
AVAudioRecorder Class Reference

Audio & Video: Audio



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AVAudioRecorder Class Reference

Inherits from	NSObject
Conforms to	NSObject (NSObject)
Framework	/System/Library/Frameworks/AVFoundation.framework
Availability	Available in iOS 3.0 and later.
Declared in	AVAudioRecorder.h

Overview

An instance of the `AVAudioRecorder` class, called an audio recorder, provides audio recording capability in your application. Using an audio recorder you can:

- Record until the user stops the recording
- Record for a specified duration
- Pause and resume a recording
- Obtain input audio-level data that you can use to provide level metering

You can implement a delegate object for an audio recorder to respond to audio interruptions and audio decoding errors, and to the completion of a recording.

To configure a recording, including options such as bit depth, bit rate, and sample rate conversion quality, configure the audio recorder's `settings` (page 8) dictionary. Use the settings keys described in *AV Foundation Audio Settings Constants*.

To configure an appropriate audio session for recording, refer to *AVAudioSession Class Reference* and *AVAudioSessionDelegate Protocol Reference*.

Tasks

Initializing an AVAudioRecorder Object

- `initWithURL:settings:error:` (page 9)
Initializes and returns an audio recorder.

Configuring and Controlling Recording

- [prepareToRecord](#) (page 11)
Creates an audio file and prepares the system for recording.
- [record](#) (page 11)
Starts or resumes recording.
- [recordForDuration:](#) (page 12)
Records for a specified duration of time.
- [pause](#) (page 10)
Pauses a recording.
- [stop](#) (page 12)
Stops recording and closes the audio file.
- [delegate](#) (page 7) *property*
The delegate object for the audio recorder.
- [deleteRecording](#) (page 9)
Deletes a recorded audio file.

Managing Information About a Recording

- [recording](#) (page 7) *property*
A Boolean value that indicates whether the audio recorder is recording (YES), or not (NO).
- [url](#) (page 8) *property*
The URL for the audio file associated with the audio recorder.
- [currentTime](#) (page 7) *property*
The time, in seconds, since the beginning of the recording.
- [settings](#) (page 8) *property*
The audio settings for the audio recorder.

Using Audio Level Metering

- [meteringEnabled](#) (page 7) *property*
A Boolean value that indicates whether audio-level metering is enabled (YES), or not (NO).
- [updateMeters](#) (page 12)
Refreshes the average and peak power values for all channels of an audio recorder.
- [peakPowerForChannel:](#) (page 10)
Returns the peak power for a given channel, in decibels, for the sound being recorded.
- [averagePowerForChannel:](#) (page 8)
Returns the average power for a given channel, in decibels, for the sound being recorded.

Properties

For more about Objective-C properties, see “Properties” in *The Objective-C Programming Language*.

currentTime

The time, in seconds, since the beginning of the recording.

```
@property (readonly) NSTimeInterval currentTime;
```

Discussion

When the audio recorder is stopped, calling this method returns a value of 0.

Availability

Available in iOS 3.0 and later.

Declared In

AVAudioRecorder.h

delegate

The delegate object for the audio recorder.

```
@property (assign) id <AVAudioRecorderDelegate> delegate;
```

Discussion

For a description of the audio recorder delegate, see *AVAudioRecorderDelegate Protocol Reference*.

Availability

Available in iOS 3.0 and later.

Declared In

AVAudioRecorder.h

meteringEnabled

A Boolean value that indicates whether audio-level metering is enabled (YES), or not (NO).

```
@property (getter=isMeteringEnabled) BOOL meteringEnabled;
```

Discussion

By default, audio level metering is off for an audio recorder. Because metering uses computing resources, turn it on only if you intend to use it.

Availability

Available in iOS 3.0 and later.

Declared In

AVAudioRecorder.h

recording

A Boolean value that indicates whether the audio recorder is recording (YES), or not (NO).

```
@property (readonly, getter=isRecording) BOOL recording;
```

Availability

Available in iOS 3.0 and later.

Declared In

AVAudioRecorder.h

settings

The audio settings for the audio recorder.

```
@property (readonly) NSDictionary *settings;
```

Discussion

Audio recorder settings are in effect only after you explicitly call the [prepareToRecord](#) (page 11) method, or after you call it implicitly by starting recording. The audio settings keys are described in *AV Foundation Audio Settings Constants*.

Availability

Available in iOS 3.0 and later.

Declared In

AVAudioRecorder.h

url

The URL for the audio file associated with the audio recorder.

```
@property (readonly) NSURL *url;
```

Availability

Available in iOS 3.0 and later.

Declared In

AVAudioRecorder.h

Instance Methods

averagePowerForChannel:

Returns the average power for a given channel, in decibels, for the sound being recorded.

```
- (float)averagePowerForChannel:(NSUInteger)channelNumber
```

Parameters

channelNumber

The number of the channel that you want the average power value for.

Return Value

The current average power, in decibels, for the sound being recorded. A return value of 0 dB indicates full scale, or maximum power; a return value of -160 dB indicates minimum power (that is, near silence).

If the signal provided to the audio recorder exceeds \pm full scale, then the return value may exceed 0 (that is, it may enter the positive range).

