ioctl VIDIOC_G_CROP, VIDIOC_S_CROP

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\[linux-master][Documentation][userspace-api][media][v4l]vidioc-g-crop.rst, line 2)

Unknown directive type "c:namespace".

```
.. c:namespace:: V4L
```

Name

VIDIOC_G_CROP - VIDIOC_S_CROP - Get or set the current cropping rectangle

Synopsis

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\[linux-master][Documentation][userspace-api][media][v4l]vidioc-g-crop.rst, line 18)

Unknown directive type "c:macro".

```
.. c:macro:: VIDIOC_G_CROP
```

```
int ioctl(int fd, VIDIOC_G_CROP, struct v4l2_crop *argp)
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\[linux-master][Documentation][userspace-api][media][v4l]vidioc-g-crop.rst, line 22)

Unknown directive type "c:macro".

```
.. c:macro:: VIDIOC_S_CROP
```

```
int ioctl(int fd, VIDIOC_S_CROP, const struct v4l2_crop *argp)
```

Arguments

`fd`

File descriptor returned by :c:func:`open()`.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\[linux-master][Documentation][userspace-api][media][v4l]vidioc-g-crop.rst, line 30); *backlink*

Unknown interpreted text role "c:func".

`argp`

Pointer to struct :c:type:`v4l2_crop`.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\[linux-master][Documentation][userspace-api][media][v4l]vidioc-g-crop.rst, line 33); *backlink*

Unknown interpreted text role "c:type".

Description

To query the cropping rectangle size and position applications set the `type` field of a struct :c:type:`v4l2_crop` structure to the respective buffer (stream) type and call the :ref:`VIDIOC_G_CROP <VIDIOC_G_CROP>` ioctl with a pointer to this structure. The driver fills the rest of the structure or returns the `EINVAL` error code if cropping is not supported.

System Message: ERROR/3 (`D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\[linux-master][Documentation][userspace-api][media][v4l]vidioc-g-crop.rst`, **line 38**); *backlink*

Unknown interpreted text role "c:type".

System Message: ERROR/3 (`D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\[linux-master][Documentation][userspace-api][media][v4l]vidioc-g-crop.rst`, **line 38**); *backlink*

Unknown interpreted text role "ref".

To change the cropping rectangle applications initialize the `type` and struct :c:type:`v4l2_rect` substructure named `c` of a v4l2_crop structure and call the :ref:`VIDIOC_S_CROP <VIDIOC_G_CROP>` ioctl with a pointer to this structure.

System Message: ERROR/3 (`D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\[linux-master][Documentation][userspace-api][media][v4l]vidioc-g-crop.rst`, **line 44**); *backlink*

Unknown interpreted text role "c:type".

System Message: ERROR/3 (`D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\[linux-master][Documentation][userspace-api][media][v4l]vidioc-g-crop.rst`, **line 44**); *backlink*

Unknown interpreted text role "ref".

The driver first adjusts the requested dimensions against hardware limits, i. e. the bounds given by the capture/output window, and it rounds to the closest possible values of horizontal and vertical offset, width and height. In particular the driver must round the vertical offset of the cropping rectangle to frame lines modulo two, such that the field order cannot be confused.

Second the driver adjusts the image size (the opposite rectangle of the scaling process, source or target depending on the data direction) to the closest size possible while maintaining the current horizontal and vertical scaling factor.

Finally the driver programs the hardware with the actual cropping and image parameters. :ref:`VIDIOC_S_CROP <VIDIOC_G_CROP>` is a write-only ioctl, it does not return the actual parameters. To query them applications must call :ref:`VIDIOC_G_CROP <VIDIOC_G_CROP>` and :ref:`VIDIOC_G_FMT`. When the parameters are unsuitable the application may modify the cropping or image parameters and repeat the cycle until satisfactory parameters have been negotiated.

System Message: ERROR/3 (`D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\[linux-master][Documentation][userspace-api][media][v4l]vidioc-g-crop.rst`, **line 61**); *backlink*

Unknown interpreted text role "ref".

System Message: ERROR/3 (`D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\[linux-master][Documentation][userspace-api][media][v4l]vidioc-g-crop.rst`, **line 61**); *backlink*

Unknown interpreted text role "ref".

System Message: ERROR/3 (`D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\[linux-master][Documentation][userspace-api][media][v4l]vidioc-g-crop.rst`, **line 61**); *backlink*

Unknown interpreted text role "ref".

When cropping is not supported then no parameters are changed and :ref:`VIDIOC_S_CROP <VIDIOC_G_CROP>` returns the `EINVAL` error code.

System Message: ERROR/3 (`D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\[linux-master][Documentation][userspace-api][media][v4l]vidioc-g-crop.rst`, **line 69**); *backlink*

Unknown interpreted text role "ref".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\[linux-master][Documentation][userspace-api][media][v4l]vidioc-g-crop.rst, line 72)

Unknown directive type "c:type".

```
.. c:type:: v4l2_crop
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\[linux-master][Documentation][userspace-api][media][v4l]vidioc-g-crop.rst, line 74)

Unknown directive type "tabularcolumns".

```
.. tabularcolumns:: |p{4.4cm}|p{4.4cm}|p{8.5cm}|
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\[linux-master][Documentation][userspace-api][media][v4l]vidioc-g-crop.rst, line 76)

Unknown directive type "flat-table".

```
.. flat-table:: struct v4l2_crop
    :header-rows:  0
    :stub-columns: 0
    :widths:       1 1 2

    * - __u32
      - ``type``
      - Type of the data stream, set by the application. Only these types
        are valid here: ``V4L2_BUF_TYPE_VIDEO_CAPTURE``, ``V4L2_BUF_TYPE_VIDEO_CAPTURE_MPLANE``,
        ``V4L2_BUF_TYPE_VIDEO_OUTPUT``, ``V4L2_BUF_TYPE_VIDEO_OUTPUT_MPLANE`` and
        ``V4L2_BUF_TYPE_VIDEO_OVERLAY``. See :c:type:`v4l2_buf_type` and the note below.
    * - struct :c:type:`v4l2_rect`
      - ``c``
      - Cropping rectangle. The same co-ordinate system as for struct
        :c:type:`v4l2_cropcap` ``bounds`` is used.
```

Note

Unfortunately in the case of multiplanar buffer types (`V4L2_BUF_TYPE_VIDEO_CAPTURE_MPLANE` and `V4L2_BUF_TYPE_VIDEO_OUTPUT_MPLANE`) this API was messed up with regards to how the :c:type:`v4l2_crop` `type` field should be filled in. Some drivers only accepted the `_MPLANE` buffer type while other drivers only accepted a non-multiplanar buffer type (i.e. without the `_MPLANE` at the end).

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\[linux-master][Documentation][userspace-api][media][v4l]vidioc-g-crop.rst, line 93); *backlink*

Unknown interpreted text role "c:type".

Starting with kernel 4.13 both variations are allowed.

Return Value

On success 0 is returned, on error -1 and the `errno` variable is set appropriately. The generic error codes are described at the :ref:`Generic Error Codes <gen-errors>` chapter.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\[linux-master][Documentation][userspace-api][media][v4l]vidioc-g-crop.rst, line 105); *backlink*

Unknown interpreted text role "ref".

ENODATA
: Cropping is not supported for this input or output.