

# OpenAL Audio Bindings

# Introduction

Platform independent audio bindings. Requires the [» OpenAL library](#).

# Installing/Configuring

## Requirements

No external libraries are needed to build this extension.

## Installation

This [» PECL](#) extension is not bundled with PHP.

Information for installing this PECL extension may be found in the manual chapter titled [Installation of PECL extensions](#). Additional information such as new releases, downloads, source files, maintainer information, and a CHANGELOG, can be located here:  
[» http://pecl.php.net/package/openal](#).

The DLL for this PECL extension may be downloaded from either the [» PHP Downloads](#) page or from [» http://pecl4win.php.net/](#)

## Runtime Configuration

This extension has no configuration directives defined in *php.ini*.

## Resource Types

This extension defines four resource types: *Open AL(Device)* - Returned by [openal\\_device\\_open\(\)](#), *Open AL(Context)* - Returned by [openal\\_context\\_create\(\)](#), *Open AL(Buffer)* - Returned by [openal\\_buffer\\_create\(\)](#), and *Open AL(Source)* - Returned by [openal\\_source\\_create\(\)](#).

# Predefined Constants

The constants below are defined by this extension, and will only be available when the extension has either been compiled into PHP or dynamically loaded at runtime.

**ALC\_FREQUENCY** ( [integer](#) )  
Context Attribute

**ALC\_REFRESH** ( [integer](#) )  
Context Attribute

**ALC\_SYNC** ( [integer](#) )  
Context Attribute

**AL\_FREQUENCY** ( [integer](#) )  
Buffer Setting

**AL\_BITS** ( [integer](#) )  
Buffer Setting

**AL\_CHANNELS** ( [integer](#) )  
Buffer Setting

**AL\_SIZE** ( [integer](#) )  
Buffer Setting

**AL\_BUFFER** ( [integer](#) )  
Source/Listener Setting (Integer)

**AL\_SOURCE\_RELATIVE** ( [integer](#) )  
Source/Listener Setting (Integer)

**AL\_SOURCE\_STATE** ( [integer](#) )  
Source/Listener Setting (Integer)

**AL\_PITCH** ( [integer](#) )  
Source/Listener Setting (Float)

**AL\_GAIN** ( [integer](#) )  
Source/Listener Setting (Float)

**AL\_MIN\_GAIN** ( [integer](#) )  
Source/Listener Setting (Float)

**AL\_MAX\_GAIN** ( [integer](#) )  
Source/Listener Setting (Float)

**AL\_MAX\_DISTANCE** ( [integer](#) )  
Source/Listener Setting (Float)

**AL\_ROLLOFF\_FACTOR** ( [integer](#) )

Source/Listener Setting (Float)

**AL\_CONE\_OUTER\_GAIN** ( [integer](#) )

Source/Listener Setting (Float)

**AL\_CONE\_INNER\_ANGLE** ( [integer](#) )

Source/Listener Setting (Float)

**AL\_CONE\_OUTER\_ANGLE** ( [integer](#) )

Source/Listener Setting (Float)

**AL\_REFERENCE\_DISTANCE** ( [integer](#) )

Source/Listener Setting (Float)

**AL\_POSITION** ( [integer](#) )

Source/Listener Setting (Float Vector)

**AL\_VELOCITY** ( [integer](#) )

Source/Listener Setting (Float Vector)

**AL\_DIRECTION** ( [integer](#) )

Source/Listener Setting (Float Vector)

**AL\_ORIENTATION** ( [integer](#) )

Source/Listener Setting (Float Vector)

**AL\_FORMAT\_MONO8** ( [integer](#) )

PCM Format

**AL\_FORMAT\_MONO16** ( [integer](#) )

PCM Format

**AL\_FORMAT\_STEREO8** ( [integer](#) )

PCM Format

**AL\_FORMAT\_STEREO16** ( [integer](#) )

PCM Format

**AL\_INITIAL** ( [integer](#) )

Source State

**AL\_PLAYING** ( [integer](#) )

Source State

**AL\_PAUSED** ( [integer](#) )

Source State

**AL\_STOPPED** ( [integer](#) )

Source State

**AL\_LOOPING** ( [integer](#) )

Source State

**AL\_TRUE** ( [integer](#) )

Boolean value recognized by OpenAL

**AL\_FALSE** ( [integer](#) )

Boolean value recognized by OpenAL

# OpenAL Functions

# openal\_buffer\_create

openal\_buffer\_create -- Generate OpenAL buffer

## Description

resource **openal\_buffer\_create** ( void )

## Return Values

Returns an [Open AL\(Buffer\)](#) resource on success or **FALSE** on failure.

