

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2023/0232153 A1 Sørensen et al.

Jul. 20, 2023 (43) **Pub. Date:**

(54) A SOUND OUTPUT UNIT AND A METHOD OF OPERATING IT

(71) Applicant: Sowa Sound IVS, København NV

(DK)

(72) Inventors: Villads Sørensen, København NV

(DK); Andreas Ranch, København N (DK); Mads Vraa, København S (DK); Søren Manicus, Charlottenlund (DK); Rune Domsten, Brønjshøj (DK)

(21) Appl. No.: 18/002,173

PCT Filed: Jun. 16, 2021 (22)

PCT/EP2021/066242 (86) PCT No.:

§ 371 (c)(1),

(2) Date: Dec. 16, 2022

(30)Foreign Application Priority Data

Jun. 16, 2020 (DK) PA 2020 70393

Publication Classification

(51) Int. Cl. H04R 3/12 (2006.01)H04R 27/00 (2006.01) H04R 29/00 (2006.01)H04R 5/02 (2006.01)H04R 1/32 (2006.01)

(52)U.S. Cl.

CPC H04R 3/12 (2013.01); H04R 27/00 (2013.01); H04R 29/002 (2013.01); H04R 5/02 (2013.01); H04R 1/323 (2013.01); H04R 2201/025 (2013.01); H04R 2227/007 (2013.01); H04S 1/007 (2013.01)

(57)**ABSTRACT**

A system and a method for outputting sound where one or more first sound outputting units are identified and other, second, sound outputting units define a sound delay in accordance with the relative positions between each sound outputting unit and the first sound outputting unit(s). Microphones may be added to e.g. determine the amount and positions of persons.

The system may also use Intelligent cameras to determine number of people their position the room face direction and age distribution in order optimize audio level and equalisation of the frequency response—like in a church with many elder people or in a young audience at a live concert.

