
NSSound Class Reference

[Cocoa > Audio](#)



2008-10-15



Apple Inc.
© 2008 Apple Inc.
All rights reserved.

No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, mechanical, electronic, photocopying, recording, or otherwise, without prior written permission of Apple Inc., with the following exceptions: Any person is hereby authorized to store documentation on a single computer for personal use only and to print copies of documentation for personal use provided that the documentation contains Apple's copyright notice.

The Apple logo is a trademark of Apple Inc.

Use of the "keyboard" Apple logo (Option-Shift-K) for commercial purposes without the prior written consent of Apple may constitute trademark infringement and unfair competition in violation of federal and state laws.

No licenses, express or implied, are granted with respect to any of the technology described in this document. Apple retains all intellectual property rights associated with the technology described in this document. This document is intended to assist application developers to develop applications only for Apple-labeled computers.

Every effort has been made to ensure that the information in this document is accurate. Apple is not responsible for typographical errors.

Apple Inc.
1 Infinite Loop
Cupertino, CA 95014
408-996-1010

Apple, the Apple logo, Cocoa, Mac, Mac OS, and QuickTime are trademarks of Apple Inc., registered in the United States and other countries.

NeXT is a trademark of NeXT Software, Inc., registered in the United States and other countries.

Simultaneously published in the United States and Canada.

Even though Apple has reviewed this document, APPLE MAKES NO WARRANTY OR REPRESENTATION, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THIS DOCUMENT, ITS QUALITY, ACCURACY, MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE. AS A RESULT, THIS DOCUMENT IS PROVIDED "AS IS," AND YOU, THE READER, ARE

ASSUMING THE ENTIRE RISK AS TO ITS QUALITY AND ACCURACY.

IN NO EVENT WILL APPLE BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY DEFECT OR INACCURACY IN THIS DOCUMENT, even if advised of the possibility of such damages.

THE WARRANTY AND REMEDIES SET FORTH ABOVE ARE EXCLUSIVE AND IN LIEU OF ALL OTHERS, ORAL OR WRITTEN, EXPRESS OR IMPLIED. No Apple dealer, agent, or employee is authorized to make any modification, extension, or addition to this warranty.

Some states do not allow the exclusion or limitation of implied warranties or liability for incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Contents

NSSound Class Reference 5

Overview	5
Adopted Protocols	6
Tasks	6
Creating Sounds	6
Configuring Sounds	6
Getting Sound Information	7
Playing Sounds	7
Writing Sounds	7
Deprecated	8
Class Methods	8
canInitWithPasteboard:	8
soundNamed:	8
soundUnfilteredTypes	9
Instance Methods	9
channelMapping	9
currentTime	10
delegate	10
duration	11
initWithContentsOfFile:byReference:	11
initWithContentsOfURL:byReference:	11
initWithData:	12
initWithPasteboard:	12
isPlaying	13
loops	13
name	13
pause	14
play	14
playbackDeviceIdentifier	14
resume	15
setChannelMapping:	15
setCurrentTime:	15
setDelegate:	16
setLoops:	16
setName:	17
setPlaybackDeviceIdentifier:	17
setVolume:	18
stop	18
volume	18
writeToPasteboard:	19
Delegate Methods	19

- sound:didFinishPlaying: 19
- Constants 19
 - NSPasteboard Type for Sound Data 19

Appendix A [Deprecated NSSound Methods](#) 21

- Deprecated in Mac OS X v10.5 21
 - soundUnfilteredFileTypes 21
 - soundUnfilteredPasteboardTypes 21

[Document Revision History](#) 23

[Index](#) 25

NSSound Class Reference

Inherits from	NSObject
Conforms to	NSCoding NSCopying NSObject (NSObject)
Framework	/System/Library/Frameworks/AppKit.framework
Availability	Available in Mac OS X v10.0 and later.
Companion guide	Sound Programming Topics for Cocoa
Declared in	NSSound.h
Related sample code	AttachAScript BundleLoader CustomSave TrackIt

Overview

The `NSSound` class provides a simple interface for loading and playing audio files. This class supports the same audio encodings and file formats that are supported by Core Audio and QuickTime.

