

Title (en)  
AUDIO APPARATUS AND METHOD OF AUDIO PROCESSING

Title (de)  
AUDIOVORRICHTUNG UND VERFAHREN ZUR AUDIOVERARBEITUNG

Title (fr)  
APPAREIL AUDIO ET PROCÉDÉ DE TRAITEMENT AUDIO

Publication  
**EP 3595337 A1 20200115 (EN)**

Application  
**EP 18182376 A 20180709**

Priority  
EP 18182376 A 20180709

Abstract (en)  
An audio apparatus, e.g. for a virtual reality client, comprises a receiver (201) for receiving a set of input audio signals from a first source; a receiver (203) for receiving acoustic environment data from a second source; and a receiver (205) for receiving binaural transfer function data from a third source where the binaural transfer function data is indicative of a set of binaural transfer functions. A renderer (207) generates output audio signals from the set of input audio signals. A reverberator generates a reverberation component of the output audio signals by applying reverberation processing to the set of input audio signals in response to the acoustic environment data, and an adapter (211) adapts a first property of the reverberation processing in response to a second property of the set of binaural transfer functions. The acoustic environment data and binaural transfer function data may be received from different sources.

IPC 8 full level  
**H04S 7/00** (2006.01); **H04R 27/00** (2006.01); **H04S 1/00** (2006.01)

CPC (source: EP)  
**H04R 27/00** (2013.01); **H04S 7/306** (2013.01); **H04R 2227/003** (2013.01); **H04R 2227/007** (2013.01); **H04S 1/00** (2013.01); **H04S 7/304** (2013.01); **H04S 2400/11** (2013.01); **H04S 2400/15** (2013.01); **H04S 2420/01** (2013.01); **H04S 2420/03** (2013.01); **H04S 2420/11** (2013.01)

Citation (applicant)  
• JOT, J. ET AL.: "Digital delay networks for designing artificial reverberations", 90TH AES CONVENTION, 1991  
• JOT, J.: "An analysis/synthesis approach to real-time artificial reverberation", IEEE INTERNATIONAL CONFERENCE ON ACOUSTICS, SPEECH, AND SIGNAL PROCESSING (ICASSP, vol. 2, 1992, pages 221 - 224, XP000356977, DOI: doi:10.1109/ICASSP.1992.226080  
• MENZER, F. ET AL.: "Binaural reverberation using a modified Jot reverberator with frequency dependent interaural coherence matching", 126TH AES CONVENTION, 2009

Citation (search report)  
• [X] US 2013236040 A1 20130912 - CRAWFORD DAVID W [US], et al  
• [X] US 2018124539 A1 20180503 - KOPPENS JEROEN GERARDUS HENRICUS [NL], et al  
• [X] US 2010246832 A1 20100930 - VILLEMOES LARS FALCK [SE], et al  
• [X] WO 2017203011 A1 20171130 - SMYTH STEPHEN MALCOLM FREDERICK [GB]  
• [X] US 2011286614 A1 20111124 - HESS WOLFGANG [DE]  
• [X] WO 2017178309 A1 20171019 - KONINKLIJKE PHILIPS NV [NL]

Cited by  
CN111641899A; EP4152770A1; EP3930349A1; WO2023238637A1; WO2021249172A1; WO2022108494A1; WO2021259829A1

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)  
BA ME

DOCDB simple family (publication)  
**EP 3595337 A1 20200115**

DOCDB simple family (application)  
**EP 18182376 A 20180709**