Sonix chipset based [Kurokesu C1 family USB camera](https://www.kurokesu.com/shop/cameras) extension unit parameter control toolset (like h.264 compression rate, measurement mode, GPIO, ...)

![C1 PRO](Kurokesu\_C1\_PRO.jpg)

# Compile

```

cd C1\_SONIX\_Test\_AP

cp Makefile.x86 Makefile

make

```

# Using TestAP

## Print help

```

./SONiX\_UVC\_TestAP -h

```

```

v1.0.22\_SONiX\_UVC\_TestAP\_Multi

kernel version 40f00

optind:2 optopt:0

Usage: ./SONiX\_UVC\_TestAP [options] device

Supported options:

-c, --capture[=nframes] Capture frames

-d, --delay Delay (in ms) before requeuing buffers

-e, enum MaxPayloadTransferSize

-f, --format format Set the video format (mjpg or yuyv)

-h, --help Show this help screen

-i, --input input Select the video input

-l, --list-controls List available controls

-n, --nbufs n Set the number of video buffers

-s, --size WxH Set the frame size

--fr framerate Set framerate

-S, --save Save captured images to disk

--enum-inputs Enumerate inputs

--skip n Skip the first n frames

-r, --record Record H264 file

--still get still image

--still2 fmt w h get still image

--bri-set values Set brightness values

--bri-get Get brightness values

--shrp-set values Set sharpness values

--shrp-get Get sharpness values

--dbg value Set level of debug message(bit0:usage, bit1:error, bit2:flow, bit3:frame)

--vnd-get Get vender version

SONiX XU supported options:

-a, --add-xuctrl Add Extension Unit Ctrl into Driver

--xuget id cs datasize d0 d1 ... XU Get command: xu\_id control\_selector data\_size data\_0 data\_1 ...

--xuset id cs datasize d0 d1 ... XU Set command: xu\_id control\_selector data\_size data\_0 data\_1 ...

--xuget-chip Read SONiX Chip ID

--xuget-qp Get H.264 QP values

--xuset-qp val Set H.264 QP values: val

--xuget-br Get H.264 bit rate (bps)

--xuset-br val Set H.264 bit rate (bps)

--asic-r addr [Hex] Read register address data

--asic-w addr data [Hex] Write register address data

--sf-r addr len [Hex] Read sf address data

--i2c-r ID addr data\_len [Hex] i2c read(fill Zero in LSB)

--i2c-w ID addr data data\_len [Hex] i2c write(fill Zero in LSB)

--mf val Set Multi-Stream format:[1]HD+QVGA [2]HD+180p [4]HD+360p [8]HD+VGA [10]HD+QVGA+VGA [20]HD+QVGA [40]HD+180p+360p [80]360p+180p

--mgs Get Multi-Stream Status.

--mgi Get Multi-Stream Info.

--msqp StreamID QP Set Multi-Stream QP. StreamID = 0 ~ 2

--mgqp StreamID Get Multi-Stream QP. StreamID = 0 ~ 2

--msbr StreamID Bitrate Set Multi-Stream Bitrate (bps). StreamID = 0 ~ 2

--mgbr StreamID Get Multi-Stream BitRate (bps). StreamID = 0 ~ 2

--mscvm StreamID H264Mode Set Multi-Stream H264 Mode. StreamID = 0 ~ 2(1:CBR 2:VBR)

--mgcvm StreamID Get Multi-Stream H264 Mode. StreamID = 0 ~ 2

--msfr val Set Multi-Stream substream frame rate.

--mgfr Get Multi-Stream substream frame rate.

--msgop val Set Multi-Stream substream GOP(suggest GOP = fps-1).

--mggop Get Multi-Stream substream GOP.

--mse Enable Set Multi-Stream Enable : [0]Disable [1]H264 [3]H264+Mjpg.

--mge Get Multi-Stream Enable.

--xuset-timer Enable Set OSD Timer Counting 1:enable 0:disable

--xuset-rtc year month day hour min sec Set OSD RTC

--xuget-rtc Get OSD RTC

--xuset-os Line Block Set OSD Line and Block Size (0~4)

--xuget-os Get OSD Line and Block Size (0~4)

--xuset-oc Font Border Set OSD Font and Border Color 0:Black 1:Red 2:Green 3:Blue 4:White

--xuget-oc Get OSD Font and Border Color 0:Black 1:Red 2:Green 3:Blue 4:White

--xuset-oe Line Block Set OSD Show 1:enable 0:disable

--xuget-oe Get OSD Show 1:enable 0:disable

--xuset-oas Line Block Set OSD Auto Scale 1:enable 0:disable

--xuget-oas Get OSD Auto Scale 1:enable 0:disable

--xuset-oms Stream0 Stream1 Stream2 Set OSD MultiStream Size (0~4)

--xuget-oms Get OSD MultiStream Size (0~4)

--xuset-osp Type Row Col Set OSD Start Row and Col (unit:16)

--xuget-osp Get OSD Start Row and Col (unit:16)

--xuset-ostr Group '.....' Set OSD 2nd String.Group from 0 to 2.8 words per 1 Group.

--xuget-ostr Group Get OSD 2nd String.

--xuset-omssp StreamID Row Col Set OSD Multi stream start row and col.

--xuget-omssp Get OSD Multi stream start raw and col.

--xuset-mde Enable Set Motion detect enable

--xuget-mde Get Motion detect enable

--xuset-mdt Thd Set Motion detect threshold (0~65535)

--xuget-mdt Get Motion detect threshold

--xuset-mdm m1 m2 ... m24 Set Motion detect mask

--xuget-mdm Get Motion detect mask

--xuset-mdr m1 m2 ... m24 Set Motion detect result

--xuget-mdr Get Motion detect result

--xuset-mjb Bitrate Set MJPG Bitrate (bps)

--xuget-mjb Get MJPG Bitrate (bps)

--xuset-if nframe Set H264 reset to IFrame. nframe : reset per nframe.

--xuset-sei Set H264 SEI Header Enable.

--xuget-sei Get H264 SEI Header Enable.

--xuset-gop Set H264 GOP. (1 ~ 4095)

--xuget-gop Get H264 GOP.

--xuset-cvm Set H264 CBR/VBR mode(1:CBR 2:VBR)

--xuget-cvm Get H264 CBR/VBR mode(1:CBR 2:VBR)

--xuset-mir Set Image mirror.

--xuget-mir Get Image mirror.

--xuset-flip Set Image flip.

--xuget-flip Get Image flip.

--xuset-gpio enable out\_value Set GPIO ctrl(hex).

--xuget-gpio Get GPIO ctrl.

--xuset-clr Set Image color.

--xuget-clr Get Image color.

--xuset-fde s1 s2 Set Frame drop enable.

--xuget-fde Get Frame drop enable.

--xuset-fdc s1 s2 Set Frame drop value.

--xuget-fdc Get Frame drop value.

