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sf::SoundSource Class Reference

[Audio module](http://docs.google.com/group__audio.htm)

Base class defining a sound's properties. [More...](http://docs.google.com/classsf_1_1SoundSource.htm#details)

#include <[SoundSource.hpp](http://docs.google.com/SoundSource_8hpp_source.htm)>

Inheritance diagram for sf::SoundSource:



| Public Types | |
| --- | --- |
| enum | [Status](http://docs.google.com/classsf_1_1SoundSource.htm#ac43af72c98c077500b239bc75b812f03) {  [Stopped](http://docs.google.com/classsf_1_1SoundSource.htm#ac43af72c98c077500b239bc75b812f03adabb01e8aa85b2f54b344890addf764a),  [Paused](http://docs.google.com/classsf_1_1SoundSource.htm#ac43af72c98c077500b239bc75b812f03ac3ca1fcc0394267c9bdbe3dc0a8a7e41),  [Playing](http://docs.google.com/classsf_1_1SoundSource.htm#ac43af72c98c077500b239bc75b812f03af07bdea9f70ef7606dfc9f955beeee18)  } |
|  | Enumeration of the sound source states. [More...](http://docs.google.com/classsf_1_1SoundSource.htm#ac43af72c98c077500b239bc75b812f03) |
|  | |

| Public Member Functions | |
| --- | --- |
|  | [SoundSource](http://docs.google.com/classsf_1_1SoundSource.htm#ae0c7728c1449fdebe65749ab6fcb3170) (const [SoundSource](http://docs.google.com/classsf_1_1SoundSource.htm) &copy) |
|  | Copy constructor. |
|  | |
| virtual | [~SoundSource](http://docs.google.com/classsf_1_1SoundSource.htm#a77c7c1524f8cb81df2de9375b0f87c5c) () |
|  | Destructor. |
|  | |
| void | [setPitch](http://docs.google.com/classsf_1_1SoundSource.htm#a72a13695ed48b7f7b55e7cd4431f4bb6) (float pitch) |
|  | Set the pitch of the sound. |
|  | |
| void | [setVolume](http://docs.google.com/classsf_1_1SoundSource.htm#a2f192f2b49fb8e2b82f3498d3663fcc2) (float volume) |
|  | Set the volume of the sound. |
|  | |
| void | [setPosition](http://docs.google.com/classsf_1_1SoundSource.htm#a0480257ea25d986eba6cc3c1a6f8d7c2) (float x, float y, float z) |
|  | Set the 3D position of the sound in the audio scene. |
|  | |
| void | [setPosition](http://docs.google.com/classsf_1_1SoundSource.htm#a17ba9ed01925395652181a7b2a7d3aef) (const [Vector3f](http://docs.google.com/classsf_1_1Vector3.htm) &position) |
|  | Set the 3D position of the sound in the audio scene. |
|  | |
| void | [setRelativeToListener](http://docs.google.com/classsf_1_1SoundSource.htm#ac478a8b813faf7dd575635b102081d0d) (bool relative) |
|  | Make the sound's position relative to the listener or absolute. |
|  | |
| void | [setMinDistance](http://docs.google.com/classsf_1_1SoundSource.htm#a75bbc2c34addc8b25a14edb908508afe) (float distance) |
|  | Set the minimum distance of the sound. |
|  | |
| void | [setAttenuation](http://docs.google.com/classsf_1_1SoundSource.htm#aa2adff44cd2f8b4e3c7315d7c2a45626) (float attenuation) |
|  | Set the attenuation factor of the sound. |
|  | |
| float | [getPitch](http://docs.google.com/classsf_1_1SoundSource.htm#aedad6aff442aeb6dcd267befd4fdbb59) () const |
|  | Get the pitch of the sound. |
|  | |
| float | [getVolume](http://docs.google.com/classsf_1_1SoundSource.htm#aafb0558fce9cbebfc6828d932cbcce2f) () const |
|  | Get the volume of the sound. |
|  | |
| [Vector3f](http://docs.google.com/classsf_1_1Vector3.htm) | [getPosition](http://docs.google.com/classsf_1_1SoundSource.htm#a4c3bc60286f488aaf2941ab76476eebc) () const |
|  | Get the 3D position of the sound in the audio scene. |
|  | |
| bool | [isRelativeToListener](http://docs.google.com/classsf_1_1SoundSource.htm#a5cb9107e1c47f65ab82c4885436061ef) () const |
|  | Tell whether the sound's position is relative to the listener or is absolute. |
|  | |
| float | [getMinDistance](http://docs.google.com/classsf_1_1SoundSource.htm#a3379b9f7a0f0e31ab9a4e5fa1762986e) () const |
|  | Get the minimum distance of the sound. |
|  | |
| float | [getAttenuation](http://docs.google.com/classsf_1_1SoundSource.htm#ac5f5ffef8930bb573f43d47cbc779bf6) () const |
|  | Get the attenuation factor of the sound. |
|  | |

