

Title (en)

Handheld electronic device and keypad providing enhanced usability and reduced size, and associated method

Title (de)

Tragbare elektronische Vorrichtung und Tastatur mit verbesserter Nutzbarkeit und reduzierter Größe und zugehöriges Verfahren

Title (fr)

Dispositif électronique portable et clavier permettant un usage amélioré et une taille réduite, et procédé correspondant

Publication

EP 2019402 A1 20090128 (EN)

Application

EP 08168945 A 20050223

Priority

EP 05251030 A 20050223

Abstract (en)

An improved handheld electronic device, keypad, and method in accordance with the invention meet these and other needs. An improved handheld electronic device having an improved keypad provides enhanced usability and reduced size by organizing its keys in pairs, with a pair of keys being disposed on a support. Each key of a pair of keys is individually actuatable. An actuation of a key causes a primary conductor associated with the key set to electrically connect a pair of contacts and to cause a secondary conductor associated with the key to electrically connect another pair of contacts. The primary conductor is a collapsible dome or a tactile switch that can electrically connect the pair of contacts and that can provide a particular tactile feedback to the user. The secondary conductor is a conductor other than a collapsible dome or a tactile switch. An actuation of any key or of any pair of keys thus provides to the user a consistent tactile feedback, i.e., from a collapse of a single dome. An improved method in accordance with the invention is also disclosed.

IPC 8 full level

H01H 13/705 (2006.01); **G06F 3/023** (2006.01); **H01H 23/30** (2006.01)

CPC (source: EP)

H01H 13/705 (2013.01); **H01H 13/807** (2013.01); **H01H 23/30** (2013.01); **H01H 25/041** (2013.01); **H01H 2215/054** (2013.01); **H01H 2221/016** (2013.01); **H01H 2225/01** (2013.01)

Citation (applicant)

- US 6452588 B2 20020917 - GRIFFIN JASON T [CA], et al
- US 6489950 B1 20021203 - GRIFFIN JASON T [CA], et al

Citation (search report)

- [XY] DE 19537296 A1 19960411 - ALPS ELECTRIC CO LTD [JP]
- [Y] US 2003012368 A1 20030116 - SMALLWOOD GREGORY N [US]
- [A] US 4654488 A 19870331 - WESTFALL ALAN P [CA]
- [A] US 2001035333 A1 20011101 - TAKAHASHI KIMIYO [JP]
- [A] GB 2391110 A 20040128 - IN2TEC LTD [GB]
- [A] DE 19728260 A1 19980129 - MOTOROLA INC [US]

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA HR LV MK YU

DOCDB simple family (publication)

EP 1696448 A1 20060830; EP 1696448 B1 20081224; AT E418788 T1 20090115; AT E475192 T1 20100815; CA 2537491 A1 20060823; CA 2537491 C 20110412; CN 1862736 A 20061115; CN 1862736 B 20120208; DE 602005011926 D1 20090205; DE 602005022510 D1 20100902; EP 2019402 A1 20090128; EP 2019402 B1 20100721; SG 125237 A1 20060929

DOCDB simple family (application)

EP 05251030 A 20050223; AT 05251030 T 20050223; AT 08168945 T 20050223; CA 2537491 A 20060222; CN 200610088797 A 20060222; DE 602005011926 T 20050223; DE 602005022510 T 20050223; EP 08168945 A 20050223; SG 200601185 A 20060222