ioctl VIDIOC_G_PARM, VIDIOC_S_PARM

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-parm.rst, line 2)

Unknown directive type "c:namespace".

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

Name

VIDIOC_G_PARM - VIDIOC_S_PARM - Get or set streaming parameters

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-parm.rst, line 18)

Unknown directive type "c:macro".

```
.. c:macro:: VIDIOC_G_PARM
```

```
int ioctl(int fd, VIDIOC_G_PARM, v4l2_streamparm *argp)
```

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Unknown directive type "c:macro".

```
.. c:macro:: VIDIOC_S_PARM
```

```
int ioctl(int fd, VIDIOC_S_PARM, v4l2_streamparm *argp)
```

Arguments

`fd`

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

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Unknown interpreted text role "c:func".

`argp`

Pointer to struct :c:type:`v4l2_streamparm`.

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Unknown interpreted text role "c:type".

Description

Applications can request a different frame interval. The capture or output device will be reconfigured to support the requested frame interval if possible. Optionally drivers may choose to skip or repeat frames to achieve the requested frame interval.

For stateful encoders (see :ref:`encoder`) this represents the frame interval that is typically embedded in the encoded video stream.

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Unknown interpreted text role "ref".

Changing the frame interval shall never change the format. Changing the format, on the other hand, may change the frame interval.

Further these ioctls can be used to determine the number of buffers used internally by a driver in read/write mode. For implications see the section discussing the :c:func:`read()` function.

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Unknown interpreted text role "c:func".

To get and set the streaming parameters applications call the :ref:`VIDIOC_G_PARM <VIDIOC_G_PARM>` and :ref:`VIDIOC_S_PARM <VIDIOC_G_PARM>` ioctl, respectively. They take a pointer to a struct :c:type:`v4l2_streamparm` which contains a union holding separate parameters for input and output devices.

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Unknown interpreted text role "ref".

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Unknown interpreted text role "ref".

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Unknown interpreted text role "c:type".

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Unknown directive type "tabularcolumns".

```
.. tabularcolumns:: |p{3.7cm}|p{3.5cm}|p{10.1cm}|
```

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Unknown directive type "c:type".

```
.. c:type:: v4l2_streamparm
```

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Unknown directive type "flat-table".

```
.. flat-table:: struct v4l2_streamparm
    :header-rows:  0
    :stub-columns: 0
    :widths:       1 1 2

    * - __u32
```

```
      - ``type``
      - The buffer (stream) type, same as struct
        :c:type:`v4l2_format` ``type``, set by the
        application. See :c:type:`v4l2_buf_type`.
    * - union {
      - ``parm``
    * - struct :c:type:`v4l2_captureparm`
      - ``capture``
      - Parameters for capture devices, used when ``type`` is
        ``V4L2_BUF_TYPE_VIDEO_CAPTURE`` or
        ``V4L2_BUF_TYPE_VIDEO_CAPTURE_MPLANE``.
    * - struct :c:type:`v4l2_outputparm`
      - ``output``
      - Parameters for output devices, used when ``type`` is
        ``V4L2_BUF_TYPE_VIDEO_OUTPUT`` or ``V4L2_BUF_TYPE_VIDEO_OUTPUT_MPLANE``.
    * - __u8
      - ``raw_data``\ [200]
      - A place holder for future extensions.
    * - }
```

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Unknown directive type "tabularcolumns".

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

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Unknown directive type "c:type".

```
.. c:type:: v4l2_captureparm
```

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Unknown directive type "flat-table".

```
.. flat-table:: struct v4l2_captureparm
    :header-rows:  0
    :stub-columns: 0
    :widths:       1 1 2

    * - __u32
      - ``capability``
      - See :ref:`parm-caps`.
    * - __u32
      - ``capturemode``
      - Set by drivers and applications, see :ref:`parm-flags`.
    * - struct :c:type:`v4l2_fract`
      - ``timeperframe``
      - This is the desired period between successive frames captured by
        the driver, in seconds.
    * - :cspan:`2`

        This will configure the speed at which the video source (e.g. a sensor)
        generates video frames. If the speed is fixed, then the driver may
        choose to skip or repeat frames in order to achieve the requested
        frame rate.

        For stateful encoders (see :ref:`encoder`) this represents the
        frame interval that is typically embedded in the encoded video stream.

        Applications store here the desired frame period, drivers return
        the actual frame period.

        Changing the video standard (also implicitly by switching
        the video input) may reset this parameter to the nominal frame
        period. To reset manually applications can just set this field to
        zero.
```

```
      Drivers support this function only when they set the
      ``V4L2_CAP_TIMEPERFRAME`` flag in the ``capability`` field.
  * - __u32
    - ``extendedmode``
    - Custom (driver specific) streaming parameters. When unused,
      applications and drivers must set this field to zero. Applications
      using this field should check the driver name and version, see
      :ref:`querycap`.
  * - __u32
    - ``readbuffers``
    - Applications set this field to the desired number of buffers used
      internally by the driver in :c:func:`read()` mode.
      Drivers return the actual number of buffers. When an application
      requests zero buffers, drivers should just return the current
      setting rather than the minimum or an error code. For details see
      :ref:`rw`.
  * - __u32
    - ``reserved``\ [4]
    - Reserved for future extensions. Drivers and applications must set
      the array to zero.
```

