

Magewell Pro Capture ☐☐☐☐☐

□□□□□ for Linux

□□□□ 2011-2016 □□□□□□□□□□□□ □□□□□□□□

□□□□□□ 2016-04-19

1

ProCapture PCI-E 2.0 .

SDK

[illegible]

2

- 00000000;
- Pro Capture00000000PCI Express0000(0:Pro Capture00000000PCI-E000000020:x10x4.
x100000000PCI Express x1,x4,x80x1600, x400000000PCI Express x4,x80x1600,00Pro
Capture Mini0000000000Mini PCI-E0);
- 000000000000000000;

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3.1 实验目的

linux Pro Capture

3.2 〇〇〇〇

- `tar -xvf ProCaptureForLinux_XXXX.tar.gz` XXXX 檔案解壓縮
- `tar -zxvf ProCaptureForLinux_XXXX.tar.gz` 檔案解壓縮
- 安裝檔案
 - `bin` 安裝檔案
 - `scripts` 安裝檔案
 - `src` 安裝檔案
 - `install.sh` 安裝檔案

```

magewell@magewell-MSB85TN-00: ~/Downloads/ProCaptureForLinux_2140
magewell@magewell-MSB85TN-00:~/Downloads/ProCaptureForLinux_2140$
magewell@magewell-MSB85TN-00:~/Downloads/ProCaptureForLinux_2140$
magewell@magewell-MSB85TN-00:~/Downloads/ProCaptureForLinux_2140$
magewell@magewell-MSB85TN-00:~/Downloads/ProCaptureForLinux_2140$
magewell@magewell-MSB85TN-00:~/Downloads/ProCaptureForLinux_2140$
magewell@magewell-MSB85TN-00:~/Downloads/ProCaptureForLinux_2140$
magewell@magewell-MSB85TN-00:~/Downloads/ProCaptureForLinux_2140$
magewell@magewell-MSB85TN-00:~/Downloads/ProCaptureForLinux_2140$
magewell@magewell-MSB85TN-00:~/Downloads/ProCaptureForLinux_2140$ ll
total 68
drwxrwxr-x  5 magewell magewell  4096 11月 27 17:37 ./
drwxr-xr-x 15 magewell magewell  4096 11月 26 09:28 ../
drwxrwxr-x  2 magewell magewell  4096 11月 26 09:28 bin/
-rwxrwxr-x  1 magewell magewell   38 11月 23 14:18 install.sh*
-rw-r--r--  1 root     root    37567 11月 27 17:37 mwcap_install.log
-rw-rw-r--  1 magewell magewell   888 11月 23 14:18 quick_start.txt
drwxrwxr-x  2 magewell magewell  4096 11月 26 09:28 scripts/
drwxrwxr-x  5 magewell magewell  4096 11月 26 09:28 src/
magewell@magewell-MSB85TN-00:~/Downloads/ProCaptureForLinux_2140$
magewell@magewell-MSB85TN-00:~/Downloads/ProCaptureForLinux_2140$
magewell@magewell-MSB85TN-00:~/Downloads/ProCaptureForLinux_2140$
magewell@magewell-MSB85TN-00:~/Downloads/ProCaptureForLinux_2140$

```

- 安装依赖
 - Ubuntu: sudo apt-get install linux-headers-`uname -r`
 - Fedora/CentOS/RHEL: sudo yum install kernel-devel

- 运行 install.sh 安装模块

```

=====

Install Successfully!
For more information please check the docs directory or
contact support@magewell.net.

!!!Previous installed module already loaded, reboot is needed!
Do you wish to reboot now (Y/N) [N]: n
Reboot canceled! You should reboot your system manually later.

=====

