

## :mod:`sunau` --- Read and write Sun AU files

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

Unknown directive type "module".

```
.. module:: sunau
   :synopsis: Provide an interface to the Sun AU sound format.
   :deprecated:
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library) sunau.rst, line 8)**

Unknown directive type "sectionauthor".

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

**Source code:** `:source:`Lib/sunau.py``

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

Unknown interpreted text role "source".

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library) sunau.rst, line 12)**

Unknown directive type "deprecated".

```
.. deprecated:: 3.11
   The :mod:`sunau` module is deprecated (see :pep:`594` for details).
```

The `:mod:`sunau`` module provides a convenient interface to the Sun AU sound format. Note that this module is interface-compatible with the modules `:mod:`aifc`` and `:mod:`wave``.

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

Unknown interpreted text role "mod".

An audio file consists of a header followed by the data. The fields of the header are:

Field	Contents
magic word	The four bytes <code>.snd</code> .
header size	Size of the header, including info, in bytes.

Field	Contents
data size	Physical size of the data, in bytes.
encoding	Indicates how the audio samples are encoded.
sample rate	The sampling rate.
# of channels	The number of channels in the samples.
info	ASCII string giving a description of the audio file (padded with null bytes).

Apart from the info field, all header fields are 4 bytes in size. They are all 32-bit unsigned integers encoded in big-endian byte order.

The `mod:sunau` module defines the following functions:

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library) sunau.rst, line 46); [backlink](#)**

Unknown interpreted text role "mod".

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library) sunau.rst, line 49)**

Unknown directive type "function".

```
.. function:: open(file, mode)
```

If *\*file\** is a string, open the file by that name, otherwise treat it as a seekable file-like object. *\*mode\** can be any of

```
``'r'``
    Read only mode.
```

```
``'w'``
    Write only mode.
```

Note that it does not allow read/write files.

A *\*mode\** of ```'r'``` returns an `:class:`AU_read`` object, while a *\*mode\** of ```'w'``` or ```'wb'``` returns an `:class:`AU_write`` object.

The `mod:sunau` module defines the following exception:

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library) sunau.rst, line 66); [backlink](#)**

Unknown interpreted text role "mod".

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library) sunau.rst, line 68)**

Unknown directive type "exception".

```
.. exception:: Error
```

An error raised when something is impossible because of Sun AU specs or implementation deficiency.

The `mod:sunau` module defines the following data items:

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library) sunau.rst, line 74); [backlink](#)**

Unknown interpreted text role "mod".

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library) sunau.rst, line 76)**

Unknown directive type "data".

```
.. data:: AUDIO_FILE_MAGIC
```

An integer every valid Sun AU file begins with, stored in big-endian form. This is the string ``.snd`` interpreted as an integer.

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library) sunau.rst, line 82)**

Unknown directive type "data".

```
.. data:: AUDIO_FILE_ENCODING_MULAW_8
          AUDIO_FILE_ENCODING_LINEAR_8
          AUDIO_FILE_ENCODING_LINEAR_16
          AUDIO_FILE_ENCODING_LINEAR_24
          AUDIO_FILE_ENCODING_LINEAR_32
          AUDIO_FILE_ENCODING_ALAW_8
```

Values of the encoding field from the AU header which are supported by this module.

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library) sunau.rst, line 93)**

Unknown directive type "data".

```
.. data:: AUDIO_FILE_ENCODING_FLOAT
          AUDIO_FILE_ENCODING_DOUBLE
          AUDIO_FILE_ENCODING_ADPCM_G721
          AUDIO_FILE_ENCODING_ADPCM_G722
          AUDIO_FILE_ENCODING_ADPCM_G723_3
          AUDIO_FILE_ENCODING_ADPCM_G723_5
```

Additional known values of the encoding field from the AU header, but which are not supported by this module.

## AU\_read Objects

AU\_read objects, as returned by `.func().open` above, have the following methods:

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library) sunau.rst, line 109); [backlink](#)**

Unknown interpreted text role "func".

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library) sunau.rst, line 112)**

Unknown directive type "method".