To use this class, initialize a new instance with the desired file or audio data. You can configure assorted aspects of the audio playback, including the volume and whether the sound loops before you play it. Depending on the type of the audio data, this class may use either Core Audio or QuickTime to handle the actual playback. (Typically, it uses Core Audio to play files in the AIFF, WAVE, NeXT, SD2, AU, and MP3 formats and may use it for other formats in the future as well.) Playback occurs asynchronously so that your application can continue doing work.

You should retain `NSSound` objects before initiating playback or make sure you have a strong reference to them in a garbage-collected environment. Upon deallocation, a sound object stops playback of the sound (as needed) so that it can free up the corresponding audio resources. If you want to deallocate a sound object immediately after playback, assign a delegate and use the `sound:didFinishPlaying:` method to deallocate it.

If you want to play the system beep sound, use the `NSBeep` function.

Adopted Protocols

NSCoding

`encodeWithCoder:`
`initWithCoder:`

NSCopying

`NSCopying`

Tasks

Creating Sounds

- + [canInitWithPasteboard:](#) (page 8)
Indicates whether the receiver can create an instance of itself from the data in a pasteboard.
- [initWithContentsOfFile:byReference:](#) (page 11)
Initializes the receiver with the the audio data located at a given filepath.
- [initWithContentsOfURL:byReference:](#) (page 11)
Initializes the receiver with the audio data located at a given URL.
- [initWithData:](#) (page 12)
Initializes the receiver with a given audio data.
- [initWithPasteboard:](#) (page 12)
Initializes the receiver with data from a pasteboard. The pasteboard should contain a type returned by [soundUnfilteredPasteboardTypes](#) (page 21). `NSSound` expects the data to have a proper magic number, sound header, and data for the formats it supports.

Configuring Sounds

- [name](#) (page 13)
Returns the name assigned to the receiver.
- [setName:](#) (page 17)
Registers the receiver under a given name.
- [volume](#) (page 18)
Provides the volume of the receiver.
- [setVolume:](#) (page 18)
Specifies the volume of the receiver.
- [currentTime](#) (page 10)
Provides the receiver's playback progress in seconds.
- [setCurrentTime:](#) (page 15)
Specifies the receivers playback progress in seconds.
- [loops](#) (page 13)
Indicates whether the receiver restarts playback when it reaches the end of its content. Default: NO.

- [setLoops:](#) (page 16)
Specifies whether the receiver restarts playback when it reaches the end of its content.
- [playbackDeviceIdentifier](#) (page 14)
Identifies the receiver's output device.
- [setPlaybackDeviceIdentifier:](#) (page 17)
Specifies the receiver's output device.
- [channelMapping](#) (page 9)
Provides the receiver's channel map.
- [setChannelMapping:](#) (page 15)
Specifies the receiver's channel map.
- [delegate](#) (page 10)
Returns the receiver's delegate.
- [setDelegate:](#) (page 16)
Set the receiver's delegate.

Getting Sound Information

- + [soundUnfilteredTypes](#) (page 9)
Provides the file types the NSSound class understands.
- + [soundNamed:](#) (page 8)
Returns the NSSound instance associated with a given name.
- [duration](#) (page 11)
Provides the duration of the receiver in seconds.

Playing Sounds

- [isPlaying](#) (page 13)
Indicates whether the receiver is playing its audio data.
- [pause](#) (page 14)
Pauses audio playback.
- [play](#) (page 14)
Initiates audio playback.
- [resume](#) (page 15)
Resumes audio playback.
- [stop](#) (page 18)
Concludes audio playback.
- [sound:didFinishPlaying:](#) (page 19) *delegate method*
This delegate method is called when an NSSound instance has completed playback of its sound data.

Writing Sounds

- [writeToPasteboard:](#) (page 19)
Writes the receiver's data to a pasteboard.

