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(54) Title: APPARATUS AND METHOD FOR RENDERING AUDIO OBJECTS

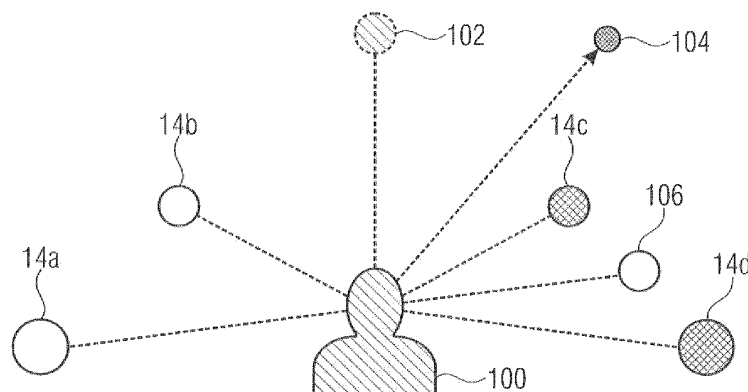


Fig. 4

(57) Abstract: A more efficient rendering of audio objects, which allows 3D panning, is achieved by performing the panning into two stages, namely at least one horizontal in-layer panning leading to a first virtual (speaker) position and a second virtual or real (speaker) position, which is vertically offset, and another panning vertically between the two positions. Although acting in such a manner seems to increase the computational complexity, this staged processing increases, in fact, the stability of the rendering and the location of the intended virtual position. Moreover, the staged processing, enables to perform, according to an embodiment, the panning by use of amplitude panning gains only, i.e. phase processing is not necessary, thereby rendering the computational complexity low. Even further, the rendering is flexible with respect to applicability to a variety of loudspeaker setups.

[Continued on next page]

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