## See Also

- [openal\\_buffer\\_loadwav\(\)](#)
- [openal\\_buffer\\_data\(\)](#)



# openal\_buffer\_data

openal\_buffer\_data -- Load a buffer with data

## Description

bool **openal\_buffer\_data** ( resource \$buffer, int \$format, string \$data, int \$freq )

## Parameters

*buffer*

An [Open AL\(Buffer\)](#) resource (previously created by [openal\\_buffer\\_create\(\)](#) ).

*format*

Format of *data*, one of: **AL\_FORMAT\_MONO8**, **AL\_FORMAT\_MONO16**, **AL\_FORMAT\_STEREO8** and **AL\_FORMAT\_STEREO16**

*data*

Block of binary audio data in the *format* and *freq* specified.

*freq*

Frequency of *data* given in Hz.

## Return Values

Returns **TRUE** on success or **FALSE** on failure.

## See Also

- [openal\\_buffer\\_loadwav\(\)](#)
- [openal\\_stream\(\)](#)

# openal\_buffer\_destroy

openal\_buffer\_destroy -- Destroys an OpenAL buffer

## Description

bool **openal\_buffer\_destroy** ( resource *\$buffer* )

## Parameters

*buffer*

An [Open AL\(Buffer\)](#) resource (previously created by [openal\\_buffer\\_create\(\)](#) ).

## Return Values

Returns **TRUE** on success or **FALSE** on failure.

## See Also

- [openal\\_buffer\\_create\(\)](#)

# openal\_buffer\_get

openal\_buffer\_get -- Retrieve an OpenAL buffer property

## Description

int **openal\_buffer\_get** ( resource \$buffer, int \$property )

## Parameters

*buffer*

An [Open AL\(Buffer\)](#) resource (previously created by [openal\\_buffer\\_create\(\)](#) ).

*property*

Specific property, one of: **AL\_FREQUENCY**, **AL\_BITS**, **AL\_CHANNELS** and **AL\_SIZE**.

## Return Values

Returns an integer value appropriate to the *property* requested or **FALSE** on failure.

## See Also

- [openal\\_buffer\\_create\(\)](#)

# openal\_buffer\_loadwav

openal\_buffer\_loadwav -- Load a .wav file into a buffer

## Description

bool **openal\_buffer\_loadwav** ( resource \$buffer, string \$wavfile )

## Parameters

*buffer*

An [Open AL\(Buffer\)](#) resource (previously created by [openal\\_buffer\\_create\(\)](#) ).

*wavfile*

Path to .WAV file on *local* file system.

## Return Values

Returns **TRUE** on success or **FALSE** on failure.

## See Also

- [openal\\_buffer\\_data\(\)](#)
- [openal\\_stream\(\)](#)

# openal\_context\_create

openal\_context\_create -- Create an audio processing context

## Description

resource **openal\_context\_create** ( resource \$device )

## Parameters

*device*

An [Open AL\(Device\)](#) resource (previously created by [openal\\_device\\_open\(\)](#) ).

## Return Values

Returns an [Open AL\(Context\)](#) resource on success or **FALSE** on failure.

## See Also

- [openal\\_device\\_open\(\)](#)
- [openal\\_context\\_destroy\(\)](#)

# openal\_context\_current

openal\_context\_current -- Make the specified context current

## Description

bool **openal\_context\_current** ( resource \$context )

## Parameters

*context*

An [Open AL\(Context\)](#) resource (previously created by [openal\\_context\\_create\(\)](#) ).

## Return Values

Returns **TRUE** on success or **FALSE** on failure.

## See Also

- [openal\\_context\\_create\(\)](#)

# openal\_context\_destroy

openal\_context\_destroy -- Destroys a context

## Description

bool **openal\_context\_destroy** ( resource \$context )

## Parameters

*context*

An [Open AL\(Context\)](#) resource (previously created by [openal\\_context\\_create\(\)](#) ).

## Return Values

Returns **TRUE** on success or **FALSE** on failure.

## See Also

- [openal\\_context\\_create\(\)](#)

# openal\_context\_process

openal\_context\_process -- Process the specified context

## Description

bool **openal\_context\_process** ( resource \$context )

## Parameters

*context*

An [Open AL\(Context\)](#) resource (previously created by [openal\\_context\\_create\(\)](#) ).

## Return Values

Returns **TRUE** on success or **FALSE** on failure.

