

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
23 March 2023 (23.03.2023)



(10) International Publication Number
WO 2023/044154 A3

(51) International Patent Classification:
G06F 3/01 (2006.01) *G06F 3/046* (2006.01)
G06F 3/044 (2006.01)

(21) International Application Number:
PCT/US2022/044121

(22) International Filing Date:
20 September 2022 (20.09.2022)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
63/246,206 20 September 2021 (20.09.2021) US
17/947,488 19 September 2022 (19.09.2022) US

(71) Applicant: **UNIVERSAL CITY STUDIOS LLC**
[US/US]; 100 Universal City Plaza, Universal City, CA
91608 (US).

(72) Inventors: **WILLIAMS, Thomas, Owen**; c/o Universal
City Studios LLC, 1000 Universal Studios Plaza, Orlando,
FL 32819 (US). **BURNETTE, Brandon, David**; c/o Uni-
versal City Studios LLC, 1000 Universal Studios Plaza, Or-
lando, FL 32819 (US). **GOERGEN, Patrick, John**; c/o
Universal City Studios LLC, 1000 Universal Studios Plaza,
Orlando, FL 32819 (US).

(74) Agent: **MACAPAGAL, Lew, Edward, V.**; Loza & Loza,
LLP, 305 N. Second Ave., #127, Upland, CA 91786 (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,

(54) Title: THEREMIN-BASED TRACKING AND TRIGGERING

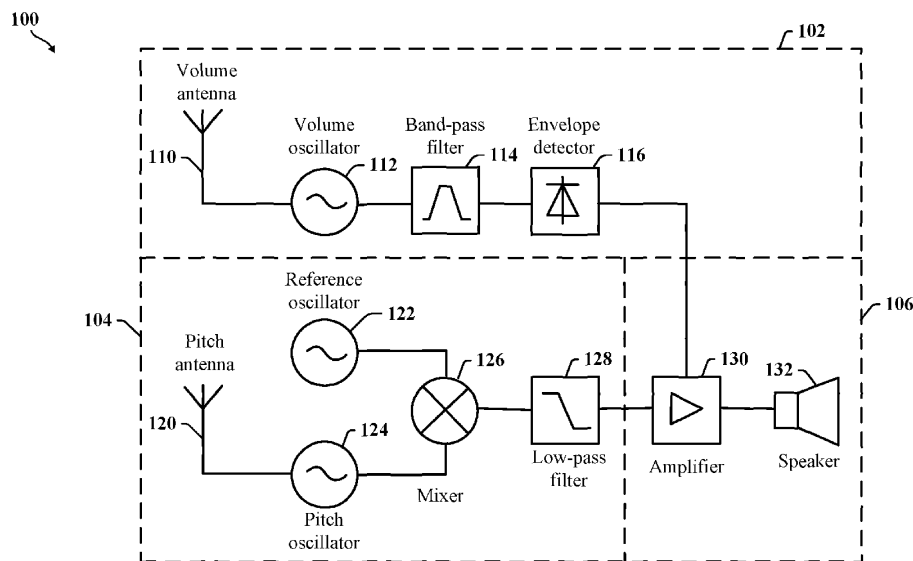


FIG. 1

(57) Abstract: Aspects of the disclosure relate to methods, apparatus, and systems for tracking a presence of a body part via a theremin-based sensor and outputting a usable signal. For example, a tracking system includes a signal processor and a theremin circuit including at least one antenna. The theremin circuit detects a varying position of a body part relative to the at least one antenna and outputs an analog signal to the signal processor having a varying frequency or amplitude based on the varying position of the body part relative to the at least one antenna. The digital processor determines a rate of change of the varying frequency or amplitude of the analog signal, determines at least a velocity of the body part based on the rate of change, and outputs a digital signal corresponding to at least the velocity to a system or device coupled to the theremin-based tracking system.

[Continued on next page]

WO 2023/044154 A3

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, 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.

- (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:

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

Published:

- *with international search report (Art. 21(3))*
— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

(88) Date of publication of the international search report:

20 April 2023 (20.04.2023)