

:mod:`wave` --- Read and write WAV files

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library)wave.rst, line 1); [backlink](#)

Unknown interpreted text role "mod".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library)wave.rst, line 4)

Unknown directive type "module".

```
.. module:: wave
   :synopsis: Provide an interface to the WAV sound format.
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library)wave.rst, line 7)

Unknown directive type "sectionauthor".

```
.. sectionauthor:: Moshe Zadka <moshez@zadka.site.co.il>
```

Source code: `:source:`Lib/wave.py``

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library)wave.rst, line 10); [backlink](#)

Unknown interpreted text role "source".

The `:mod:`wave`` module provides a convenient interface to the WAV sound format. It does not support compression/decompression, but it does support mono/stereo.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library)wave.rst, line 14); [backlink](#)

Unknown interpreted text role "mod".

The `:mod:`wave`` module defines the following function and exception:

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library)wave.rst, line 17); [backlink](#)

Unknown interpreted text role "mod".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library)wave.rst, line 20)

Unknown directive type "function".

```
.. function:: open(file, mode=None)
```

If `*file*` is a string, open the file by that name, otherwise treat it as a file-like object. `*mode*` can be:

```
``'rb'``
    Read only mode.
```

```
``'wb'``
    Write only mode.
```

Note that it does not allow read/write WAV files.

A `*mode*` of ```'rb'``` returns a `:class:`Wave_read`` object, while a `*mode*` of ```'wb'``` returns a `:class:`Wave_write`` object. If `*mode*` is omitted and a file-like object is passed as `*file*`, ```file.mode``` is used as the default value for `*mode*`.

If you pass in a file-like object, the wave object will not close it when its :meth:`close` method is called; it is the caller's responsibility to close the file object.

The :func:`.open` function may be used in a :keyword:`with` statement. When the :keyword:`!with` block completes, the :meth:`Wave_read.close()` <wave.Wave_read.close> or :meth:`Wave_write.close()` <wave.Wave_write.close()> method is called.

.. versionchanged:: 3.4
Added support for unseekable files.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library)wave.rst, line 50)

Unknown directive type "exception".

.. exception:: Error

An error raised when something is impossible because it violates the WAV specification or hits an implementation deficiency.

Wave_read Objects

Wave_read objects, as returned by :func:`.open`, have the following methods:

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Unknown interpreted text role "func".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library)wave.rst, line 64)

Unknown directive type "method".

.. method:: Wave_read.close()

Close the stream if it was opened by :mod:`wave`, and make the instance unusable. This is called automatically on object collection.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library)wave.rst, line 70)

Unknown directive type "method".

.. method:: Wave_read.getnchannels()

Returns number of audio channels (``1`` for mono, ``2`` for stereo).

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library)wave.rst, line 75)

Unknown directive type "method".

.. method:: Wave_read.getsampwidth()

Returns sample width in bytes.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library)wave.rst, line 80)

Unknown directive type "method".

```
.. method:: Wave_read.getframerate()
```

Returns sampling frequency.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library)wave.rst, line 85)

Unknown directive type "method".

```
.. method:: Wave_read.getnframes()
```

Returns number of audio frames.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library)wave.rst, line 90)

Unknown directive type "method".

```
.. method:: Wave_read.getcomptype()
```

Returns compression type (``'NONE'`` is the only supported type).

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library)wave.rst, line 95)

Unknown directive type "method".

```
.. method:: Wave_read.getcompname()
```

Human-readable version of :meth:`getcomptype`. Usually ``'not compressed'`` parallels ``'NONE'``.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library)wave.rst, line 101)

Unknown directive type "method".

```
.. method:: Wave_read.getparams()
```

Returns a :func:`~collections.namedtuple` ``(nchannels, sampwidth, framerate, nframes, comptype, compname)`` , equivalent to output of the :meth:`get` methods.

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Unknown directive type "method".

```
.. method:: Wave_read.readframes(n)
```

Reads and returns at most *n* frames of audio, as a :class:`bytes` object.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library)wave.rst, line 113)

Unknown directive type "method".

```
.. method:: Wave_read.rewind()
```

Rewind the file pointer to the beginning of the audio stream.

The following two methods are defined for compatibility with the `mod:aifc` module, and don't do anything interesting.

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Unknown interpreted text role "mod".

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Unknown directive type "method".

```
.. method:: Wave_read.getmarkers()  
  
Returns ``None``.
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library)wave.rst, line 126)

Unknown directive type "method".

```
.. method:: Wave_read.getmark(id)  
  
Raise an error.
```

The following two methods define a term "position" which is compatible between them, and is otherwise implementation dependent.