```

## Save MJPG frames (/dev/video0 is MJPG interface)

```

./SONiX\_UVC\_TestAP /dev/video0 -c -f mjpg -S

```

## Save H.264 video data (/dev/video1 is H.264 interface, need SONiX UVC Like Driver support)

```

./SONiX\_UVC\_TestAP /dev/video1 -c -f H264 -r

```

## Extension Unit (XU) controls

### Add XU ctrls to uvc driver (if uvc driver doesn't support)

```

./SONiX\_UVC\_TestAP /dev/video1 -a

```

### Get & Set H.264 resolutions & framerates (1280x720, 24fps), Insure getting format before setting format !

```

./SONiX\_UVC\_TestAP /dev/video1 --xuget-fmt --xuset-fmt 1-1

```

### Get & Set H.264 QP/Bitrates(Kbps)

```

./SONiX\_UVC\_TestAP /dev/video1 --xuget-qp --xuset-qp 31 --xuget-br --xuset-br 6882

```

### Get and set bitrate

```

./SONiX\_UVC\_TestAP --xuget-br /dev/video1

./SONiX\_UVC\_TestAP --xuset-br 1000 /dev/video1

./SONiX\_UVC\_TestAP --xuset-br 1000000 /dev/video1

./SONiX\_UVC\_TestAP --xuset-br 10000000 /dev/video1

./SONiX\_UVC\_TestAP --xuset-gop 100 /dev/video1

```

### Set framerate

```

./SONiX\_UVC\_TestAP --fr 30 /dev/video1

./SONiX\_UVC\_TestAP --msfr 30 /dev/video1

```

### Other settings

```

./SONiX\_UVC\_TestAP --xuset-gop 5 /dev/video1

./SONiX\_UVC\_TestAP --xuset-cvm 1 /dev/video1

./SONiX\_UVC\_TestAP --xuset-mir 1 /dev/video1

./SONiX\_UVC\_TestAP --xuset-flip 1 /dev/video1

./SONiX\_UVC\_TestAP --bri-get /dev/video1

./SONiX\_UVC\_TestAP --xuget-clr /dev/video1

./SONiX\_UVC\_TestAP --xuset-sei /dev/video1

./SONiX\_UVC\_TestAP --xuset-if 5 /dev/video1

./SONiX\_UVC\_TestAP --xuget-qp /dev/video1

./SONiX\_UVC\_TestAP --xuget-gop /dev/video1

./SONiX\_UVC\_TestAP --xuget-gop /dev/video1

```