Deprecated

- + [soundUnfilteredFileTypes](#) (page 21) **Deprecated in Mac OS X v10.5**
Provides the list of file types the NSSound class understands. (**Deprecated.** Use [soundUnfilteredTypes](#) (page 9).)
- + [soundUnfilteredPasteboardTypes](#) (page 21) **Deprecated in Mac OS X v10.5**
Provides a list of the pasteboard types that the NSSound class can accept. (**Deprecated.** Use [soundUnfilteredTypes](#) (page 9).)

Class Methods

canInitWithPasteboard:

Indicates whether the receiver can create an instance of itself from the data in a pasteboard.

```
+ (BOOL)canInitWithPasteboard:(NSPasteboard *)pasteboard
```

Parameters

pasteboard

Pasteboard containing sound data.

Return Value

YES when the receiver can handle the data represented by *pasteboard*; NO otherwise.

Discussion

The [soundUnfilteredPasteboardTypes](#) (page 21) method is used to find out whether the class can handle the data in *pasteboard*.

Availability

Available in Mac OS X v10.0 and later.

Declared In

NSSound.h

soundNamed:

Returns the NSSound instance associated with a given name.

```
+ (id)soundNamed:(NSString *)soundName
```

Parameters

soundName

Name that identifies sound data.

Return Value

NSSound instance initialized with the sound data identified by *soundName*.

Discussion

The returned object can be one of the following:

- One that's been assigned a name with [setName:](#) (page 17)

- One of the named system sounds provided by the Application Kit framework

If there's no known `NSSound` object with `soundName`, this method tries to create one by searching for sound files in the application's main bundle (see `NSBundle` for a description of how the bundle's contents are searched). If no sound file can be located in the application main bundle, the following directories are searched in order:

```
~/Library/Sounds
/Library/Sounds
/Network/Library/Sounds
/System/Library/Sounds
```

If no data can be found for `soundName`, no object is created, and `nil` is returned.

The preferred way to locate a sound is to pass a name without the file extension. See the class description for a list of the supported sound file extensions.

Availability

Available in Mac OS X v10.0 and later.

Related Sample Code

BundleLoader
CustomSave
TrackIt

Declared In

`NSSound.h`

soundUnfilteredTypes

Provides the file types the `NSSound` class understands.

```
+ (NSArray*)soundUnfilteredTypes
```

Return Value

Array of UTIs identifying the file types the `NSSound` class understands.

Availability

Available in Mac OS X v10.5 and later.

Declared In

`NSSound.h`

Instance Methods

channelMapping

Provides the receiver's channel map.

- (NSArray *)channelMapping

Return Value

The receiver's audio-channel-to-device-channel mappings.

Discussion

A **channel map** correlates a sound's channels to the the output-device's channels. For example, a two-channel sound being played on a five-channel device should have a channel map to optimize the sound-playing experience. The default map, correlates the first sound channel to the first output channel, the second sound channel to the second output channel, and so on.

For details about channel maps, see *Core Audio Overview* > "An Overview of Common Tasks."

Availability

Available in Mac OS X v10.5 and later.

See Also

- [setChannelMapping:](#) (page 15)

Declared In

NSSound.h

currentTime

Provides the receiver's playback progress in seconds.

- (NSTimeInterval)currentTime

Return Value

Receiver's playback progress in seconds.

Discussion

Sounds start with `currentTime == 0` and end with `currentTime == ([[sound> duration] - 1])`.

Availability

Available in Mac OS X v10.5 and later.

See Also

- [setCurrentTime:](#) (page 15)

- [duration](#) (page 11)

Declared In

NSSound.h

delegate

Returns the receiver's delegate.

- (id)delegate

Return Value

The receiver's delegate.

Availability

Available in Mac OS X v10.0 and later.

See Also

- [setDelegate:](#) (page 16)

Declared In

NSSound.h

duration

Provides the duration of the receiver in seconds.

```
- (NSTimeInterval)duration
```

Return Value

Duration of the receiver in seconds.

