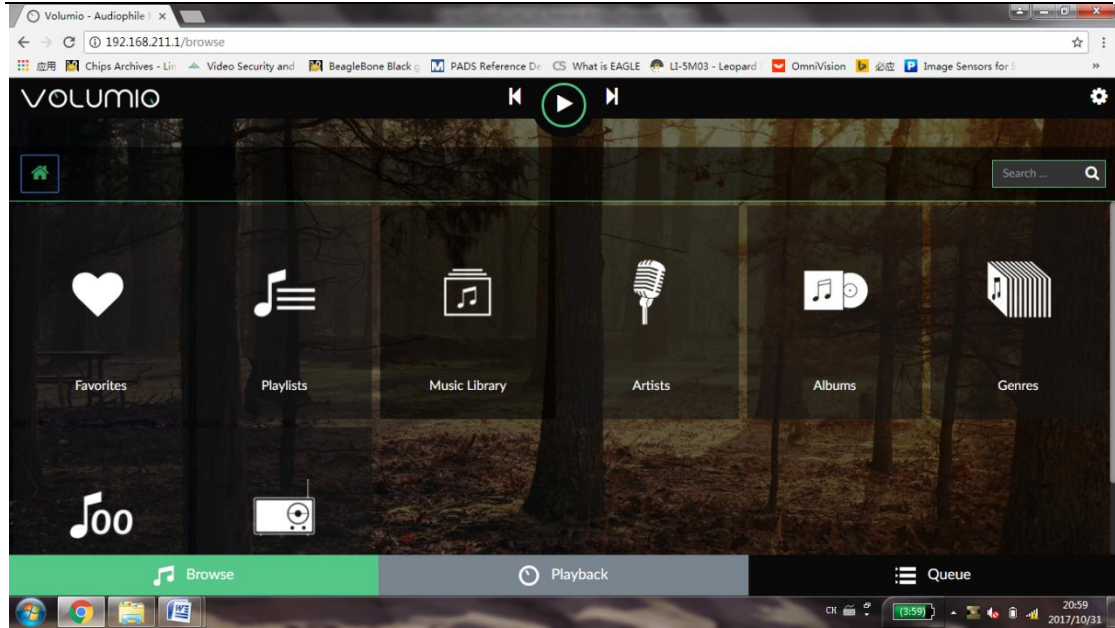
Music player UI
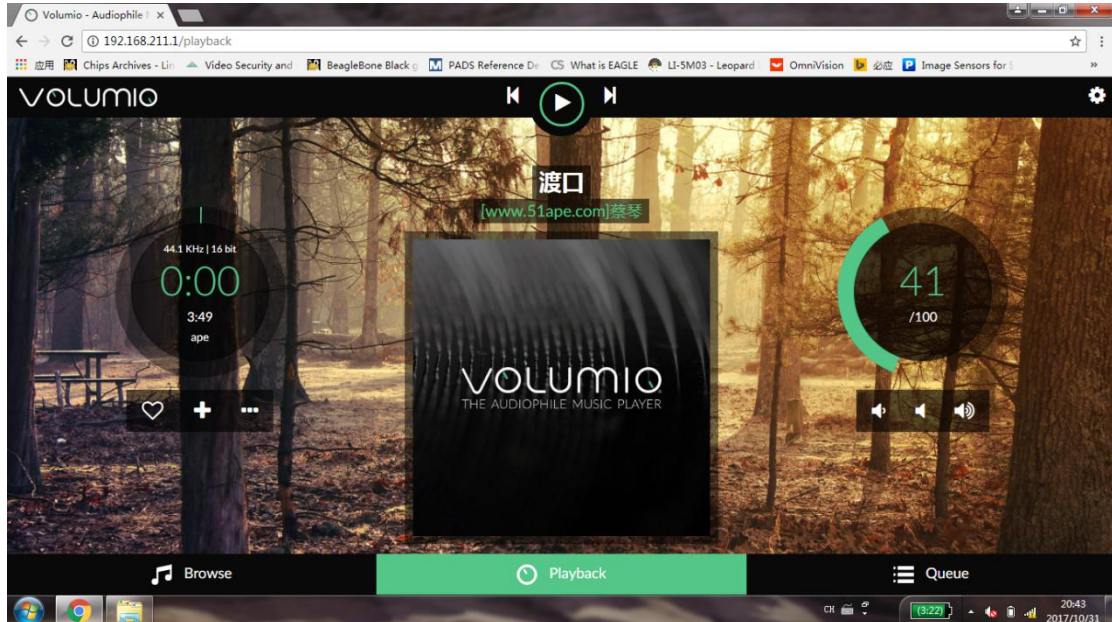
Software settings：

RPI-HIFI-DAC module hardware setting.

Music library select：