

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
04 May 2023 (04.05.2023)



(10) International Publication Number
WO 2023/073024 A1

(51) International Patent Classification:

H04R 7/10 (2006.01) *H04R* 19/04 (2006.01)
H04R 17/02 (2006.01) *H04R* 3/00 (2006.01)
H04R 19/00 (2006.01)

(21) International Application Number:

PCT/EP2022/079941

(22) International Filing Date:

26 October 2022 (26.10.2022)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

21205567.7 29 October 2021 (29.10.2021) EP

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(81) Designated States (*unless otherwise indicated, for every
kind of national protection available*): AE, AG, AL, AM,
AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ,
CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM,
DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,
HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE,
KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU,
LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG,
NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS,
RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH,
TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS,
ZA, ZM, ZW.

(54) Title: LOUDSPEAKER COMPRISING A MICRO-ELECTROMECHANICAL UNIT

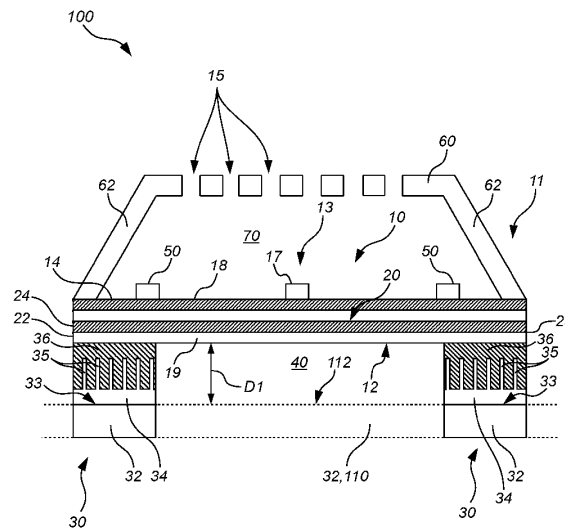


Fig. 1

(57) **Abstract:** A loudspeaker device (200) is provided. The loudspeaker device (200) comprises a micro-electromechanical unit (100). The micro-electromechanical unit (100) comprises a diaphragm (10) having a planar extension. The diaphragm (10) comprises a semiconductor structure (20) comprising a first (22) and a second (24) layer, each layer extending in the planar extension. The first layer (22) comprises $\text{Al}(1-x)\text{Ga}(x)\text{N}$, wherein $0.2 \leq x \leq 0.4$, and the second layer (24) comprises GaN. The diaphragm (10) is arranged to oscillate in an extension transverse to the planar extension to thereby generate sound waves. A calibrating weight (17) is arranged on a surface of the diaphragm (10). The micro-electromechanical unit (214) further comprises a support structure (30) supporting the diaphragm (10), an electrode arranged (50) on a surface of the diaphragm (10), and a resonant box.

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WO 2023/073024 A1

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, CV, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, ME, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

- *with international search report (Art. 21(3))*
- *in black and white; the international application as filed contained color or greyscale and is available for download from PATENTSCOPE*