

Title (en)  
Spatially robust audio precompensation

Title (de)  
Räumlich robuste Audiovorkompensierung

Title (fr)  
Précompensation audio spatialement robuste

Publication  
**EP 2104374 B1 20100505 (EN)**

Application  
**EP 08102812 A 20080320**

Priority  
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Abstract (en)  
[origin: EP2104374A1] A discrete-time audio precompensation filter is designed based on a linear model that describes the dynamic response of a sound generating system at  $p > 1$  listening positions. The filter construction is based on providing information (S2) representative of  $n$  non-minimum phase zeros  $\{z_i\}$  that are outside of the stability region  $|z| = 1$  in the complex frequency domain. A causal Finite Impulse Response (FIR) filter, of user-specified degree  $d$ , having coefficients corresponding to a causal part of a delayed non-causal impulse response is determined (S4) based on the information representative of  $n$  non-minimum phase zeros. The resulting precompensation filter is determined (S5) as the product of at least two scalar dynamic systems, represented by an inverse of a characteristic scalar magnitude response (S3) in the frequency domain that represents the power gains at the listening positions, and the causal Finite Impulse Response (FIR) filter designed (S4) to approximately invert only non-minimum phase zeros that can be safely inverted.

IPC 8 full level  
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CPC (source: EP)  
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Cited by  
CN108337015A; CN104186001A; EP2692155A4; US8970455B2; US9781510B2; US9020160B2; WO2014007724A1; WO2014070992A1; WO2013141768A1; US8798283B2; US11477557B2

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