

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2023/0232150 A1 Cross et al.

Jul. 20, 2023

(43) **Pub. Date:**

(54) PASSIVELY ASSISTED LOUDSPEAKER **ENCLOSURE**

- (71) Applicant: ALPS ALPINE CO., LTD., TOKYO
- (72) Inventors: Alan Robert Cross, Howell, MI (US); Jay Krusac, Farmington Hills, MI (US); Erich Zachariah Mellits, Washington, MI (US)
- (21) Appl. No.: 18/059,919
- Nov. 29, 2022 (22) Filed:

Related U.S. Application Data

(60) Provisional application No. 63/300,340, filed on Jan. 18, 2022.

Publication Classification

(51) Int. Cl. H04R 1/28 (2006.01)H04R 1/02 (2006.01)H04R 1/22 (2006.01)

(52)U.S. Cl. H04R 1/2834 (2013.01); H04R 1/025 CPC (2013.01); H04R 1/227 (2013.01)

(57)ABSTRACT

Loudspeaker enclosures are disclosed that support improved acoustic radiation efficiency at low audible frequencies without compromising acoustic radiation efficiency at mid and high audible frequencies. Embodiments include enclosures having a primary chamber and a secondary chamber acoustically coupled to the primary chamber via a passive radiator. The geometrical characteristics of the secondary chamber and the corresponding air plenum are tailored for enhanced efficiency at low frequencies.