| Protected Member Functions | |
| --- | --- |
|  | [SoundSource](http://docs.google.com/classsf_1_1SoundSource.htm#aefa4bd4460f387d81a0637d293979436) () |
|  | Default constructor. |
|  | |
| [Status](http://docs.google.com/classsf_1_1SoundSource.htm#ac43af72c98c077500b239bc75b812f03) | [getStatus](http://docs.google.com/classsf_1_1SoundSource.htm#ad1995d2888773f47f99b671747609dbb) () const |
|  | Get the current status of the sound (stopped, paused, playing) |
|  | |

| Protected Attributes | |
| --- | --- |
| unsigned int | [m\_source](http://docs.google.com/classsf_1_1SoundSource.htm#a0223cef4b1c587e6e1e17b4c92c4479c) |
|  | OpenAL source identifier. |
|  | |

## Detailed Description

Base class defining a sound's properties.

[sf::SoundSource](http://docs.google.com/classsf_1_1SoundSource.htm) is not meant to be used directly, it only serves as a common base for all audio objects that can live in the audio environment.

It defines several properties for the sound: pitch, volume, position, attenuation, etc. All of them can be changed at any time with no impact on performances.

See Also[sf::Sound](http://docs.google.com/classsf_1_1Sound.htm), [sf::SoundStream](http://docs.google.com/classsf_1_1SoundStream.htm)

Definition at line [41](http://docs.google.com/SoundSource_8hpp_source.htm#l00041) of file [SoundSource.hpp](http://docs.google.com/SoundSource_8hpp_source.htm).

## Member Enumeration Documentation

| enum [sf::SoundSource::Status](http://docs.google.com/classsf_1_1SoundSource.htm#ac43af72c98c077500b239bc75b812f03) |
| --- |

Enumeration of the sound source states.

**Enumerator:**

| *Stopped* | [Sound](http://docs.google.com/classsf_1_1Sound.htm) is not playing. |
| --- | --- |
| *Paused* | [Sound](http://docs.google.com/classsf_1_1Sound.htm) is paused. |
| *Playing* | [Sound](http://docs.google.com/classsf_1_1Sound.htm) is playing. |

Definition at line [49](http://docs.google.com/SoundSource_8hpp_source.htm#l00049) of file [SoundSource.hpp](http://docs.google.com/SoundSource_8hpp_source.htm).

## Constructor & Destructor Documentation

| sf::SoundSource::SoundSource | ( | const [SoundSource](http://docs.google.com/classsf_1_1SoundSource.htm) & | *copy* | ) |  |
| --- | --- | --- | --- | --- | --- |

Copy constructor.

Parameters

| copy | Instance to copy |
| --- | --- |

| | virtual sf::SoundSource::~SoundSource | ( |  | ) |  | | --- | --- | --- | --- | --- | | virtual |
| --- | --- | --- | --- | --- | --- | --- |

Destructor.

| | sf::SoundSource::SoundSource | ( |  | ) |  | | --- | --- | --- | --- | --- | | protected |
| --- | --- | --- | --- | --- | --- | --- |

Default constructor.

This constructor is meant ot be called by derived classes only.

