

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
02 June 2022 (02.06.2022)



(10) International Publication Number
WO 2022/113063 A1

(51) International Patent Classification:

G01C 21/00 (2022.01) G01S 5/00 (2022.01)
H04R 29/00 (2022.01) H04W 64/00 (2022.01)

(21) International Application Number:

PCT/IL2021/051288

(22) International Filing Date:

01 November 2021 (01.11.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

279076 29 November 2020 (29.11.2020) IL
283637 24 May 2021 (24.05.2021) IL

(71) Applicant: **ELTA SYSTEMS LTD.** [IL/IL]; 100 Yitzchak
Hanassi Blvd., P.O.B. 330, 7710201 Ashdod (IL).

(72) Inventors: **SHARON, Erez**; Alon 2, Karmei Yosef (IL).
KANDIBA, Slava; Shevet Yehuda 3, Apt. 1, Ashdod (IL).
FRENKEL, Noam; 40 Hateena St., 9979700 Karmei Yosef
(IL). **PINTO, Hen**; Topaz 34, Cesaria (IL).

(74) Agent: **DYM, Susie**; Reinhold Cohn and Partners, P.O. Box
13239, 6113102 Tel Aviv (IL).

(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, CZ, DE, DJ, DK, DM, DO,
DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN,
HR, HU, ID, IL, IN, IR, IS, IT, JO, JP, KE, KG, KH, KN,
KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD,
ME, 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: SYSTEM, METHOD AND COMPUTER PROGRAM PRODUCT FACILITATING EFFICIENCY OF A GROUP WHOSE MEMBERS ARE ON THE MOVE

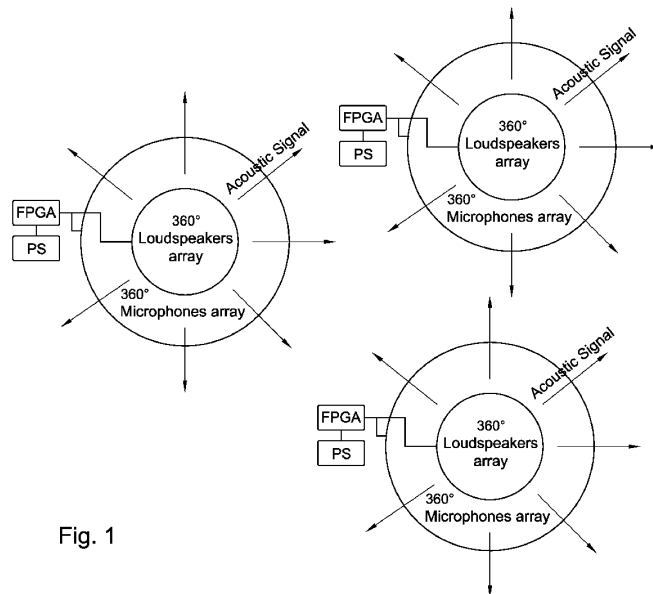


Fig. 1

(57) Abstract: An acoustic many-to-many localization, communication and management system serving a group whose members are moving or maneuvering, the system comprising plural portable hardware devices which may be distributed to plural group members respectively, each device including at least one array of speakers and/or at least one array of microphones, and/or at least one hardware processor, some or all typically co-located. Typically, the hardware processor in at least one device d1 from among the devices controls d1's speaker to at least once broadcast a first signal (e.g. "localization request signal") at a time t_{zero} . Typically the hardware processor in device d1 at least once computes at least one of angle and distance between d2 and d1, to monitor locations of other group members who may be on the move.

[Continued on next page]

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, 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, 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:

— *of inventorship (Rule 4.17(iv))*

Published:

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