

How to use Astra camera

Official website link: <https://orbbec3d.com/develop/>

Astra camera: https://github.com/orbbec/ros_astra_camera

Ordinary camera: https://github.com/bosch-ros-pkg/usb_cam.git

Linux environment

```
sudo apt-get install ros-melodic-serial ros-melodic-bfl ros-melodic-mbf-msgs ros-melodic-pointcloud-to-laserscan ros-melodic-astra-camera ros-melodic-astra-launch ros-melodic-rgbd-launch ros-melodic-libuvc-* ros-melodic-uvic-camera ros-melodic-usb-cam ros-melodic-ar-track-alvar ros-melodic-camera-calibration build-essential freeglut3 freeglut3-dev libsfm1-dev
```

Create astra udev rule

```
cd ~/astra_ws/src  
./create.sh
```

launch start up file

Launch file	Start the camera model
astra.launch	Astra,Astra S,Astra mini, Astra mini S
astraplus.launch	Astra plus
astraproplus.launch	Astra pro plus
embedded_s.launch	Deeyea
dabai_u3.launch	Dabai
gemini.launch	Gemini

1、SDK usage (Linux)

- Dependent on the environment

```
sudo apt-get install ros-melodic-serial ros-melodic-bfl ros-melodic-mbf-msgs rosmelodic-pointcloud-to-laserscan ros-melodic-rgbd-launch ros-melodic-libuvc-* rosmelodic-uvic-camera ros-melodic-usb-cam ros-melodic-ar-track-alvar ros-melodiccamera-calibration build-essential freeglut3 freeglut3-dev libsfm1-dev
```

- Camer SDK&Samples

```
tar -zxvf AstraSDK-v2.1.3-Ubuntu18.04-x86_64.tar.gz  
cd AstraSDK-v2.1.3-Ubuntu18.04-x86_64.tar.gz/install #Enter the install folder  
sudo sh ./install.sh
```

The output contains the following two lines.

Note: Delete install in the penultimate path:

```
export ASTRA_SDK_INCLUDE=/home/yahboom/astra/AstraSDK-v2.1.3-Ubuntu18.04-  
x86_64/install/include  
export ASTRA_SDK_LIB=/home/yahboom/astra/AstraSDK-v2.1.3-Ubuntu18.04-  
x86_64/install/lib
```

After deleting install:

```
export ASTRA_SDK_INCLUDE=/home/yahboom/astra/AstraSDK-v2.1.3-Ubuntu18.04-  
x86_64/include  
export ASTRA_SDK_LIB=/home/yahboom/astra/AstraSDK-v2.1.3-Ubuntu18.04-x86_64/lib
```

Copy the output to the end of ~/.bashrc

```
gedit ~/.bashrc  
source ~/.bashrc
```

The sample program is in the amples directory, which depends on the include and lib directories.

- SFML effect demonstration

Note: sudo can be used in the bin folder/ Or/ Start the file with - SFML suffix in the mode of; Both ways

Similarly, other effects can be tested.

The virtual opportunity fails to start successfully. Please try several times.

```
cd ~/AstraSDK-v2.1.3-Ubuntu18.04-x86_64/bin/  
./SimpleBodyViewer-SFML # Bone detection
```

- OpenNI camera test tool

Install OpenNI

```
unzip OpenNI-Linux-x64-2.3.0.66.zip  
cd OpenNI-Linux-x64-2.3.0.66  
chmod +x install.sh  
sudo ./install.sh
```

Replug the device

Initialize the OpenNI environment

```
source OpenNIDevEnvironment
```

Compile and run

```
cd Samples/SimpleViewer
make
cd Bin/x64-Release
./SimpleViewer
```

3.OrbbecViewer-win

Unzip OrbbecViewer for OpenNI2_v1.1.13_20220722_windows_X64, enter the unzipped file, double-click to run OrbbecViewer.exe.

4、 Web monitoring

Environment setup

```
sudo apt-get install ros-melodic-async-web-server-cpp ros-melodic-web-video-
server ros-melodic-usb-cam
```

Start up camera

```
roslaunch astra_camera astraproplus.launch    # Astra
roslaunch usb_cam usb_cam-test.launch        # USB
```

Start up web_video_server

```
roslaunch web_video_server web_video_server
```

View

```
Local web browser view
http://localhost:8080/
Must be in the same local area network, other devices can view
http://192.168.2.103:8080/
(192.168.2.103 is the IP address of the master)
Note: It is recommended to use Google Chrome or mobile QQ browser, other browsers
may not be able to open the image
```