## Member Function Documentation

| float sf::SoundSource::getAttenuation | ( |  | ) | const |
| --- | --- | --- | --- | --- |

Get the attenuation factor of the sound.

ReturnsAttenuation factor of the sound See Also[setAttenuation](http://docs.google.com/classsf_1_1SoundSource.htm#aa2adff44cd2f8b4e3c7315d7c2a45626), [getMinDistance](http://docs.google.com/classsf_1_1SoundSource.htm#a3379b9f7a0f0e31ab9a4e5fa1762986e)

| float sf::SoundSource::getMinDistance | ( |  | ) | const |
| --- | --- | --- | --- | --- |

Get the minimum distance of the sound.

ReturnsMinimum distance of the sound See Also[setMinDistance](http://docs.google.com/classsf_1_1SoundSource.htm#a75bbc2c34addc8b25a14edb908508afe), [getAttenuation](http://docs.google.com/classsf_1_1SoundSource.htm#ac5f5ffef8930bb573f43d47cbc779bf6)

| float sf::SoundSource::getPitch | ( |  | ) | const |
| --- | --- | --- | --- | --- |

Get the pitch of the sound.

ReturnsPitch of the sound See Also[setPitch](http://docs.google.com/classsf_1_1SoundSource.htm#a72a13695ed48b7f7b55e7cd4431f4bb6)

| [Vector3f](http://docs.google.com/classsf_1_1Vector3.htm) sf::SoundSource::getPosition | ( |  | ) | const |
| --- | --- | --- | --- | --- |

Get the 3D position of the sound in the audio scene.

ReturnsPosition of the sound See Also[setPosition](http://docs.google.com/classsf_1_1SoundSource.htm#a0480257ea25d986eba6cc3c1a6f8d7c2)

| | [Status](http://docs.google.com/classsf_1_1SoundSource.htm#ac43af72c98c077500b239bc75b812f03) sf::SoundSource::getStatus | ( |  | ) | const | | --- | --- | --- | --- | --- | | protected |
| --- | --- | --- | --- | --- | --- | --- |

Get the current status of the sound (stopped, paused, playing)

ReturnsCurrent status of the sound

| float sf::SoundSource::getVolume | ( |  | ) | const |
| --- | --- | --- | --- | --- |

Get the volume of the sound.

ReturnsVolume of the sound, in the range [0, 100] See Also[setVolume](http://docs.google.com/classsf_1_1SoundSource.htm#a2f192f2b49fb8e2b82f3498d3663fcc2)

| bool sf::SoundSource::isRelativeToListener | ( |  | ) | const |
| --- | --- | --- | --- | --- |

Tell whether the sound's position is relative to the listener or is absolute.

ReturnsTrue if the position is relative, false if it's absolute See Also[setRelativeToListener](http://docs.google.com/classsf_1_1SoundSource.htm#ac478a8b813faf7dd575635b102081d0d)

| void sf::SoundSource::setAttenuation | ( | float | *attenuation* | ) |  |
| --- | --- | --- | --- | --- | --- |

Set the attenuation factor of the sound.

The attenuation is a multiplicative factor which makes the sound more or less loud according to its distance from the listener. An attenuation of 0 will produce a non-attenuated sound, i.e. its volume will always be the same whether it is heard from near or from far. On the other hand, an attenuation value such as 100 will make the sound fade out very quickly as it gets further from the listener. The default value of the attenuation is 1.

Parameters

| attenuation | New attenuation factor of the sound |
| --- | --- |

See Also[getAttenuation](http://docs.google.com/classsf_1_1SoundSource.htm#ac5f5ffef8930bb573f43d47cbc779bf6), [setMinDistance](http://docs.google.com/classsf_1_1SoundSource.htm#a75bbc2c34addc8b25a14edb908508afe)

| void sf::SoundSource::setMinDistance | ( | float | *distance* | ) |  |
| --- | --- | --- | --- | --- | --- |

Set the minimum distance of the sound.