## See Also

- [openal\\_context\\_create\(\)](#)
- [openal\\_context\\_current\(\)](#)
- [openal\\_context\\_suspend\(\)](#)



# openal\_context\_suspend

openal\_context\_suspend -- Suspend the specified context

## Description

bool **openal\_context\_suspend** ( resource \$context )

## Parameters

*context*

An [Open AL\(Context\)](#) resource (previously created by [openal\\_context\\_create\(\)](#) ).

## Return Values

Returns **TRUE** on success or **FALSE** on failure.

## See Also

- [openal\\_context\\_create\(\)](#)
- [openal\\_context\\_current\(\)](#)
- [openal\\_context\\_process\(\)](#)

# openal\_device\_close

openal\_device\_close -- Close an OpenAL device

## Description

bool **openal\_device\_close** ( resource \$device )

## Parameters

*device*

An [Open AL\(Device\)](#) resource (previously created by [openal\\_device\\_open\(\)](#) ) to be closed.

## Return Values

Returns **TRUE** on success or **FALSE** on failure.

## See Also

- [openal\\_device\\_open\(\)](#)

# openal\_device\_open

openal\_device\_open -- Initialize the OpenAL audio layer

## Description

resource **openal\_device\_open** ( [ string \$device\_desc ] )

## Parameters

*device\_desc*

Open an audio device optionally specified by *device\_desc*. If *device\_desc* is not specified the first available audio device will be used.

## Return Values

Returns an [Open AL\(Device\)](#) resource on success or **FALSE** on failure.

## See Also

- [openal\\_device\\_close\(\)](#)
- [openal\\_context\\_create\(\)](#)

# openal\_listener\_get

openal\_listener\_get -- Retrieve a listener property

## Description

**mixed** openal\_listener\_get ( int \$property )

## Parameters

*property*

Property to retrieve, one of: **AL\_GAIN** (float), **AL\_POSITION** (array(float,float,float)), **AL\_VELOCITY** (array(float,float,float)) and **AL\_ORIENTATION** (array(float,float,float)).

## Return Values

Returns a float or array of floats (as appropriate), or **FALSE** on failure.

## See Also

- [openal\\_listener\\_set\(\)](#)

# openal\_listener\_set

openal\_listener\_set -- Set a listener property

## Description

bool **openal\_listener\_set** ( int \$property, [mixed](#) \$setting )

## Parameters

*property*

Property to set, one of: **AL\_GAIN** (float), **AL\_POSITION** (array(float,float,float)), **AL\_VELOCITY** (array(float,float,float)) and **AL\_ORIENTATION** (array(float,float,float)).

*setting*

Value to set, either float, or an array of floats as appropriate.

## Return Values

Returns **TRUE** on success or **FALSE** on failure.

## See Also

- [openal\\_listener\\_get\(\)](#)

# openal\_source\_create

openal\_source\_create -- Generate a source resource

## Description

resource **openal\_source\_create** ( void )

## Return Values

Returns an [Open AL\(Source\)](#) resource on success or **FALSE** on failure.

## See Also

- [openal\\_source\\_set\(\)](#)
- [openal\\_source\\_play\(\)](#)
- [openal\\_source\\_destroy\(\)](#)

# openal\_source\_destroy

openal\_source\_destroy -- Destroy a source resource

## Description

bool **openal\_source\_destroy** ( resource `$source` )

## Parameters

*source*

An [Open AL\(Source\)](#) resource (previously created by [openal\\_source\\_create\(\)](#) ).

## Return Values

Returns **TRUE** on success or **FALSE** on failure.

## See Also

- [openal\\_source\\_create\(\)](#)

# openal\_source\_get

openal\_source\_get -- Retrieve an OpenAL source property

## Description

**mixed** openal\_source\_get ( resource \$source, int \$property )

## Parameters

*source*

An [Open AL\(Source\)](#) resource (previously created by [openal\\_source\\_create\(\)](#) ).

*property*

Property to get, one of: **AL\_SOURCE\_RELATIVE** (int), **AL\_SOURCE\_STATE** (int), **AL\_PITCH** (float), **AL\_GAIN** (float), **AL\_MIN\_GAIN** (float), **AL\_MAX\_GAIN** (float), **AL\_MAX\_DISTANCE** (float), **AL\_ROLLOFF\_FACTOR** (float), **AL\_CONE\_OUTER\_GAIN** (float), **AL\_CONE\_INNER\_ANGLE** (float), **AL\_CONE\_OUTER\_ANGLE** (float), **AL\_REFERENCE\_DISTANCE** (float), **AL\_POSITION** (array(float,float,float)), **AL\_VELOCITY** (array(float,float,float)), **AL\_DIRECTION** (array(float,float,float)).

