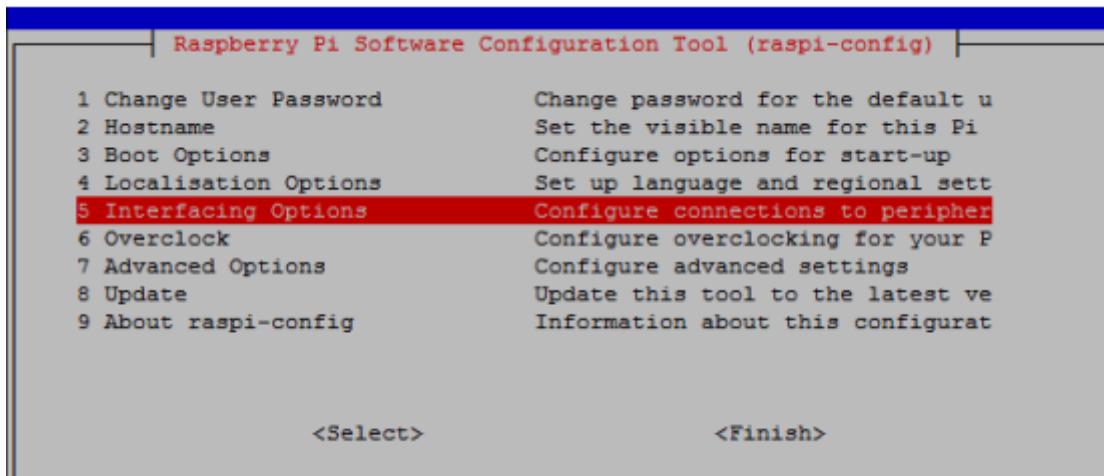


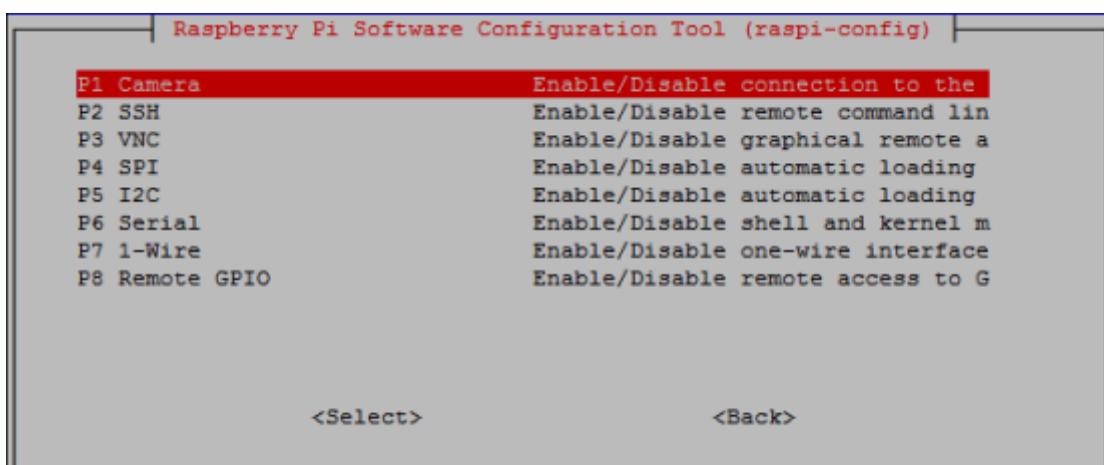
Drive USB camera to capture pictures

Part 1-Open the camera service of Raspberry Pi

1. If you use Raspberry Pi official system image, you need to open the camera service. Input **sudo raspi-config** command to enter following interface.
2. Choose fifth option [**Interfacing Options**] and click [**Enter**] key to enter next interface.



3. ChoOse [**Camera**] to enable camera.



4. Finally, we need to reboot Raspberry Pi.

Input **sudo reboot** command.

Part 2-- Using camera to capture pictures

- 1. User must ensure that the camera is properly inserted into the Raspberry Pi board before supplying power to the Raspberry Pi board.**
2. There are two kinds of commands that the Raspberry Pi terminal can use to detect external camera devices: "**lsusb**" and "**ls/dev/video***". (In some cases, you may be able to use the camera without seeing video0 service)
After we input following command, we can detect camera service.
As shown below.

```

pi@raspberrypi: ~
individual files in /usr/share/doc/*/copyright.

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
Last login: Thu Mar 26 14:56:53 2020

SSH is enabled and the default password for the 'pi' user has not been changed.
This is a security risk - please login as the 'pi' user and type 'passwd' to set
a new password.

pi@raspberrypi:~ $ lsusb
Bus 002 Device 001: ID 1d6b:0003 Linux Foundation 3.0 root hub
Bus 001 Device 002: ID 2109:3431 VIA Labs, Inc. Hub
Bus 001 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
pi@raspberrypi:~ $ ls /dev/video*
/dev/video10  /dev/video11  /dev/video12
pi@raspberrypi:~ $ lsusb
Bus 002 Device 001: ID 1d6b:0003 Linux Foundation 3.0 root hub
Bus 001 Device 003: ID 05a3:9230 ARC International Camera
Bus 001 Device 002: ID 2109:3431 VIA Labs, Inc. Hub
Bus 001 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
pi@raspberrypi:~ $ ls /dev/video*
/dev/video0  /dev/video1  /dev/video10  /dev/video11  /dev/video12
pi@raspberrypi:~ $ 

