

# FreeSandal

樹莓派, 樹莓派之學習, 樹莓派之教育

## 【鼎革·革鼎】：RASPBIAN STRETCH 《六之 K.3-言語界面-6.5 》

2018-02-07 | 懸鉤子 | 發表迴響

話說從頭，年前友人偶訪談及 ReSpeaker Raspbian Jessie 相容性問題？意外引發

## PyAudio



PyAudio provides Python bindings for PortAudio, the cross-platform audio I/O library. With PyAudio, you can easily use Python to play and record audio on a variety of platforms, such as GNU/Linux, Microsoft Windows, and Apple Mac OS X / macOS.

PyAudio is inspired by:

- pyPortAudio/fastaudio: Python bindings for PortAudio **v18** API.
- tkSnack: cross-platform sound toolkit for Tcl/Tk and Python.

### 錯誤訊息

```
1 pi@raspberrypi:~ $ python3
2 Python 3.5.3 (default, Jan 19 2017, 14:11:04)
3 [GCC 6.3.0 20170124] on linux
4 Type "help", "copyright", "credits" or "license" for more information.
5 >>> import pyaudio
6 >>> p = pyaudio.PyAudio()
7 ALSA lib pcm.c:2495:(snd_pcm_open_noupdate) Unknown PCM cards.pcm.front
8 ALSA lib pcm.c:2495:(snd_pcm_open_noupdate) Unknown PCM cards.pcm.rear
```

```

9 ALSA lib pcm.c:2495:(snd_pcm_open_noupdate) Unknown PCM cards.pcm.center_lfe
10 ALSA lib pcm.c:2495:(snd_pcm_open_noupdate) Unknown PCM cards.pcm.side
11 ALSA lib pcm.c:2495:(snd_pcm_open_noupdate) Unknown PCM cards.pcm.surround21
12 ALSA lib pcm.c:2495:(snd_pcm_open_noupdate) Unknown PCM cards.pcm.surround21
13 ALSA lib pcm.c:2495:(snd_pcm_open_noupdate) Unknown PCM cards.pcm.surround40
14 ALSA lib pcm.c:2495:(snd_pcm_open_noupdate) Unknown PCM cards.pcm.surround41
15 ALSA lib pcm.c:2495:(snd_pcm_open_noupdate) Unknown PCM cards.pcm.surround50
16 ALSA lib pcm.c:2495:(snd_pcm_open_noupdate) Unknown PCM cards.pcm.surround51
17 ALSA lib pcm.c:2495:(snd_pcm_open_noupdate) Unknown PCM cards.pcm.surround71
18 ALSA lib pcm.c:2495:(snd_pcm_open_noupdate) Unknown PCM cards.pcm.iec958
19 ALSA lib pcm.c:2495:(snd_pcm_open_noupdate) Unknown PCM cards.pcm.iec958
20 ALSA lib pcm.c:2495:(snd_pcm_open_noupdate) Unknown PCM cards.pcm.iec958
21 ALSA lib pcm.c:2495:(snd_pcm_open_noupdate) Unknown PCM cards.pcm.hdmi
22 ALSA lib pcm.c:2495:(snd_pcm_open_noupdate) Unknown PCM cards.pcm.hdmi
23 ALSA lib pcm.c:2495:(snd_pcm_open_noupdate) Unknown PCM cards.pcm.modem
24 ALSA lib pcm.c:2495:(snd_pcm_open_noupdate) Unknown PCM cards.pcm.modem
25 ALSA lib pcm.c:2495:(snd_pcm_open_noupdate) Unknown PCM cards.pcm.phoneline
26 ALSA lib pcm.c:2495:(snd_pcm_open_noupdate) Unknown PCM cards.pcm.phoneline
27 ALSA lib confmisc.c:1281:(snd_func_refer) Unable to find definition 'defaults.bluealsa.
28 ALSA lib conf.c:4528:(_snd_config_evaluate) function snd_func_refer returned error: No
29 ALSA lib conf.c:4996:(snd_config_expand) Args evaluate error: No such file or directory
30 ALSA lib pcm.c:2495:(snd_pcm_open_noupdate) Unknown PCM bluealsa
31 ALSA lib confmisc.c:1281:(snd_func_refer) Unable to find definition 'defaults.bluealsa.
32 ALSA lib conf.c:4528:(_snd_config_evaluate) function snd_func_refer returned error: No
33 ALSA lib conf.c:4996:(snd_config_expand) Args evaluate error: No such file or directory
34 ALSA lib pcm.c:2495:(snd_pcm_open_noupdate) Unknown PCM bluealsa
35 ALSA lib pcm_dmix.c:990:(snd_pcm_dmix_open) The dmix plugin supports only playback stre
36 ALSA lib pcm_dmix.c:990:(snd_pcm_dmix_open) The dmix plugin supports only playback stre
37 ALSA lib pcm_ac108.c:469:(_snd_pcm_ac108_open) a108 is only for capture
38 Expression 'ioctl( devHandle, SNDCTL_DSP_CHANNELS, &numChannels )' failed in 'src/hosto
39 Cannot connect to server socket err = No such file or directory
40 Cannot connect to server request channel
41 jack server is not running or cannot be started
42 JackShmReadWritePtr::~JackShmReadWritePtr - Init not done for -1, skipping unlock
43 JackShmReadWritePtr::~JackShmReadWritePtr - Init not done for -1, skipping unlock
44 >>>

