

Title (en)
SOUND IMAGING METHOD AND APPARATUS

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Application
EP 89308778 A 19890830

Priority
• US 23998188 A 19880902
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Abstract (en)
[origin: EP0357402A2] The illusion of distinct sound sources distributed throughout the three-dimensional space containing the listener is possible using only conventional stereo playback equipment by processing monaural sound signals prior to playback on two spaced-apart transducers. A plurality of such processed signals corresponding to different sound source positions may be mixed using conventional techniques without disturbing the positions of the individual images. Although two loudspeakers are required the sound produced is not conventional stereo, however, each channel of a left/right stereo signal can be separately processed according to the invention and then combined for playback. The sound processing involves dividing each monaural or single channel signal into two signals and then adjusting the differential phase and amplitude of the two channel signals on a frequency dependent basis in accordance with an empirically derived transfer function that has a specific phase and amplitude adjustment for each predetermined frequency interval over the audio spectrum. Each transfer function is empirically derived to relate to a different sound source location and by providing a number of different transfer functions and selecting them accordingly the sound source can be made to appear to move.

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H04S 1/00

IPC 8 full level
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