## Read/Write

```
System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v41\[linux-master] [Documentation] [userspace-api] [media] [v41]rw.rst, line 2)

Unknown directive type "c:namespace".

.. c:namespace:: V4L
```

Input and output devices support the <code>:c:func:`read()</code> and <code>:c:func:`write()</code> function, respectively, when the <code>V4L2\_CAP\_READWRITE</code> flag in the <code>capabilities</code> field of struct <code>:c:type:`v4l2\_capability</code> returned by the <code>:ref:`VIDIOC\_QUERYCAP</code> ioctl is set.

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System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v41\[linux-master][Documentation][userspace-api][media][v41]rw.rst, line 10); backlink
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Drivers may need the CPU to copy the data, but they may also support DMA to or from user memory, so this I/O method is not necessarily less efficient than other methods merely exchanging buffer pointers. It is considered inferior though because no meta-information like frame counters or timestamps are passed. This information is necessary to recognize frame dropping and to synchronize with other data streams. However this is also the simplest I/O method, requiring little or no setup to exchange data. It permits command line stunts like this (the vidctrl tool is fictitious):

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master\Documentation\userspace-api\media\v41\[linux-master][Documentation][userspace-
api][media][v41]rw.rst, line 26)

Cannot analyze code. No Pygments lexer found for "none".

.. code-block:: none

$ vidctrl /dev/video --input=0 --format=YUYV --size=352x288
$ dd if=/dev/video of=myimage.422 bs=202752 count=1
```

To read from the device applications use the :c:func:'read()' function, to write the :c:func:'write()' function. Drivers must implement one I/O method if they exchange data with applications, but it need not be this. [1] When reading or writing is supported, the driver must also support the :c:func:'select()' and :c:func:'poll()' function. [2]

```
System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v41\[linux-master][Documentation][userspace-api][media][v41]rw.rst, line 31); backlink
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- [1] It would be desirable if applications could depend on drivers supporting all I/O interfaces, but as much as the complex memory mapping I/O can be inadequate for some devices we have no reason to require this interface, which is most useful for simple applications capturing still images.
- [2] At the driver level :c:func: select() and :c:func: poll() are the same, and :c:func: select() is too important to be optional.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v41\[linux-master]
[Documentation] [userspace-api] [media] [v41]rw.rst, line 46); backlink

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System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v41\[linux-master] [Documentation] [userspace-api] [media] [v41]rw.rst, line 46); backlink

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