

Title (en)  
WAVE FIELD SYNTHESIS SYSTEM

Title (de)  
WELLENFELDSYNTHESE-SYSTEM

Title (fr)  
SYSTÈME DE SYNTHÈSE DE CHAMP D'ONDES

Publication  
**EP 3061271 A1 20160831 (DE)**

Application  
**EP 14781270 A 20140912**

Priority  
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• IB 2014001806 W 20140912

Abstract (en)  
[origin: WO2015036845A1] The present invention describes an apparatus comprising sound transducers based on the principle of wave field synthesis that can be compiled in a local design to form a freely scalable overall magnitude. The local design of the system ensures the free scalability. The computation complexity in the central system remains independent of the number of sound transducers in the overall system. In previously known apparatuses for reconstructing a sound field based on the principle of wave field synthesis, the demands on the central system rise with the number of sound transducers that it covers. For this reason too, the wave field synthesis is usually reduced to the horizontal plane of the listener, and the third dimension is lost in the reproduction of the sound events. The solution according to the invention allows the model-based approach of wave field synthesis to be also used to construct two-dimensional apparatuses of arbitrary magnitude from sound transducers based on the principle of wave field synthesis that are able to implement rapid changes of location for the virtual sound sources with the associated Doppler effects without artefacts. In this case, the requisite computation power can therefore be distributed locally because the volume of data to be transferred between the subsystems remains comparatively small.

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