Availability

Available in Mac OS X v10.5 and later.

Declared In

NSSound.h

initWithContentsOfFile:byReference:

Initializes the receiver with the the audio data located at a given filepath.

```
- (id)initWithContentsOfFile:(NSString *)filepath byReference:(BOOL)byRef
```

Parameters

filepath

Path to the sound file with which the receiver is to be initialized.

byRef

When YES only the name of the sound is stored with the NSSound instance when archived using `encodeWithCoder:`; otherwise the audio data is archived along with the instance.

Return Value

Initialized NSSound instance.

Availability

Available in Mac OS X v10.0 and later.

Related Sample Code

AttachAScript

Declared In

NSSound.h

initWithContentsOfURL:byReference:

Initializes the receiver with the audio data located at a given URL.

```
- (id)initWithContentsOfURL:(NSURL *)fileUrl byReference:(BOOL)byRef
```

Parameters

fileUrl

URL to the sound file with which the receiver is to be initialized.

byRef

When YES only the name of the sound is stored with the NSSound instance when archived using `encodeWithCoder:`; otherwise the audio data is archived along with the instance.

Return Value

Initialized NSSound instance.

Availability

Available in Mac OS X v10.0 and later.

Declared In

NSSound.h

initWithData:

Initializes the receiver with a given audio data.

```
- (id)initWithData:(NSData *)audioData
```

Parameters

audioData

Audio data with which the receiver is to be initialized. The data must have a proper magic number, sound header, and data for the formats the NSSound class supports.

Return Value

Initialized NSSound instance.

Availability

Available in Mac OS X v10.0 and later.

Declared In

NSSound.h

initWithPasteboard:

Initializes the receiver with data from a pasteboard. The pasteboard should contain a type returned by [soundUnfilteredPasteboardTypes](#) (page 21). NSSound expects the data to have a proper magic number, sound header, and data for the formats it supports.

```
- (id)initWithPasteboard:(NSPasteboard *)pasteboard
```

Parameters

pasteboard

The pasteboard containing the audio data with which the receiver is to be initialized. The pasteboard must contain a type returned by [soundUnfilteredPasteboardTypes](#) (page 21). The contained data must have a proper magic number, sound header, and data for the formats the NSSound class supports.

Return Value

Initialized NSSound instance.

Availability

Available in Mac OS X v10.0 and later.

Declared In

NSSound.h

isPlaying

Indicates whether the receiver is playing its audio data.

- (BOOL)isPlaying

Return Value

YES when the receiver is playing its audio data, NO otherwise.

Availability

Available in Mac OS X v10.0 and later.

Declared In

NSSound.h

loops

Indicates whether the receiver restarts playback when it reaches the end of its content. Default: NO.

- (BOOL)loops

Return Value

YES when the receiver restarts playback when it finishes, NO otherwise.

Availability

Available in Mac OS X v10.5 and later.

See Also

- [setLoops:](#) (page 16)

Declared In

NSSound.h

name

Returns the name assigned to the receiver.

- (NSString *)name

Return Value

Name assigned to the receiver; nil when no name has been assigned.

Availability

Available in Mac OS X v10.0 and later.

See Also

- [setName:](#) (page 17)

Declared In

NSSound.h

pause

Pauses audio playback.

- (BOOL)pause

Return Value

YES when playback is paused successfully, NO when playback is already paused or when an error occurred.

Availability

Available in Mac OS X v10.0 and later.

Declared In

NSSound.h

play

Initiates audio playback.

- (BOOL)play

Return Value

YES when playback is initiated, NO when playback is already in progress or when an error occurred.

Discussion

This method initiates playback asynchronously and returns control to your application. Therefore, your application can continue doing work while the audio is playing.

Availability

Available in Mac OS X v10.0 and later.

Related Sample Code

BundleLoader

Declared In

NSSound.h

playbackDeviceIdentifier

Identifies the receiver's output device.

- (NSString *)playbackDeviceIdentifier

Return Value

Unique identifier of a sound output device.