## Return Values

Returns the type associated with the property being retrieved or **FALSE** on failure.

## See Also

- [openal\\_source\\_create\(\)](#)
- [openal\\_source\\_set\(\)](#)
- [openal\\_source\\_play\(\)](#)



# openal\_source\_pause

openal\_source\_pause -- Pause the source

## Description

bool **openal\_source\_pause** ( resource \$source )

## Parameters

*source*

An [Open AL\(Source\)](#) resource (previously created by [openal\\_source\\_create\(\)](#) ).

## Return Values

Returns **TRUE** on success or **FALSE** on failure.

## See Also

- [openal\\_source\\_stop\(\)](#)
- [openal\\_source\\_play\(\)](#)
- [openal\\_source\\_rewind\(\)](#)

# openal\_source\_play

openal\_source\_play -- Start playing the source

## Description

bool **openal\_source\_play** ( resource \$source )

## Parameters

*source*

An [Open AL\(Source\)](#) resource (previously created by [openal\\_source\\_create\(\)](#) ).

## Return Values

Returns **TRUE** on success or **FALSE** on failure.

## See Also

- [openal\\_source\\_stop\(\)](#)
- [openal\\_source\\_pause\(\)](#)
- [openal\\_source\\_rewind\(\)](#)

# openal\_source\_rewind

openal\_source\_rewind -- Rewind the source

## Description

bool **openal\_source\_rewind** ( resource *\$source* )

## Parameters

*source*

An [Open AL\(Source\)](#) resource (previously created by [openal\\_source\\_create\(\)](#) ).

## Return Values

Returns **TRUE** on success or **FALSE** on failure.

## See Also

- [openal\\_source\\_stop\(\)](#)
- [openal\\_source\\_pause\(\)](#)
- [openal\\_source\\_play\(\)](#)

# openal\_source\_set

openal\_source\_set -- Set source property

## Description

bool **openal\_source\_set** ( resource \$source, int \$property, **mixed** \$setting )

## Parameters

*source*

An [Open AL\(Source\)](#) resource (previously created by [openal\\_source\\_create\(\)](#) ).

*property*

Property to set, one of: **AL\_BUFFER** (OpenAL(Source)), **AL\_LOOPING** (bool), **AL\_SOURCE\_RELATIVE** (int), **AL\_SOURCE\_STATE** (int), **AL\_PITCH** (float), **AL\_GAIN** (float), **AL\_MIN\_GAIN** (float), **AL\_MAX\_GAIN** (float), **AL\_MAX\_DISTANCE** (float), **AL\_ROLLOFF\_FACTOR** (float), **AL\_CONE\_OUTER\_GAIN** (float), **AL\_CONE\_INNER\_ANGLE** (float), **AL\_CONE\_OUTER\_ANGLE** (float), **AL\_REFERENCE\_DISTANCE** (float), **AL\_POSITION** (array(float,float,float)), **AL\_VELOCITY** (array(float,float,float)), **AL\_DIRECTION** (array(float,float,float)).

*setting*

Value to assign to specified *property*. Refer to the description of *property* for a description of the value(s) expected.

## Return Values

Returns **TRUE** on success or **FALSE** on failure.

## See Also

- [openal\\_source\\_create\(\)](#)
- [openal\\_source\\_get\(\)](#)
- [openal\\_source\\_play\(\)](#)

# openal\_source\_stop

openal\_source\_stop -- Stop playing the source

## Description

bool **openal\_source\_stop** ( resource *\$source* )

## Parameters

*source*

An [Open AL\(Source\)](#) resource (previously created by [openal\\_source\\_create\(\)](#) ).

## Return Values

Returns **TRUE** on success or **FALSE** on failure.

## See Also

- [openal\\_source\\_play\(\)](#)
- [openal\\_source\\_pause\(\)](#)
- [openal\\_source\\_rewind\(\)](#)

# openal\_stream

openal\_stream -- Begin streaming on a source

## Description

resource **openal\_stream** ( resource \$source, int \$format, int \$rate )

## Parameters

*source*

An [Open AL\(Source\)](#) resource (previously created by [openal\\_source\\_create\(\)](#) ).

*format*

Format of *data*, one of: **AL\_FORMAT\_MONO8**, **AL\_FORMAT\_MONO16**, **AL\_FORMAT\_STEREO8** and **AL\_FORMAT\_STEREO16**

*rate*

Frequency of data to stream given in Hz.

## Return Values

Returns a stream resource on success, or **FALSE** on failure.

## See Also

- [openal\\_source\\_create\(\)](#)
- [fwrite\(\)](#)