

Title (en)

DEVICE FOR CREATING HAPTIC SENSATIONS ON A SURFACE USING ULTRASONIC WAVES PRODUCING ELLIPTICAL MOVEMENTS

Title (de)

VORRICHTUNG ZUM ERZEUGEN HAPTISCHER EMPFINDUNGEN AUF EINER OBERFLÄCHE MITTELS ULTRASCHALLWELLEN, DIE ELLIPTISCHE BEWEGUNGEN PRODUZIEREN

Title (fr)

DISPOSITIF POUR LA CRÉATION DE SENSATIONS HAPTQUES SUR UNE SURFACE À L'AIDE D'ONDES ULTRASONORES PRODUISANT DES MOUVEMENTS ELLIPTIQUES

Publication

**EP 4097573 A1 20221207 (FR)**

Application

**EP 21710535 A 20210129**

Priority

- FR 2000932 A 20200130
- FR 2021000006 W 20210129

Abstract (en)

[origin: WO2021152227A1] The invention relates to a touch interface comprising, on the one hand, an interfacial surface able to generate a haptic-feedback effect in response to a touch of said surface by a user, and, on the other hand, at least one piezoelectric actuator (2, 3) configured to generate, in said interfacial surface, at least one wave of ultrasonic frequency able to endow the particles of this surface with an elliptical movement having a movement component tangential to said surface, which component is denoted  $u_t(t)$ , and a movement component normal to said surface, which component is denoted  $u_n(t)$ , characterised in that said wave of ultrasonic frequency is chosen so that the amplitude  $U_t$  of the tangential component  $u_t(t)$  and the amplitude  $U_n$  of the normal component  $u_n(t)$  are substantially equal.

IPC 8 full level

**G06F 3/01** (2006.01)

CPC (source: EP KR US)

**G06F 3/016** (2013.01 - EP KR US); **G06F 3/041** (2013.01 - KR US); **G06F 2203/04105** (2013.01 - US)

Citation (search report)

See references of WO 2021152227A1

Designated contracting state (EPC)

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Designated extension state (EPC)

BA ME

Designated validation state (EPC)

KH MA MD TN

DOCDB simple family (publication)

**WO 2021152227 A1 20210805**; CN 115176217 A 20221011; EP 4097573 A1 20221207; FR 3106912 A1 20210806; JP 2023513032 A 20230330; KR 20220128368 A 20220920; US 2023075405 A1 20230309

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