

Title (en)
AIR-PULSE GENERATING DEVICE

Title (de)
LUFTPULSERZEUGUNGSVORRICHTUNG

Title (fr)
DISPOSITIF DE GÉNÉRATION D'IMPULSIONS D'AIR

Publication
EP 4283609 A1 20231129 (EN)

Application
EP 23174750 A 20230523

Priority

- US 202263346848 P 20220528
- US 202263347013 P 20220530
- US 202263353588 P 20220618
- US 202263353610 P 20220619
- US 202263354433 P 20220622
- US 202263428085 P 20221127
- US 202263433740 P 20221219
- US 202263434474 P 20221222
- US 202263435275 P 20221225
- US 202263436103 P 20221229
- US 202363447758 P 20230223
- US 202363447835 P 20230223
- US 202363459170 P 20230413

Abstract (en)
An air-pulse generating device includes a film structure. The film structure is driven by a modulation-driving signal, so as to form an amplitude-modulated ultrasonic air pressure variation with an ultrasonic carrier frequency. The film structure is driven by a first demodulation-driving signal and a second demodulation-driving signal, so as to form an opening at a rate synchronous with the ultrasonic carrier frequency. The air-pulse generating device produces a plurality of air pulses according to the amplitude-modulated ultrasonic air pressure variation.

IPC 8 full level
G10K 15/04 (2006.01); **G10K 11/02** (2006.01); **H04R 1/30** (2006.01); **H04R 19/02** (2006.01)

CPC (source: EP KR)
G10K 9/122 (2013.01 - KR); **G10K 11/025** (2013.01 - EP); **G10K 15/04** (2013.01 - EP); **H04R 7/06** (2013.01 - KR); **H04R 17/00** (2013.01 - KR); **H04R 19/02** (2013.01 - EP KR); **H04R 31/003** (2013.01 - KR); **H04R 1/30** (2013.01 - EP); **H04R 2201/003** (2013.01 - KR); **H04R 2217/03** (2013.01 - EP KR); **H04R 2231/001** (2013.01 - KR)

Citation (applicant)

- US 11057692 B1 20210706 - LIANG JEMM YUE [US]
- US 202117553806 A 20211217
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Citation (search report)

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- [X] US 2019141435 A1 20190509 - LO CHIUNG C [US], et al
- [X] US 2016381464 A1 20161229 - ELYADA ORI [IL]
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- [X] US 2017201192 A1 20170713 - TUMPOLD DAVID [DE], et al
- [A] US 2013044904 A1 20130221 - MARGALIT MORDEHAI [IL]
- [A] US 2020100033 A1 20200326 - STOPPEL FABIAN [DE], et al

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA

Designated validation state (EPC)
KH MA MD TN

DOCDB simple family (publication)
EP 4283608 A1 20231129; EP 4283607 A1 20231129; EP 4283609 A1 20231129; EP 4283610 A1 20231129; JP 2023174647 A 20231208; KR 20230165895 A 20231205; TW 202348044 A 20231201

DOCDB simple family (application)
EP 23174735 A 20230523; EP 23174714 A 20230523; EP 23174750 A 20230523; EP 23174765 A 20230523; JP 2023086577 A 20230526; KR 20230068208 A 20230526; TW 112119231 A 20230524