

Camera image encoding

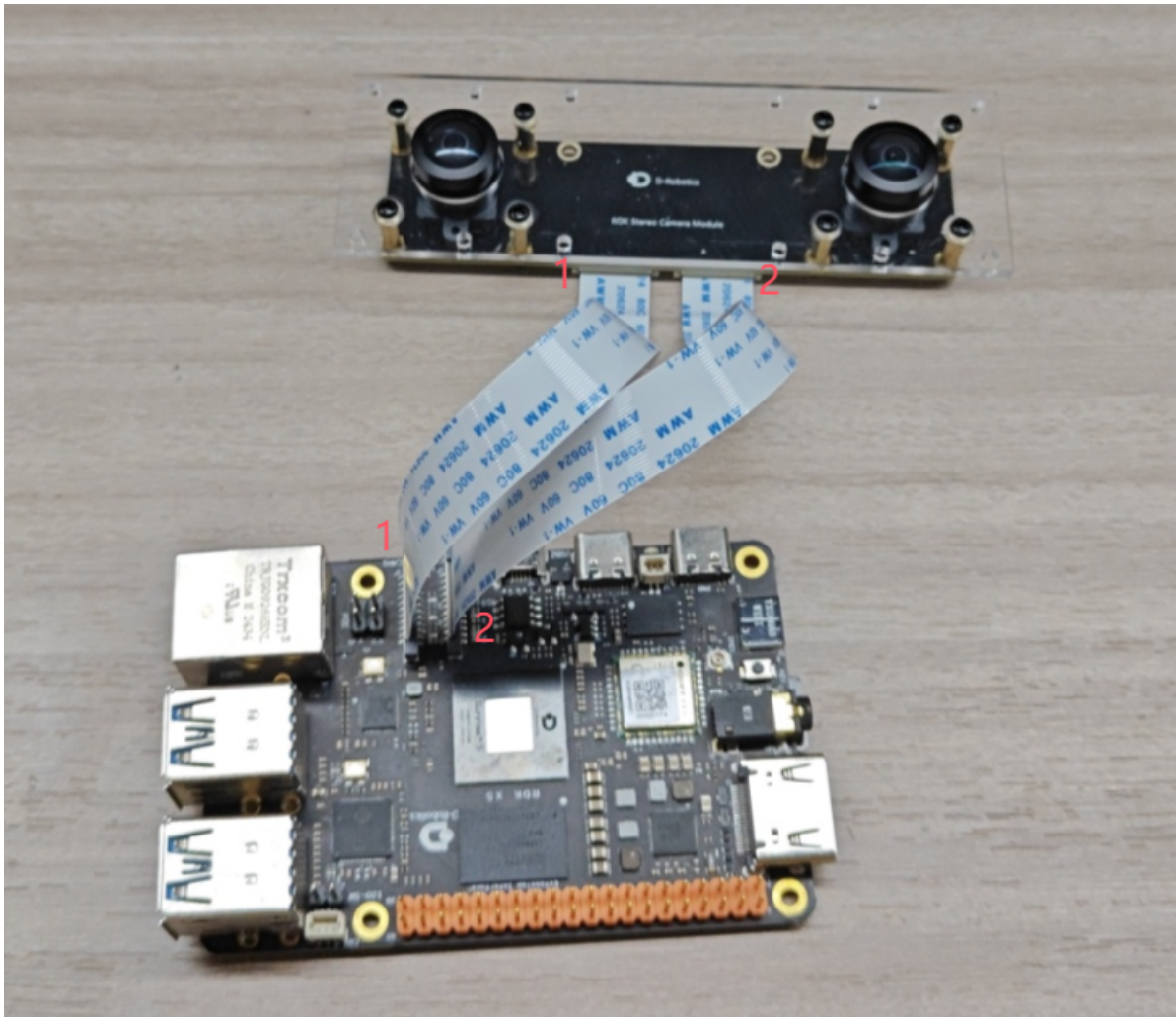
Camera image encoding

1. Environment preparation
2. Run mode
3. Expected effect

1. Environment preparation

This example `vio2encoder` example implements the `MIPI` camera image acquisition function, and saves it locally after encoding. Users can preview the image through the display.

The example flow chart is as follows.



- When the development board is powered off, connect the `MIPI` camera to the development board (with the blue side facing the HDMI interface).
- Connect the development board and the monitor via an HDMI cable
- Power on the development board and log in via the command line

2. Run mode

Execute the program according to the following command. The sample code is provided in source code form and needs to be compiled and run using the `make` command. The steps are as follows:

```
sunrise@ubuntu:~$ cd /app/cdev_demo/vio2encoder
sunrise@ubuntu:/app/cdev_demo/vio2encoder$ sudo make
sunrise@ubuntu:/app/cdev_demo/vio2encoder$ sudo ./vio2encoder -w 1920 -h 1080 --
iwidth 1920 --iheight 1080 -o stream.h264
```

Parameter description:

- -w: Encoded video width
- -h: Encoded video height
- --iwidth: Sensor output width
- --iheight: Sensor output height
- -o: Encoded output path

3. Expected effect

After the program runs correctly, when the terminal stops printing, enter 0 or 1, then press Enter to start a random camera. A video file named `stream.h264` will be generated in the current directory.

The running log is as follows.

```
sunrise@ubuntu:/tmp/nfs/sp_cdev/cdev_demo/vio2encoder$ sudo ./vio2encoder -w
1920 -h 1080 --iwidth 1920 --iheight 1080 -o stream.h264
[INFO] board_id is 301, not need skip sci1.
Searching camera sensor on device: /proc/device-tree/soc/cam/vcon@0 i2c bus: 6
mipi rx phy: 0
INFO: Found sensor name:ov5647 on mipi rx csi 0, i2c addr 0x36,
config_file:linear_1920x1080_raw10_30fps_2lane.c
2000/01/01 18:43:43.374 !INFO [CamInitParam][0139]Setting VSE channel-0:
input_width:1920, input_height:1080, dst_w:1920, dst_h:1080
2000/01/01 18:43:43.374 !INFO [CamInitParam][0139]Setting VSE channel-1:
input_width:1920, input_height:1080, dst_w:1920, dst_h:1080
... 省略 ...
sp_open_camera success!
2000/01/01 18:43:44.166 !INFO [vp_encode_config_param][0405]codec type is h264:
frame size:3110912 frame rate: 30
sp_start_encode success!
sp_module_bind(vio -> encoder) success!
```