Availability

Available in Mac OS X v10.5 and later.

See Also

- [setPlaybackDeviceIdentifier](#): (page 17)

Declared In

NSSound.h

resume

Resumes audio playback.

- (BOOL)resume

Return Value

YES when playback is resumed, NO when playback is in progress or when an error occurred.

Discussion

Assumes the receiver has been previously paused by sending it [pause](#) (page 14).

Availability

Available in Mac OS X v10.0 and later.

Declared In

NSSound.h

setChannelMapping:

Specifies the receiver's channel map.

- (void)setChannelMapping:(NSArray *)*channelMapping*

Parameters

channelMapping

Audio-channel—to—device—channel mappings for the receiver.

Availability

Available in Mac OS X v10.5 and later.

See Also

- [channelMapping](#) (page 9)

Declared In

NSSound.h

setCurrentTime:

Specifies the receivers playback progress in seconds.

- (void)setCurrentTime:(NSTimeInterval)*currentTime*

Parameters*currentTime*

Playback progress for the receiver.

Discussion

This property is not archived, copied, or stored on the pasteboard.

Availability

Available in Mac OS X v10.5 and later.

See Also- [currentTime](#) (page 10)**Declared In**

NSSound.h

setDelegate:

Set the receiver's delegate.

- (void)setDelegate:(id)delegate

Parameters*delegate*

Object to serve as the receiver's delegate.

Availability

Available in Mac OS X v10.0 and later.

See Also- [delegate](#) (page 10)**Declared In**

NSSound.h

setLoops:

Specifies whether the receiver restarts playback when it reaches the end of its content.

- (void)setLoops:(BOOL)loops

Parameters*Term*

YES to have the receiver restart playback when it reaches the end of its content.

NO to have the receiver conclude playback, instead.

DiscussionWhen *loops* is YES, the receiver does not send [sound:didFinishPlaying:](#) (page 19) to its delegate when it reaches the end of its content and restarts playback.**Availability**

Available in Mac OS X v10.5 and later.

See Also

- [loops](#) (page 13)
- [stop](#) (page 18)

Declared In

NSSound.h

setName:

Registers the receiver under a given name.

```
- (BOOL)setName:(NSString *)soundName
```

Parameters

soundName

Name to assign the receiver. The name must be unused by other NSSound instances.

Return Value

YES when successful; NO otherwise.

Discussion

If the receiver is already registered under another name, this method first unregisters the prior name.

Availability

Available in Mac OS X v10.0 and later.

See Also

- [name](#) (page 13)
- + [soundNamed:](#) (page 8)

Declared In

NSSound.h

setPlaybackDeviceIdentifier:

Specifies the receiver's output device.

```
- (void)setPlaybackDeviceIdentifier:(NSString *)playbackDeviceIdentifier
```

Parameters

playbackDeviceIdentifier

Unique identifier of a sound output device.

Availability

Available in Mac OS X v10.5 and later.

See Also

- [playbackDeviceIdentifier](#) (page 14)

Declared In

NSSound.h

setVolume:

Specifies the volume of the receiver.

- (void)setVolume:(float)volume

Parameters

volume

Volume at which the receiver is to play.

Discussion

This method does not affect the systemwide volume.

Availability

Available in Mac OS X v10.5 and later.

See Also

- [volume](#) (page 18)

Declared In

NSSound.h

stop

Concludes audio playback.

- (BOOL)stop

Return Value

YES when playback is concluded successfully or if it's paused, NO otherwise.

Availability

Available in Mac OS X v10.0 and later.

See Also

- [sound:didFinishPlaying:](#) (page 19)

Declared In

NSSound.h

volume

Provides the volume of the receiver.

- (float)volume

Return Value

Volume of the receiver.

Availability

Available in Mac OS X v10.5 and later.

See Also

- [setVolume:](#) (page 18)

Declared In
NSSound.h

writeToPasteboard:

Writes the receiver's data to a pasteboard.

```
- (void)writeToPasteboard:(NSPasteboard *)pasteboard
```

Parameters

pasteboard

Pasteboard to which the receiver is to write its data.

