

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
01 May 2025 (01.05.2025)



(10) International Publication Number
WO 2025/090484 A1

(51) International Patent Classification:

B06B 1/06 (2006.01) **G01N 29/12** (2006.01)
G01D 5/353 (2006.01) **G01H 9/00** (2006.01)

(21) International Application Number:

PCT/US2024/052387

(22) International Filing Date:

22 October 2024 (22.10.2024)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/545,327 23 October 2023 (23.10.2023) US

(71) Applicant: **DEEPSIGHT TECHNOLOGY, INC.**

[US/US]; 2953 Bunker Hill Lane, Santa Clara, California 95054 (US).

(72) Inventors: **LI, Yihang**; c/o DeepSight Technology, Inc.,

2953 Bunker Hill Lane, Santa Clara, California 95054 (US).

XU, Linhua; c/o DeepSight Technology, Inc., 2953 Bunker

Hill Lane, Santa Clara, California 95054 (US). **YANG,**

Lan; c/o DeepSight Technology, Inc., 2953 Bunker Hill

Lane, Santa Clara, California 95054 (US). **HAZARIAN,**

Michael; c/o DeepSight Technology, Inc., 2953 Bunker

Hill Lane, Santa Clara, California 95054 (US). **KANG,**

Haochen; c/o DeepSight Technology, Inc., 2953 Bunker

Hill Lane, Santa Clara, California 95054 (US).

(74) Agent: **HANNA, Richard**; Medler Ferro Woodhouse &

Mills PLLC, 8201 Greensboro Drive, Suite 1060, McLean,

Virginia 22102 (US).

(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, MU, 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.

(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, SC, 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).

Declarations under Rule 4.17:

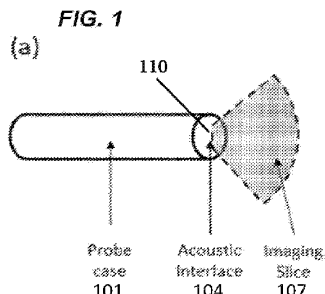
— as to applicant's entitlement to apply for and be granted a
patent (Rule 4.17(ii))

— as to the applicant's entitlement to claim the priority of the
earlier application (Rule 4.17(iii))

Published:

— with international search report (Art. 21(3))

(54) Title: COMPACT MIXED ARRAY IMAGING PROBE



(57) Abstract: A compact mixed ultrasound transducer including a transducer case, a source array configured comprising at least one acoustic energy generating transducer and configured to transmit acoustic waves; and an optical receiver array including at least one optical sensor and configured to detect acoustic echoes associated with the acoustic waves is provided. The mixed ultrasound transducer may have a compact geometry facilitated by various features.

WO 2025/090484 A1