Introduction

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

Open [i2c-dev0] device file

1. /boot/config.txt

```
dtparam = i2c_arm = on
dtparam=i2c_vc=on
```

1. /etc/modules
   `i2c-dev`
2. i2c-0 devices will appear
   `ls /dev/i2c-0`
3. Check VEYE-MIPI-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
-f [function name] function name
-p1 [param1] param1 of each function
-p2 [param1] param2 of each function

function list and param,ref to [veye_mipi_290_isp_function_and_param.pdf]
support functions:
devid,hdver,wdrmode,videoformat,mirrormode,denoise,agc,lowlight

Details

- devid

```
./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

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

value	description
0xXX	Version

- wdrmode

```
./veye_mipi_290_i2c.sh -r -f wdrmode
./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

```
./veye_mipi_290_i2c.sh -r -f videoformat
./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

```
./veye_mipi_290_i2c.sh -r -f mirrormode
./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

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

```
./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

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

value	description
0x00~0x0F	AGC intensity

- lowlight

```
```

```
./veye_mipi_290_i2c.sh -r -f lowlight
./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)