```

3. Input following command to install mplayer player.

```
sudo apt-get install mplayer -y
```

Wait patiently, after the installation is complete, you can see the interface shown below.

```

Selecting previously unselected package libvorbisidec1.
Preparing to unpack .../3-libvorbisidec1_1.2.1+git20180316-3_armhf.deb ...
Unpacking libvorbisidec1 (1.2.1+git20180316-3) ...
Selecting previously unselected package libxvmc1:armhf.
Preparing to unpack .../4-libxvmc1_2%3a1.0.10-1_armhf.deb ...
Unpacking libxvmc1:armhf (2:1.0.10-1) ...
Selecting previously unselected package mplayer.
Preparing to unpack .../5-mplayer_2%3a1.3.0-8+b5_armhf.deb ...
Unpacking mplayer (2:1.3.0-8+b5) ...
Setting up libvorbisidec1 (1.2.1+git20180316-3) ...
Setting up libenca0:armhf (1.19-1) ...
Setting up libxvmc1:armhf (2:1.0.10-1) ...
Setting up libaudio2:armhf (1.9.4-6) ...
Setting up libdirectfb-1.7-7:armhf (1.7.7-9) ...
Setting up mplayer (2:1.3.0-8+b5) ...
Processing triggers for libc-bin (2.28-10+rpi1) ...
Processing triggers for man-db (2.8.5-2) ...
Processing triggers for mime-support (3.62) ...
pi@raspberrypi:~ $ 

```

4. Input following command to install fswebcam video software.

```
sudo apt-get install fswebcam -y
```

```
pi@raspberrypi:~ $ sudo apt-get install fswebcam -y
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following NEW packages will be installed:
  fswebcam
0 upgraded, 1 newly installed, 0 to remove and 0 not upgraded.
Need to get 43.5 kB of archives.
After this operation, 116 kB of additional disk space will be used.
Get:1 http://mirrors.zju.edu.cn/raspbian/raspbian buster/main armhf fswebcam armhf 20140113-2 [43.5 kB]
Fetched 43.5 kB in 10s (4,434 B/s)
Selecting previously unselected package fswebcam.
(Reading database ... 156506 files and directories currently installed.)
Preparing to unpack .../fswebcam_20140113-2_armhf.deb ...
Unpacking fswebcam (20140113-2) ...
Setting up fswebcam (20140113-2) ...
Processing triggers for man-db (2.8.5-2) ...
pi@raspberrypi:~ $
```

Input following command to view USB camera picture.

```
sudo mplayer tv://
```

5. After confirming the screen, you need to exit through “ctrl+c” before proceeding to the next operation.

If you run mplayer and use the fswebcam command at the same time, the system will prompt an error that the camera is busy. As shown below.

```
pi@raspberrypi:~ $ fswebcam -d /dev/video0 --no-banner -r 320x240 -S 10 /home/pi/image.jpg
--- Opening /dev/video0...
Trying source module v4l2...
/dev/video0 opened.
No input was specified, using the first.
Error selecting input 0
VIDIOC_S_INPUT: Device or resource busy
pi@raspberrypi:~ $
```

6. Input following command to generate a real-time photo taken by the current camera in the [/home/pi](#) directory

```
fswebcam -d /dev/video0 --no-banner -r 320x240 -S 10 /home/pi/image.jpg
```

```
pi@raspberrypi:~ $ fswebcam -d /dev/video0 --no-banner -r 320x240 -S 10 /home/pi/image.jpg
--- Opening /dev/video0...
Trying source module v4l2...
/dev/video0 opened.
No input was specified, using the first.
--- Capturing frame...
Skipping 10 frames...
Capturing 1 frames...
Captured 11 frames in 0.34 seconds. (32 fps)
--- Processing captured image...
Disabling banner.
Writing JPEG image to '/home/pi/image.jpg'.
pi@raspberrypi:~ $ ls
Desktop  Downloads  MagPi      mjpg-streamer-master  Pictures  Templates
Documents image.jpg  master.zip  Music                 Public    Videos
pi@raspberrypi:~ $
```

Parameter explanation:

- d -- configure which camera device to use



--no-banner --- There is no watermark in the photos taken. If this parameter is not used, the system may prompt a wrong font

-r -- Size of picture

-S -- Visibility, the range is from 1 to 10. If this parameter is not set or this parameter is set to 0, the photo will be black.

/home/pi/image.jpg -- Save the image path (if you do not add the path, picture will be saved in the current directory /home/pi/ by default).