Discussion

To obtain a current average power value, you must call the [updateMeters](#) (page 12) method before calling this method.

Availability

Available in iOS 3.0 and later.

See Also

- [@property meteringEnabled](#) (page 7)
- [peakPowerForChannel:](#) (page 10)

Declared In

AVAudioRecorder.h

deleteRecording

Deletes a recorded audio file.

```
- (BOOL)deleteRecording
```

Return Value

Returns YES on success, or NO on failure.

Discussion

The audio recorder must be stopped before you call this method.

Availability

Available in iOS 3.0 and later.

Declared In

AVAudioRecorder.h

initWithURL:settings:error:

Initializes and returns an audio recorder.

```
- (id)initWithURL:(NSURL *)url
  settings:(NSDictionary *)settings
  error:(NSError **)outError
```

Parameters

url

The file system location to record to. The file type to record to is inferred from the file extension included in this parameter's value.

settings

Settings for the recording session. For information on the settings available for an audio recorder, see *AV Foundation Audio Settings Constants*.

outError

Pass in the address of a `nil`-initialized `NSError` object. If an error occurs, upon return the `NSError` object describes the error. If you do not want error information, pass in `NULL`.

Return Value

On success, an initialized `AVAudioRecorder` object. If `nil`, the *outError* parameter contains a code that describes the problem.

Availability

Available in iOS 3.0 and later.

Declared In

`AVAudioRecorder.h`

pause

Pauses a recording.

- (void)pause

Discussion

Call [record](#) (page 11) to resume recording.

Availability

Available in iOS 3.0 and later.

Declared In

`AVAudioRecorder.h`

peakPowerForChannel:

Returns the peak power for a given channel, in decibels, for the sound being recorded.

- (float)peakPowerForChannel:(NSUInteger)channelNumber

Parameters

channelNumber

The number of the channel that you want the peak power value for.

Return Value

The current peak power, in decibels, for the sound being recorded. A return value of 0 dB indicates full scale, or maximum power; a return value of -160 dB indicates minimum power (that is, near silence).

If the signal provided to the audio recorder exceeds \pm full scale, then the return value may exceed 0 (that is, it may enter the positive range).

Discussion

To obtain a current peak power value, call the [updateMeters](#) (page 12) method immediately before calling this method.

Availability

Available in iOS 3.0 and later.

See Also

- [averagePowerForChannel:](#) (page 8)
- [@property meteringEnabled](#) (page 7)

Declared In

AVAudioRecorder.h

prepareToRecord

Creates an audio file and prepares the system for recording.

- (BOOL)prepareToRecord

Return Value

Returns YES on success, or NO on failure.

Discussion

Creates an audio file at the location specified by the *url* parameter in the [initWithURL:settings:error:](#) (page 9) method. If a file already exists at that location, this method overwrites it.

The preparation invoked by this method takes place automatically when you call [record](#) (page 11). Use `prepareToRecord` when you want recording to start as quickly as possible upon calling `record`.

Availability

Available in iOS 3.0 and later.

Declared In

AVAudioRecorder.h

record

Starts or resumes recording.

- (BOOL)record

Return Value

Returns YES on success, or NO on failure.

Discussion

Calling this method implicitly calls [prepareToRecord](#) (page 11), which creates (or erases) an audio file and prepares the system for recording.

Availability

Available in iOS 3.0 and later.

Declared In

AVAudioRecorder.h

recordForDuration:

Records for a specified duration of time.

- (BOOL)recordForDuration:(NSTimeInterval)*duration*

Parameters

duration

The maximum duration, in seconds, for the recording.

Return Value

Returns YES on success, or NO on failure.

Discussion

The recorder stops when the duration of recorded audio reaches the value in the *duration* parameter.

Calling this method implicitly calls [prepareToRecord](#) (page 11), which creates (or erases) an audio file and prepares the system for recording.

Availability

Available in iOS 3.0 and later.

Declared In

AVAudioRecorder.h

stop

Stops recording and closes the audio file.

- (void)stop

Availability

Available in iOS 3.0 and later.

Declared In

AVAudioRecorder.h

updateMeters

Refreshes the average and peak power values for all channels of an audio recorder.

- (void)updateMeters

Discussion

To obtain current audio power values, you must call this method before you call [averagePowerForChannel:](#) (page 8) or [peakPowerForChannel:](#) (page 10).

Availability

Available in iOS 3.0 and later.

See Also

[@property meteringEnabled](#) (page 7)

Declared In

AVAudioRecorder.h

Document Revision History

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

Date	Notes
2010-08-31	Corrected the description of the error parameter for the <code>initWithURL:settings:error:</code> (page 9) instance method.
2010-04-16	Updated for iOS 4.0.
	Moved all audio settings keys from this document to <i>AVFoundation Audio Settings Constants</i> .
2009-10-19	Improved the descriptions of the return values for the <code>averagePowerForChannel:</code> (page 8) and <code>peakPowerForChannel:</code> (page 10) methods.
2009-06-25	New document that describes a class for audio recording.

REVISION HISTORY

Document Revision History