

# Circle Sounds

## Stereo Near Field Compensation

Peter Stitt

**email:** CircleSounds@hotmail.co.uk

**blog:** Circle Sounds.

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## Please Note:

This VST plugin is provided free and as-is. There is no warranty and no guarantee that it will work for any particular purpose. The user uses this software at their own risk. It is still in an alpha version and therefore no guarantees are made for its stability or its compatibility with different hosts.

## Update Notes

28/05/2013

- Initial alpha release version of VST. No updates as of yet.

## Overview of the Plugin

This plugin is used to compensate for the proximity effect when sitting a finite distance from loudspeakers. This arrives from the bass boost of in the velocity components of the sound field for nearby source. It has been said that this can cause problems for localisation at low frequencies. This will primarily be important when using phase-based panning where the signal in one loudspeaker leads the other in phase.

### How does it work?

It takes the stereo signal right before the output, splits it into Sum  $\Sigma$  (**L+R**) and Difference  $\Delta$  (**L-R**) channels and high-pass filtering the difference channel. These are then recombined back into **L** and **R** before being output via your loudspeakers.

### How do I use it?

Simply place it last in your signal chain on your master output and set the distance to match the distance you are from your loudspeakers.

**Remember!** You should really disable it before you render your track. It does not currently have an auto-disable feature. If you do not disable it then the compensation matching your listening setup will be permanently part of your track and may not work well for other listeners' setup.

## Basis for the VST

This plugin is based on work done by Michael Gerzon. The proposed near field compensation for stereo reproduction is found in the appendix of:

**Gerzon, M. (1992). General Metatheory of Auditory Localisation. 92nd AES Convention, Vienna (Vol. 82, pp. 273–286). Vienna.**