```

- 查看 mwcap-info 信息
 - mwcap-info 查看模块信息

查看帮助

- mwcap-info -h 查看帮助

- 编译

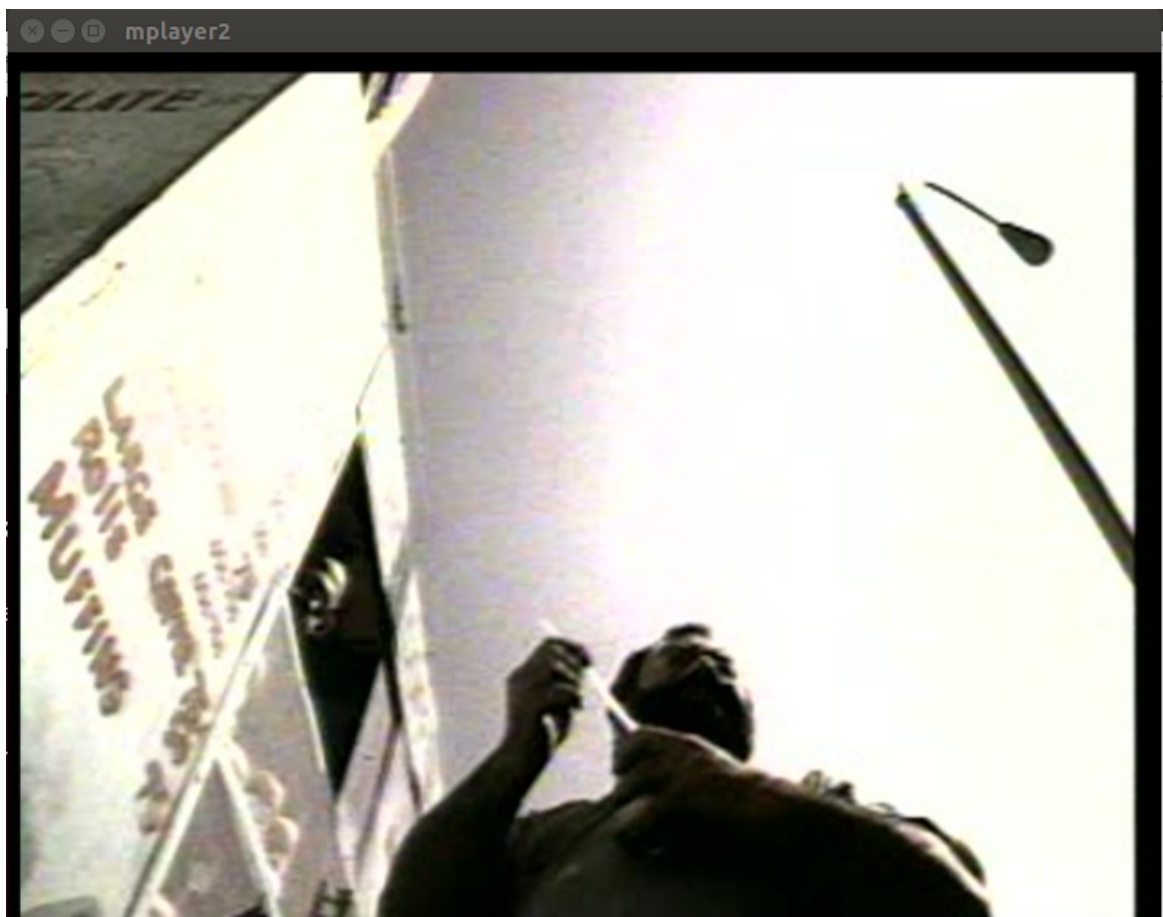
- mwcap-info -l 查看支持的 Pro Capture

设备

- gst-launch-1.0 v4l2src device=/dev/video0 ! video/x-raw,width=720,height=576,

format=RGBx,framerate=30/1 ! videoconvert ! autovideosink

运行命令



4 環境

環境構築 Linux 環境構築

Pro Capture 環境構築環境構築環境構築環境構築環境構築環境構築

環境構築“環境構築”環境構築環境構築“環境構築”環境構築

環境構築環境構築

- 1 環境 V4L2 環境構築環境構築(eg. /dev/video0)
- 2 環境 IDBoard-IDChannel-IDeg. 0:0環境構築環境構築 Board-ID 環境

環境構築環境構築Channel-ID 環境構築環境構築 PC 環境構築

環境構築環境構築環境構築環境構築

4.1 mwcab-info

mwcab-info 環境 Linux 環境構築環境構築環境構築 PC 環境構築 Pro Capture

環境構築環境構築環境構築環境構築環境構築HDMI 環境構築環境構築

mwcab-info 環境構築

環境	環境
-h	環境構築
-l	環境構築環境構築
-q	環境構築環境構築環境構築環境構築
-i or --info-all	環境構築環境構築, 環境構築環境構築環境構築環境構築 HDMI 環境構築
--info-device	環境構築環境構築, 環境構築環境構築
--info-input-all	環境構築環境構築, 環境構築環境構築
--info-input-video	環境構築環境構築, 環境構築環境構築
--info-input-audio	


```

magewell@magewell-MSB85TN-00:~$ mwcapi --info-device 5:0
Device
Family name ..... Pro Capture
Product name ..... Pro Capture HDMI
Firmware name ..... High Performance Firmware
Serial number ..... A104150202001
Hardware version ..... A
Firmware version ..... 1.20
Driver version ..... 1.2.2140
Board ID ..... 5
Channel ID ..... 0
Bus address ..... bus 1, device 0
PCIe speed ..... gen 2
PCIe width ..... x1
Max payload size ..... 128 Byte
Max read request size ..... 256 Byte
Total memory size ..... 268435456 Byte
Free memory size ..... 74715136 Byte
Max input resolution ..... 2048x2048
Max output resolution ..... 2048x2048
Chipset temperature ..... 72.1

```

- 查看设备信息

```
$ mwcapi --info-input-all /dev/video0
```

-- or --

```
$ mwcapi --info-input-all 0:0
```

- 查看输入设备信息

```
$ mwcapi --info-input-video /dev/video0
```

-- or --

```
$ mwcapi --info-input-video 0:0
```

```

magewell@magewell-MSB85TN-00:~$
magewell@magewell-MSB85TN-00:~$ mwcapi --info-input-video 5:0
Input common
Video input ..... HDMI
Audio input ..... HDMI
Auto scan ..... Yes
AV Link ..... Yes

Input video
Signal state ..... Locked
Resolution ..... 1280x720p 50.03 Hz
Aspect ..... 16:9
Total size ..... 1980x750
X offset ..... 260
Y offset ..... 25
Color space ..... YUV BT.709
Quantization ..... Limited
Saturation ..... Limited