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Unknown directive type "tabularcolumns".

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

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Unknown directive type "c:type".

```
.. c:type:: v4l2_outputparm
```

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Unknown directive type "flat-table".

```
.. flat-table:: struct v4l2_outputparm
    :header-rows:  0
    :stub-columns: 0
    :widths:       1 1 2

    * - __u32
      - ``capability``
      - See :ref:`parm-caps`.
    * - __u32
      - ``outputmode``
      - Set by drivers and applications, see :ref:`parm-flags`.
    * - struct :c:type:`v4l2_fract`
      - ``timeperframe``
      - This is the desired period between successive frames output by the
        driver, in seconds.
    * - :cspan:`2`

        The field is intended to repeat frames on the driver side in
        :c:func:`write()` mode (in streaming mode timestamps
        can be used to throttle the output), saving I/O bandwidth.

        For stateful encoders (see :ref:`encoder`) this represents the
        frame interval that is typically embedded in the encoded video stream
        and it provides a hint to the encoder of the speed at which raw
        frames are queued up to the encoder.

        Applications store here the desired frame period, drivers return
        the actual frame period.

        Changing the video standard (also implicitly by switching
```

```
      the video output) may reset this parameter to the nominal frame
      period. To reset manually applications can just set this field to
      zero.

      Drivers support this function only when they set the
      ``V4L2_CAP_TIMEPERFRAME`` flag in the ``capability`` field.
    * - __u32
      - ``extendedmode``
      - Custom (driver specific) streaming parameters. When unused,
      applications and drivers must set this field to zero. Applications
      using this field should check the driver name and version, see
      :ref:`querycap`.
    * - __u32
      - ``writebuffers``
      - Applications set this field to the desired number of buffers used
      internally by the driver in :c:func:`write()` mode. Drivers
      return the actual number of buffers. When an application requests
      zero buffers, drivers should just return the current setting
      rather than the minimum or an error code. For details see
      :ref:`rw`.
    * - __u32
      - ``reserved``\ [4]
      - Reserved for future extensions. Drivers and applications must set
      the array to zero.
```

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Unknown directive type "tabularcolumns".

```
.. tabularcolumns:: |p{6.6cm}|p{2.2cm}|p{8.5cm}|
```

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Unknown directive type "flat-table".

```
.. flat-table:: Streaming Parameters Capabilities
    :header-rows:  0
    :stub-columns: 0
    :widths:       3 1 4

    * - ``V4L2_CAP_TIMEPERFRAME``
      - 0x1000
      - The frame period can be modified by setting the ``timeperframe``
      field.
```

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Unknown directive type "tabularcolumns".

```
.. tabularcolumns:: |p{6.6cm}|p{2.2cm}|p{8.5cm}|
```

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Unknown directive type "flat-table".

```
.. flat-table:: Capture Parameters Flags
    :header-rows:  0
    :stub-columns: 0
    :widths:       3 1 4

    * - ``V4L2_MODE_HIGHQUALITY``
      - 0x0001
```

- High quality imaging mode. High quality mode is intended for still
  imaging applications. The idea is to get the best possible image
  quality that the hardware can deliver. It is not defined how the
  driver writer may achieve that; it will depend on the hardware and
  the ingenuity of the driver writer. High quality mode is a
  different mode from the regular motion video capture modes. In
  high quality mode:

  - The driver may be able to capture higher resolutions than for
    motion capture.

  - The driver may support fewer pixel formats than motion capture
    (eg; true color).

  - The driver may capture and arithmetically combine multiple
    successive fields or frames to remove color edge artifacts and
    reduce the noise in the video data.

  - The driver may capture images in slices like a scanner in order
    to handle larger format images than would otherwise be
    possible.

  - An image capture operation may be significantly slower than
    motion capture.

  - Moving objects in the image might have excessive motion blur.

  - Capture might only work through the :c:func:`read()` call.

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.

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Unknown interpreted text role "ref".