The "minimum distance" of a sound is the maximum distance at which it is heard at its maximum volume. Further than the minimum distance, it will start to fade out according to its attenuation factor. A value of 0 ("inside the head of the listener") is an invalid value and is forbidden. The default value of the minimum distance is 1.

Parameters

| distance | New minimum distance of the sound |
| --- | --- |

See Also[getMinDistance](http://docs.google.com/classsf_1_1SoundSource.htm#a3379b9f7a0f0e31ab9a4e5fa1762986e), [setAttenuation](http://docs.google.com/classsf_1_1SoundSource.htm#aa2adff44cd2f8b4e3c7315d7c2a45626)

| void sf::SoundSource::setPitch | ( | float | *pitch* | ) |  |
| --- | --- | --- | --- | --- | --- |

Set the pitch of the sound.

The pitch represents the perceived fundamental frequency of a sound; thus you can make a sound more acute or grave by changing its pitch. A side effect of changing the pitch is to modify the playing speed of the sound as well. The default value for the pitch is 1.

Parameters

| pitch | New pitch to apply to the sound |
| --- | --- |

See Also[getPitch](http://docs.google.com/classsf_1_1SoundSource.htm#aedad6aff442aeb6dcd267befd4fdbb59)

| void sf::SoundSource::setPosition | ( | float | *x*, |
| --- | --- | --- | --- |
|  |  | float | *y*, |
|  |  | float | *z* |
|  | ) |  |  |

Set the 3D position of the sound in the audio scene.

Only sounds with one channel (mono sounds) can be spatialized. The default position of a sound is (0, 0, 0).

Parameters

| x | X coordinate of the position of the sound in the scene |
| --- | --- |
| y | Y coordinate of the position of the sound in the scene |
| z | Z coordinate of the position of the sound in the scene |

See Also[getPosition](http://docs.google.com/classsf_1_1SoundSource.htm#a4c3bc60286f488aaf2941ab76476eebc)

| void sf::SoundSource::setPosition | ( | const [Vector3f](http://docs.google.com/classsf_1_1Vector3.htm) & | *position* | ) |  |
| --- | --- | --- | --- | --- | --- |

Set the 3D position of the sound in the audio scene.

Only sounds with one channel (mono sounds) can be spatialized. The default position of a sound is (0, 0, 0).

Parameters

| position | Position of the sound in the scene |
| --- | --- |

See Also[getPosition](http://docs.google.com/classsf_1_1SoundSource.htm#a4c3bc60286f488aaf2941ab76476eebc)

| void sf::SoundSource::setRelativeToListener | ( | bool | *relative* | ) |  |
| --- | --- | --- | --- | --- | --- |

Make the sound's position relative to the listener or absolute.

Making a sound relative to the listener will ensure that it will always be played the same way regardless the position of the listener. This can be useful for non-spatialized sounds, sounds that are produced by the listener, or sounds attached to it. The default value is false (position is absolute).

Parameters

| relative | True to set the position relative, false to set it absolute |
| --- | --- |

See Also[isRelativeToListener](http://docs.google.com/classsf_1_1SoundSource.htm#a5cb9107e1c47f65ab82c4885436061ef)

| void sf::SoundSource::setVolume | ( | float | *volume* | ) |  |
| --- | --- | --- | --- | --- | --- |

Set the volume of the sound.

The volume is a value between 0 (mute) and 100 (full volume). The default value for the volume is 100.

Parameters

| volume | Volume of the sound |
| --- | --- |

See Also[getVolume](http://docs.google.com/classsf_1_1SoundSource.htm#aafb0558fce9cbebfc6828d932cbcce2f)

## Member Data Documentation

| | unsigned int sf::SoundSource::m\_source | | --- | | protected |
| --- | --- | --- |

OpenAL source identifier.

Definition at line [263](http://docs.google.com/SoundSource_8hpp_source.htm#l00263) of file [SoundSource.hpp](http://docs.google.com/SoundSource_8hpp_source.htm).

The documentation for this class was generated from the following file:

* [SoundSource.hpp](http://docs.google.com/SoundSource_8hpp_source.htm)

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