

Introduction

We provide a Shell script to set params of MIPI-CAM-290 on RaspberryPI, which is open source.

Open [i2c-dev0] device file

1. /boot/config.txt

```
1 dtparam = i2c_arm = on
2 dtparam=i2c_vc=on
```

1. /etc/modules

```
i2c-dev
```

2. i2c-0 devices will appear

```
ls /dev/i2c-0
```

3. Check MIPI-CAM-290 i2c address

```
i2cdetect -y 0
```

the address is 0x3b

HOWTO: veye_mipi_290_i2c.sh

Introduction

There are four files: camera_i2c_config、i2c_read、i2c_write、veye_mipi_290_i2c.sh.

veye_mipi_290_i2c.sh is a Shell Script file, You Just need to use this one.

USAGE

Usage: ./veye_mipi_290_i2c.sh [-r/w] [-f] function name -p1 param1 -p2 param2

options:

-r read

-w write



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-f [function name] function name

-p1 [param1] param1 of each function

-p2 [param1] param2 of each function

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function list and param, ref to [veye_mipi_290_isp_function_and_param.pdf]

support functions:

devid, hdver, wdrmode, videoformat, mirror mode, denoise, agc, lowlight

Details

- devid

```
1 ./veye_mipi_290_i2c.sh -r -f devid
```

value	description
0x02	MIPI, WDRDisable, 2Lane
0x22	MIPI, WDREnable, 2Lane
0x13	LVDS, WDRDisable, 3Lane
0x33	LVDS, WDREnable, 3Lane

- hdver

```
1 ./veye_mipi_290_i2c.sh -r -f devid
```

value	description
0xXX	Version

- wdrmode

```
1 ./veye_mipi_290_i2c.sh -r -f wdrmode
2 ./veye_mipi_290_i2c.sh -w -f wdrmode -p1 [value]
```

value	description
0x00	Back Light Mode OFF
0x01	Back Light Mode ON, LOW
0x02	Back Light Mode ON, HIGH
0x03	WDR Enable

- videofORMAT

```
1 ./veye_mipi_290_i2c.sh -r -f videofORMAT
2 ./veye_mipi_290_i2c.sh -w -f videofORMAT -p1 [value]
```

WARNING: THIS FUNCTION MUST BE CALLED BEFORE ANY video applications

value	description
PAL	PAL(50Hz)
NTSC	NTSC(60Hz)

- mirrormode

```
1 ./veye_mipi_290_i2c.sh -r -f mirrormode
2 ./veye_mipi_290_i2c.sh -w -f mirrormode -p1 [value]
```

value	description
0x00	Normal
0x01	Mirror
0x02	V-Flip
0x03	Mirror And V-Flip(180 Degree Rotate)

- denoise

```
1 ./veye_mipi_290_i2c.sh -r -f denoise
```

```
2 ./veye_mipi_290_i2c.sh -w -f denoise -p1 [value]
```

value	description
0x00	NR 2D Mode = OFF; NR 3D Mode = OFF
0x01	NR 2D Mode = OFF; NR 3D Mode = LOW
0x02	NR 2D Mode = OFF; NR 3D Mode = MIDDLE
0x03	NR 2D Mode = OFF; NR 3D Mode = HIGH
0x04	NR 2D Mode = LOW; NR 3D Mode = OFF
0x05	NR 2D Mode = LOW; NR 3D Mode = LOW
0x06	NR 2D Mode = LOW; NR 3D Mode = MIDDLE
0x07	NR 2D Mode = LOW; NR 3D Mode = HIGH
0x08	NR 2D Mode =MIDDLE; NR 3D Mode = OFF
0x09	NR 2D Mode =MIDDLE; NR 3D Mode = LOW
0x0A	NR 2D Mode = MIDDLE; NR 3D Mode = MIDDLE
0x0B	NR 2D Mode = MIDDLE; NR 3D Mode = HIGH
0x0C	NR 2D Mode =HIGH; NR 3D Mode = OFF
0x0D	NR 2D Mode =HIGH; NR 3D Mode = LOW
0x0E	NR 2D Mode = HIGH; NR 3D Mode = MIDDLE
0x0F	NR 2D Mode = HIGH; NR 3D Mode = HIGH

- agc

```
1 ./veye_mipi_290_i2c.sh -r -f agc
2 ./veye_mipi_290_i2c.sh -w -f agc -p1 [value]
```

value	description
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0x00~0x0F	AGC intensity
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- lowlight

```
1 ./veye_mipi_290_i2c.sh -r -f lowlight  
2 ./veye_mipi_290_i2c.sh -w -f lowlight -p1 [value]
```

----- -----
value description
0x01 1/2(FRAME RATE)
0x03 1/4(FRAME RATE)
0x05 1/6(FRAME RATE)
0x07 1/8(FRAME RATE)
0x09 1/10(FRAME RATE)
0x0B 1/15(FRAME RATE)
0x0D 1/20(FRAME RATE)
0x0F 1/25(FRAME RATE)
0x11 1/30*(FRAME RATE)
0x00 Fixed frame rate (25/30)