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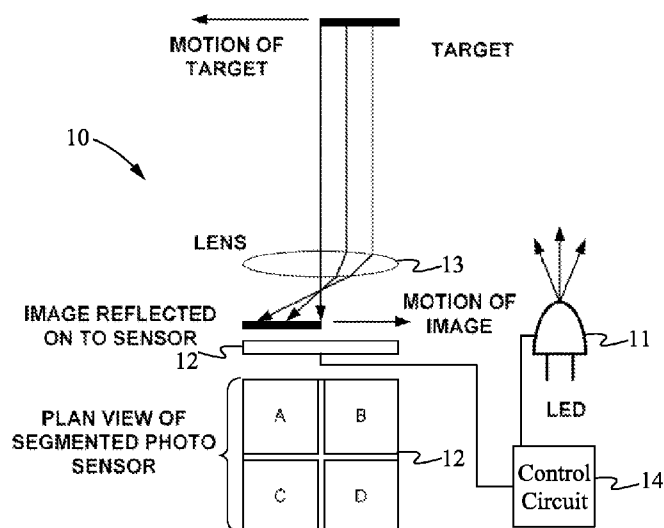
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(54) Title: METHOD FOR DETECTING GESTURES USING A MULTI-SEGMENT PHOTODIODE AND ONE OR FEWER ILLUMINATION SOURCES

**Fig. 3**

(57) Abstract: A gesture sensing device includes a multiple segmented photo sensor and a control circuit for processing sensed voltages output from the sensor. The control circuit processes the sensed voltage signals to determine target motion relative to the segmented photo sensor. The control circuit includes an algorithm configured to calculate one of more differential analog signals using the sensed voltage signals output from the segmented photo sensors. A vector is determined according to the calculated differential analog signals, the vector is used to determine a direction and/or velocity of the target motion.



GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, 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, ML, MR, NE, SN, TD, TG).

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

G06F 3/03; G09G 5/08; G01J 5/10; B01L 3/00; G01N 21/00; H01L 27/14; G01J 1/16

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: light source, light sensor, photo diode, segment, LED, gesture, motion, detecting

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	US 2008-0006762 A1 (ANTHONY FADELL et al.) 10 January 2008 See abstract; paragraphs [0169],[0174]; and claims 1,24,33.	1,3-4 2,5-36
Y A	US 2010-0255600 A1 (FARR ISAAC et al.) 07 October 2010 See abstract; paragraphs [0009],[0012],[0013]; claim 1; and figures 2-4.	19-22,24 1-18,23,25-36
Y A	US 2007-0146318 A1 (SUNG CHUL JUH et al.) 28 June 2007 See abstract; paragraph [0020]; and claim 1.	19-22,24 1-18,23,25-36
A	US 2010-0102230 A1 (CHANG TOM et al.) 29 April 2010 See abstract; paragraphs [0027]-[0034]; claims 1-12; and figures 2-7.	1-36



Further documents are listed in the continuation of Box C.



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