```
.. method:: AU_read.close()
```

Close the stream, and make the instance unusable. (This is called automatically on deletion.)

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library) sunau.rst, line 118)**

Unknown directive type "method".

```
.. method:: AU_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) sunau.rst, line 123)**

Unknown directive type "method".

```
.. method:: AU_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) sunau.rst, line 128)**

Unknown directive type "method".

```
.. method:: AU_read.getframerate()

Returns sampling frequency.
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library) sunau.rst, line 133)**

Unknown directive type "method".

```
.. method:: AU_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) sunau.rst, line 138)**

Unknown directive type "method".

```
.. method:: AU_read.getcomptype()

Returns compression type. Supported compression types are ``'ULAW'``, ``'ALAW'``
and ``'NONE'``.
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library) sunau.rst, line 144)**

Unknown directive type "method".

```
.. method:: AU_read.getcompname()

Human-readable version of :meth:`getcomptype`. The supported types have the
respective names ``'CCITT G.711 u-law'``, ``'CCITT G.711 A-law'`` and ``'not
compressed'``.
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library) sunau.rst, line 151)**

Unknown directive type "method".

```
.. method:: AU_read.getparams()

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

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library) sunau.rst, line 158)**

Unknown directive type "method".

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

Reads and returns at most *\*n\** frames of audio, as a :class:`bytes` object. The data will be returned in linear format. If the original data is in u-LAW format, it will be converted.

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library) sunau.rst, line 165)**

Unknown directive type "method".

```
.. method:: AU_read.rewind()
```

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

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

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library) sunau.rst, line 173)**

Unknown directive type "method".

```
.. method:: AU_read.setpos(pos)
```

Set the file pointer to the specified position. Only values returned from :meth:`tell` should be used for *\*pos\**.

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library) sunau.rst, line 179)**

Unknown directive type "method".

```
.. method:: AU_read.tell()
```

Return current file pointer position. Note that the returned value has nothing to do with the actual position in the file.

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

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library) sunau.rst, line 184); [backlink](#)**

Unknown interpreted text role "mod".

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library) sunau.rst, line 188)**

Unknown directive type "method".

```
.. method:: AU_read.getmarkers()
```

Returns ``None``.

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library) sunau.rst, line 193)**

Unknown directive type "method".

```
.. method:: AU_read.getmark(id)
```

Raise an error.

## AU\_write Objects

AU\_write objects, as returned by `.func().open` above, have the following methods:

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library) sunau.rst, line 203); [backlink](#)**

Unknown interpreted text role "func".

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library) sunau.rst, line 206)**

Unknown directive type "method".

```
.. method:: AU_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) sunau.rst, line 211)**

Unknown directive type "method".

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

Set the sample width (in bytes.)

```
.. versionchanged:: 3.4
   Added support for 24-bit samples.
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library) sunau.rst, line 219)**

Unknown directive type "method".

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

Set the frame rate.

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library) sunau.rst, line 224)**

Unknown directive type "method".

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

Set the number of frames. This can be later changed, when and if more frames are written.

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library) sunau.rst, line 230)**

Unknown directive type "method".

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

Set the compression type and description. Only ``'NONE'`` and ``'ULAW'`` are supported on output.

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library) sunau.rst, line 236)**

Unknown directive type "method".

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

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

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library) sunau.rst, line 243)**

Unknown directive type "method".

```
.. method:: AU_write.tell()
```

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

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library) sunau.rst, line 249)**

Unknown directive type "method".

```
.. method:: AU_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) sunau.rst, line 257)**

Unknown directive type "method".

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

Write audio frames and make sure *\*nframes\** is correct.

```
.. 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) sunau.rst, line 265)**

Unknown directive type "method".

```
.. method:: AU_write.close()
```

Make sure *\*nframes\** is correct, and close the file.

This method is called upon deletion.

Note that it is invalid to set any parameters after calling :meth:`writeframes` or :meth:`writeframesraw`.

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library) sunau.rst, line 271); [backlink](#)**

Unknown interpreted text role "meth".

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\ (cpython-main) (Doc) (library) sunau.rst, line 271); [backlink](#)**

Unknown interpreted text role "meth".