

Title (en)  
AUDIO SIGNAL PROCESSING APPARATUS AND SIGNAL PROCESSING METHOD FOR A SOUND SYSTEM, PARTICULARLY IN A VEHICLE

Title (de)  
AUDIOSIGNALVERARBEITUNGSVORRICHTUNG UND SIGNALVERARBEITUNGSVERFAHREN FÜR EIN TONSYSTEM, INSBESONDERE IN EINEM FAHRZEUG

Title (fr)  
APPAREIL ET PROCÉDÉ DE TRAITEMENT DE SIGNAL SONORE POUR UN SYSTÈME SONORE DE VÉHICULE

Publication  
**EP 3094110 A1 20161116 (EN)**

Application  
**EP 15167645 A 20150513**

Priority  
**EP 15167645 A 20150513**

Abstract (en)  
An audio signal processing apparatus (10) comprises a signal input section (11) through which in operation at least one audio signal (50) is received, and a splitting section (12) configured to generate a first signal (61) and a second signal (62) from the received at least one audio signal (50), wherein the first signal (61) comprises signal components of a first frequency range of the at least one audio signal and the second signal (62) comprises signal components of a second frequency range of the at least one audio signal, the first frequency range comprising lower frequencies than the second frequency range and the first and second frequency ranges having a cross-over frequency (fxA). A first output section (41) is arranged to generate a first output signal (71) for at least one first loudspeaker (21A) from the first signal (61), and a second output section (42) is arranged to generate a second output signal (72) for at least one second loudspeaker (22A) from the second signal (62). A processing section (30) receives a volume control signal (70) which is indicative of a user volume input and is configured to determine a first cross-over frequency value (fx1) according to the volume control signal (70) and to determine a second cross-over frequency value (fx2) which comprises a calculation of a power value of signal components over at least one frequency band of the at least one audio signal (50), wherein the processing section (30) is configured to determine the cross-over frequency (fxA) from one of the first and second cross-over frequency values (fx1, fx2).

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CPC (source: EP)  
**H04R 3/04** (2013.01); **H04R 3/14** (2013.01); **H04R 3/007** (2013.01); **H04R 2499/13** (2013.01)

Citation (applicant)  
• WO 2010122441 A1 20101028 - KONINKL PHILIPS ELECTRONICS NV [NL], et al  
• JP H0833093 A 19960202 - SONY CORP

Citation (search report)  
• [Y] US 2014093096 A1 20140403 - SHEEN TIMOTHY W [US], et al  
• [Y] GB 2181626 A 19870423 - CANON KK  
• [A] US 4583245 A 19860415 - GELOW WILLIAM J [US], et al

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Designated extension state (EPC)  
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