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Unknown directive type "method".

```
.. method:: Wave_read.setpos(pos)  
  
Set the file pointer to the specified position.
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library)wave.rst, line 139)

Unknown directive type "method".

```
.. method:: Wave_read.tell()  
  
Return current file pointer position.
```

Wave_write Objects

For seekable output streams, the `wave` header will automatically be updated to reflect the number of frames actually written. For unseekable streams, the `nframes` value must be accurate when the first frame data is written. An accurate `nframes` value can be achieved either by calling `meth:~Wave_write.setnframes` or `meth:~Wave_write.setparams` with the number of frames that will be written before `meth:~Wave_write.close` is called and then using `meth:~Wave_write.writeframesraw` to write the frame data, or by calling `meth:~Wave_write.writeframes` with all of the frame data to be written. In the latter case `meth:~Wave_write.writeframes` will calculate the number of frames in the data and set `nframes` accordingly before writing the frame data.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library)wave.rst, line 149); [backlink](#)

Unknown interpreted text role "meth".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library)wave.rst, line 149); [backlink](#)

Unknown interpreted text role "meth".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library)wave.rst, line 149); [backlink](#)

Unknown interpreted text role "meth".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library)wave.rst, line 149); [backlink](#)

Unknown interpreted text role "meth".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library)wave.rst, line 149); [backlink](#)

Unknown interpreted text role "meth".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library)wave.rst, line 149); [backlink](#)

Unknown interpreted text role "meth".

Wave_write objects, as returned by `func.open`, have the following methods:

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Unknown interpreted text role "func".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library)wave.rst, line 163)

Unknown directive type "versionchanged".

```
.. versionchanged:: 3.4
   Added support for unseekable files.
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library)wave.rst, line 167)

Unknown directive type "method".

```
.. method:: Wave_write.close()
```

Make sure `*nframes*` is correct, and close the file if it was opened by `:mod:`wave``. This method is called upon object collection. It will raise an exception if the output stream is not seekable and `*nframes*` does not match the number of frames actually written.

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Unknown directive type "method".

```
.. method:: Wave_write.setnchannels(n)
```

Set the number of channels.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library)wave.rst, line 180)

Unknown directive type "method".

```
.. method:: Wave_write.setsampwidth(n)
```

Set the sample width to `*n*` bytes.

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Unknown directive type "method".

```
.. method:: Wave_write.setframerate(n)

Set the frame rate to *n*.

.. versionchanged:: 3.2
    A non-integral input to this method is rounded to the nearest
    integer.
```

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Unknown directive type "method".

```
.. method:: Wave_write.setnframes(n)

Set the number of frames to *n*. This will be changed later if the number
of frames actually written is different (this update attempt will
raise an error if the output stream is not seekable).
```

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Unknown directive type "method".

```
.. method:: Wave_write.setcomptype(type, name)

Set the compression type and description. At the moment, only compression type
``NONE`` is supported, meaning no compression.
```

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Unknown directive type "method".

```
.. method:: Wave_write.setparams(tuple)

The *tuple* should be ``(nchannels, sampwidth, framerate, nframes, comptype,
compname)`` with values valid for the :meth:`set` methods. Sets all
parameters.
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library)wave.rst, line 214)

Unknown directive type "method".

```
.. method:: Wave_write.tell()

Return current position in the file, with the same disclaimer for the
:meth:`Wave_read.tell` and :meth:`Wave_read.setpos` methods.
```

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Unknown directive type "method".

```
.. method:: Wave_write.writeframesraw(data)

Write audio frames, without correcting *nframes*.
```

```
.. versionchanged:: 3.4
   Any :term:`bytes-like object` is now accepted.
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library)wave.rst, line 228)

Unknown directive type "method".

```
.. method:: Wave_write.writeframes(data)
```

Write audio frames and make sure **nframes** is correct. It will raise an error if the output stream is not seekable and the total number of frames that have been written after **data** has been written does not match the previously set value for **nframes**.

```
.. versionchanged:: 3.4
   Any :term:`bytes-like object` is now accepted.
```

Note that it is invalid to set any parameters after calling `:meth:`writeframes`` or `:meth:`writeframesraw``, and any attempt to do so will raise `:exc:`wave.Error``.

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Unknown interpreted text role "meth".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library)wave.rst, line 239); [backlink](#)

Unknown interpreted text role "meth".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library)wave.rst, line 239); [backlink](#)

Unknown interpreted text role "exc".