```

- 查看输入设备信息

```
$ mwcapi --info-input-audio /dev/video0
```

-- or --

```
$ mwcapi --info-input-audio 0:0
```

```

magewell@magewell-MSB85TN-00:~$ mwcapi-info --info-input-audio 5:0
Input common
  Video input ..... HDMI
  Audio input ..... HDMI
  Auto scan ..... Yes
  AV Link ..... Yes

Input audio
  Audio format ..... 44100 Hz, 24 bit, LPCM
  Channel 1 & 2 ..... Valid
  Channel 3 & 4 ..... Invalid
  Channel 5 & 6 ..... Invalid
  Channel 7 & 8 ..... Invalid
  Status data ..... 00 00 20 00 0b 00 00 00
                      00 00 00 00 00 00 00 00
                      00 00 00 00 00 00 00 00

```

- 检查输入设备是否支持 HDMI

```
$ mwcapi-info --info-input-specific /dev/video0
```

-- or --

```
$ mwcapi-info --info-input-specific 0:0
```

```

magewell@magewell-MSB85TN-00:~$ mwcapi-info --info-input-specific 5:0
Input common
  Video input ..... HDMI
  Audio input ..... HDMI
  Auto scan ..... Yes
  AV Link ..... Yes

Input specific
  Signal status ..... Valid
  Mode ..... HDMI
  HDCP ..... No
  Color depth ..... 8 bits
  Pixel encoding ..... Y/U/V 4:4:4
  VIC ..... 19
  IT content ..... False
  Timing - Scanning format ..... Progressive
  Timing - Frame rate ..... 50.03
  Timing - H Total ..... 1980
  Timing - H Active ..... 1280
  Timing - H Front porch ..... 440
  Timing - H Sync width ..... 40
  Timing - H back porch ..... 220
  Timing - H field 0 V total ..... 750
  Timing - H field 0 V active ..... 720
  Timing - H field 0 V front porch ..... 5
  Timing - H field 0 V sync width ..... 5
  Timing - H field 0 V back porch ..... 20
  Timing - H field 1 V total ..... 0
  Timing - H field 1 V active ..... 720
  Timing - H field 1 V front porch ..... 5
  Timing - H field 1 V sync width ..... 5
  Timing - H field 1 V back porch ..... 20

```

- 检查输入设备是否支持 V4L2 设备，检查设备是否支持 HDMI

```
$ mwcapi-info -v 0:0
```

```
$ gst-launch-1.0 v4l2src device=`mwcapi-info -v 0:0` ! video/x-raw,width=720,height=576,
```

```
format=RGBx,framerate=30/1 ! videoconvert ! autovideosink
```

```
magewell@magewell-MSB85TN-00:~$
magewell@magewell-MSB85TN-00:~$ mwcapi -v 5:0
/dev/video0
magewell@magewell-MSB85TN-00:~$
```

- 配置 ALSA 设备, 配置设备名称

```
$ mwcapi -a /dev/video0
```

-- or --

```
$ mwcapi --alsa-name 0:0
```

```
$ gst-launch-1.0 alsasrc device=`mwcapi --alsa-name 0:0` ! 'audio/x-raw,format=S16LE,rate=44100,channels=2' ! autoaudiosink
```

```
magewell@magewell-MSB85TN-00:~$ mwcapi --alsa-name 5:0
hw:2,0
magewell@magewell-MSB85TN-00:~$
```

- 配置 Mplayer 设备 ALSA 设备名称, 配置设备名称

```
$ mwcapi --alsa-name-mplayer /dev/video0
```

-- or --

```
$ mwcapi --alsa-name-mplayer 0:0
```

```
$ mplayer tv:// -tv
driver=v4l2:device=/dev/video0:width=1280:height=720:outfmt=yuy2:
```

```
alsa:adevice=`mwcapi --alsa-name-mplayer /dev/video0`:forceaudio
```

```
magewell@magewell-MSB85TN-00:~/Desktop/trunk1/trunk/sdk/bin$ ./mwcapi --alsa-name-mplayer 5:0
hw.2,0
magewell@magewell-MSB85TN-00:~/Desktop/trunk1/trunk/sdk/bin$
```

- 配置 Pulse Audio 设备

```
$ mwcapi --alsa-name-pa /dev/video0
```

-- or --

```
$ mwcapi --alsa-name-pa 0:0
```

```
magewell@magewell-MSB85TN-00:~$ mwcapi --alsa-name-pa 5:0
alsa_input.2.analog-stereo
magewell@magewell-MSB85TN-00:~$
```

- 配置 ID 设备

```
$ mwcapi -c 0:0
```