

USB Sound Card-PCM2912

(A High Quality Audio Card support stereoscopic output and Single channel MIC input, Fit to Debian and Windows system)



1 Introduction

USB Sound Card-PCM2912 is A High Quality Audio Card support stereoscopic output and Single channel MIC input, Fit to Debian and Windows system.

It adopted the TI PCM2912 Single Chip, USB stereo audio codec with a USB, 2.0-compliant, full-speed protocol controller and an analog front-end (AFE) function for headset applications.



The USB protocol controller works with no software code, but USB descriptors can be modified on request. The TI PCM2912 employs SpAct™ architecture, TI's unique system that recovers the audio clock from USB packet data. On-chip analog PLLs with SpAct enables independent playback and record sampling rates with low clock jitters.

2 Features

2.1, On-Chip USB Interface:

- With Full-Speed Transceivers
- Fully Compliant With USB 2.0 Specification
- Certified By USB-IF
- Partially Programmable Descriptors
- Adaptive Isochronous Transfer for Playback
- Asynchronous-Isochronous Transfer for Record
- Bus Powered

2.2, 16-Bit Delta-Sigma ADC and DAC

2.3, Sampling Rate:

8, 11.025, 16, 22.05, 32, 44.1, or 48 kHz

2.4, Mono ADC with Microphone Input

- Analog Performance at $V_{BUS} = 5\text{ V}$:
- THD+N: 0.01%
- SNR: 92 dB
- Dynamic Range: 90 dB

2.5, Stereo DAC With Headphone Output

- Analog Performance at $V_{BUS} = 5.0\text{ V}$
- THD+N: 0.01% ($R_L > 10\text{ k}\Omega$)
- THD+N: 0.02% ($R_L = 32\ \Omega$)
- SNR: 92 dB
- Dynamic Range: 90 dB

3 Testing under Raspberry:

3.1, Viewing system playback device

```
pi@raspberrypi:~$ sudo aplay -l
```

```
**** List of PLAYBACK Hardware Devices ****
```

```
card 0: ALSA [bcm2835 ALSA], device 0: bcm2835 ALSA [bcm2835 ALSA]
```

```
Subdevices: 8/8
```

```
Subdevice #0: subdevice #0
```

```
Subdevice #1: subdevice #1
```

Subdevice #2: subdevice #2

Subdevice #3: subdevice #3

Subdevice #4: subdevice #4

Subdevice #5: subdevice #5

Subdevice #6: subdevice #6

Subdevice #7: subdevice #7

card 0: ALSA [bcm2835 ALSA], device 1: bcm2835 ALSA [bcm2835 IEC958/HDMI]

Subdevices: 1/1

Subdevice #0: subdevice #0

card 1: Device [PDP Audio Device], device 0: USB Audio [USB Audio]

Subdevices: 0/1

Subdevice #0: subdevice #0

3.2, Viewing system record device

**** List of CAPTURE Hardware Devices ****

card 1: Device [PDP Audio Device], device 0: USB Audio [USB Audio]

Subdevices: 1/1

Subdevice #0: subdevice #0

3.3, Playback test

```
pi@raspberrypi:~$ speaker-test -Dplughw:CARD=Device -c2 -twav
```

you can hear : Front Left Front Right from headset.

3.4, Record test

We can use below instruction record the MIC input to file test.wav.

```
pi@raspberrypi:~$ arecord -Dplughw:CARD=Device -fcd -c1 -twav test.wav
```

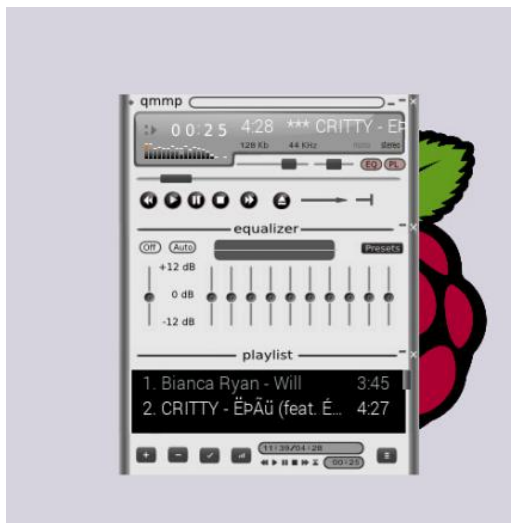
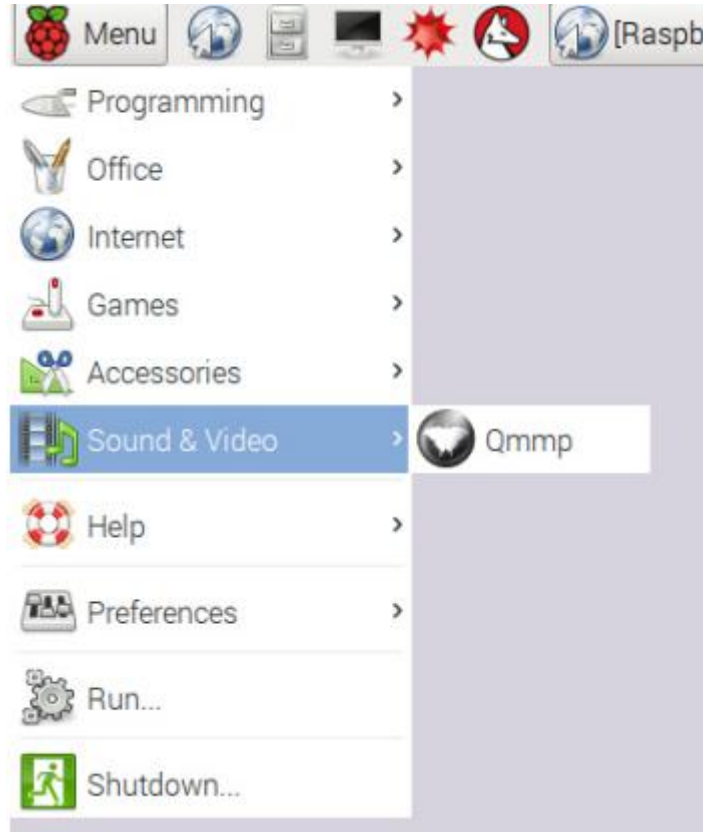
4 Using Under Debian System

4.1 Download debian system, burn into TF card.

4.2 Install the music player:

```
sudo apt-get install qmmp.
```

After the installation ,we can find the player under the menu bar



4) Set UAC Module (PDP Audio Card) as default system Audio card in Preferences, and reboot.