Availability

Available in Mac OS X v10.0 and later.

Declared In
NSSound.h

Delegate Methods

sound:didFinishPlaying:

This delegate method is called when an NSSound instance has completed playback of its sound data.

```
- (void)sound:(NSSound *)sound didFinishPlaying:(BOOL)finishedPlaying
```

Parameters

sound

The NSSound that has completed playback of its sound data.

finishedPlaying

YES when playback was successful; NO otherwise.

Availability

Available in Mac OS X v10.0 and later.

Declared In
NSSound.h

Constants

NSPasteboard Type for Sound Data

The NSSound class defines this common pasteboard data type.

```
NSString *NSSoundPboardType;
```

Constants

NSSoundPboardType

NSSound **data**

Available in Mac OS X v10.0 and later.

Declared in NSSound.h.

Declared In

NSSound.h

Deprecated NSSound Methods

A method identified as deprecated has been superseded and may become unsupported in the future.

Deprecated in Mac OS X v10.5

soundUnfilteredFileTypes

Provides the list of file types the `NSSound` class understands. (Deprecated in Mac OS X v10.5. Use [soundUnfilteredTypes](#) (page 9).)

```
+ (NSArray *)soundUnfilteredFileTypes
```

Return Value

Array of strings representing the file types the `NSSound` class understands.

Discussion

The returned array may be passed directly to the `runModalForTypes:` method of the `NSOpenPanel` class.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.5.

Declared In

`NSSound.h`

soundUnfilteredPasteboardTypes

Provides a list of the pasteboard types that the `NSSound` class can accept. (Deprecated in Mac OS X v10.5. Use [soundUnfilteredTypes](#) (page 9).)

```
+ (NSArray *)soundUnfilteredPasteboardTypes
```

Return Value

Array of pasteboard types that the `NSSound` class can accept.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.5.

Declared In

`NSSound.h`

Document Revision History

This table describes the changes to *NSSound Class Reference*.

Date	Notes
2008-10-15	Updated the list of supported sound formats.
2007-04-27	Updated for Mac OS X v10.5.
	Added sound file details to soundNamed: (page 8).
	Added detail to methods in “Playing Sounds” (page 7).
	Added search policy and file format information for sound files. Added detail to playback methods.
2006-05-23	First publication of this content as a separate document.

REVISION HISTORY

Document Revision History

Index

C

canInitWithPasteboard: **class method** [8](#)
channelMapping **instance method** [9](#)
currentTime **instance method** [10](#)

D

delegate **instance method** [10](#)
duration **instance method** [11](#)

I

initWithContentsOfFile:byReference: **instance method** [11](#)
initWithContentsOfURL:byReference: **instance method** [11](#)
initWithData: **instance method** [12](#)
initWithPasteboard: **instance method** [12](#)
isPlaying **instance method** [13](#)

L

loops **instance method** [13](#)

N

name **instance method** [13](#)
NSPasteboard Type for Sound Data [19](#)
NSSoundPboardType **constant** [20](#)

P

pause **instance method** [14](#)
play **instance method** [14](#)
playbackDeviceIdentifier **instance method** [14](#)

R

resume **instance method** [15](#)

S

setChannelMapping: **instance method** [15](#)
setCurrentTime: **instance method** [15](#)
setDelegate: **instance method** [16](#)
setLoops: **instance method** [16](#)
setName: **instance method** [17](#)
setPlaybackDeviceIdentifier: **instance method** [17](#)
setVolume: **instance method** [18](#)
sound:didFinishPlaying: <NSObject> **delegate method** [19](#)
soundNamed: **class method** [8](#)
soundUnfilteredFileTypes **class method** [21](#)
soundUnfilteredPasteboardTypes **class method** [21](#)
soundUnfilteredTypes **class method** [9](#)
stop **instance method** [18](#)

V

volume **instance method** [18](#)

W

writeToPasteboard: **instance method** [19](#)