```

誰該負責之論！

由於那是多種『語音辨識』平台使用的程式庫，網路上早已嘖嘖喳喳滿是 Q&A 矣！？

—— 《Raspbian Stretch 《六之 K》》

既然已花了相當的篇幅介紹派生之 Sound Device，想必讀者自能應用吧☆

此處回返略補充 pyaudio 文件

# PyAudio Documentation

## Contents

- PyAudio Documentation
  - Introduction
    - Example: Blocking Mode Audio I/O
    - Example: Callback Mode Audio I/O
    - Overview
    - Details
  - Class PyAudio
  - Class Stream
  - Platform Specific
- Indices and tables

## Introduction

PyAudio provides Python bindings for PortAudio, the cross-platform audio I/O library. With PyAudio, you can easily use Python to play and record audio on a variety of platforms. PyAudio is inspired by:

- pyPortAudio/fastaudio: Python bindings for PortAudio v18 API.
- tkSnack: cross-platform sound toolkit for Tcl/Tk and Python.

及驗證乙事。

```
1 pi@raspberrypi:~ $ ipython3
2 Python 3.5.3 (default, Jan 19 2017, 14:11:04)
3 Type "copyright", "credits" or "license" for more information.
4
5 IPython 5.1.0 -- An enhanced Interactive Python.
6 ? -> Introduction and overview of IPython's features.
7 %quickref -> Quick reference.
8 help -> Python's own help system.
9 object? -> Details about 'object', use 'object??' for extra details.
10
11 In [1]: import pyaudio
12
13 In [2]: pyaudio.get_portaudio_version_text()
14 Out[2]: 'PortAudio V19.6.0-devel, revision 396fe4b6699ae929d3a685b3ef8a7e97396139a4'
15
```

```
16 In [3]: pyaudio.get_portaudio_version()
17 Out[3]: 1246720
18
19 In [4]: p = pyaudio.PyAudio()
20 ALSA lib pcm.c:2495:(snd_pcm_open_noupdate) Unknown PCM cards.pcm.front
21 ...
22
23 In [5]: p.get_device_count()
24 Out[5]: 10
25
26 In [6]: p.get_default_input_device_info()
27 Out[6]:
28 {'defaultHighInputLatency': 0.034829931972789115,
29  'defaultHighOutputLatency': -1.0,
30  'defaultLowInputLatency': 0.005804988662131519,
31  'defaultLowOutputLatency': -1.0,
32  'defaultSampleRate': 44100.0,
33  'hostApi': 0,
34  'index': 2,
35  'maxInputChannels': 2,
36  'maxOutputChannels': 0,
37  'name': 'seed-4mic-voicecard: - (hw:1,0)',
38  'structVersion': 2}
39
40 In [7]: p.get_default_output_device_info()
41 Out[7]:
42 {'defaultHighInputLatency': -1.0,
43  'defaultHighOutputLatency': 0.034829931972789115,
44  'defaultLowInputLatency': -1.0,
45  'defaultLowOutputLatency': 0.005804988662131519,
46  'defaultSampleRate': 44100.0,
47  'hostApi': 0,
48  'index': 8,
49  'maxInputChannels': 0,
50  'maxOutputChannels': 2,
51  'name': 'default',
52  'structVersion': 2}
53
54 In [8]: p.get_device_info_by_index(2)
55 Out[8]:
56 {'defaultHighInputLatency': 0.034829931972789115,
57  'defaultHighOutputLatency': -1.0,
58  'defaultLowInputLatency': 0.005804988662131519,
59  'defaultLowOutputLatency': -1.0,
60  'defaultSampleRate': 44100.0,
61  'hostApi': 0,
62  'index': 2,
63  'maxInputChannels': 2,
64  'maxOutputChannels': 0,
65  'name': 'seed-4mic-voicecard: - (hw:1,0)',
66  'structVersion': 2}
67
68 In [9]:
69
```

測試還請參考：

## **mabdrabo/sound\_recorder.py**

Created Jan 28, 2014

Simple script to record sound from the microphone, dependencies: easy\_install pyaudio