

(43) International Publication Date  
22 July 2010 (22.07.2010)(10) International Publication Number  
**WO 2010/082823 A3**(51) International Patent Classification:  
*H01Q 1/22* (2006.01)(21) International Application Number:  
PCT/NL2010/050019(22) International Filing Date:  
15 January 2010 (15.01.2010)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
09150803.6 16 January 2009 (16.01.2009) EP(71) Applicant (for all designated States except US): **SERIOUS TOYS B.V.** [NL/NL]; Kooikersweg 2, NL-5223 KA 's-Hertogenbosch (NL).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **FONTIJN, Wilhelmus Johannes Franciscus** [NL/NL]; Frankrijkstraat 114, NL-5622 AH Eindhoven (NL). **VAN ROSSEM, Willem Bastiaan** [NL/NL]; Wethouder van Santestraat 16, NL-5665 SB Geldrop (NL).(74) Agent: **HATZMANN, M.J.**; Vereenigde, Johan de Wittlaan 7, NL-2517 JR Den Haag (NL).

(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, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (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, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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:  
16 September 2010

(54) Title: SYSTEM FOR DETECTING A POSITION OF AN OBJECT IN A PLANE

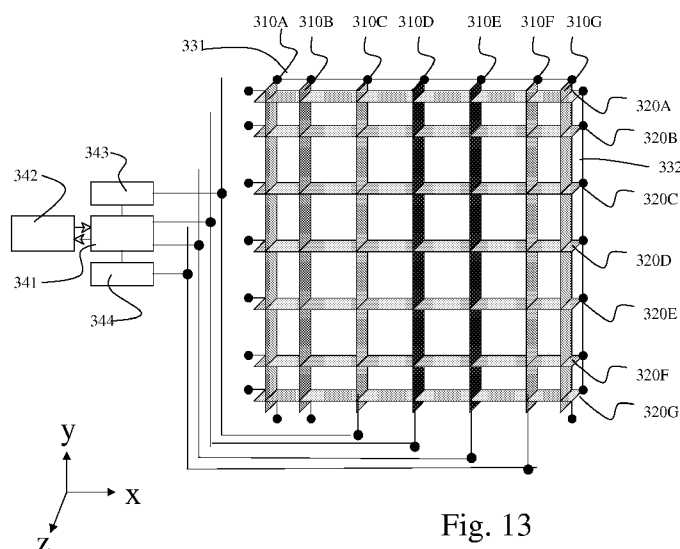


Fig. 13

(57) Abstract: The system for detecting a position of an object in a plane (2), comprises in an operational state - at least one antenna loop (10D+10E) aligned with the plane (2), - an RF signal generator (41) for activating the antenna loop. The antenna loop has at least one antenna element (10D, 10E) with a cross-diameter (H) in a direction transverse to the plane that is larger than a cross-diameter (D) in a direction aligned with the plane. Alternatively or in addition the system for detecting a position of an object in a plane comprises in an operational state - at least a first antenna loop (210D+210E), - at least a second antenna loop (210C+210F), that extends at least partially outside the first antenna loop, - an RF-signal generator (241) for providing the first antenna loop with an RF signal, - an facility (243, 244) for providing the second antenna loop with an RF signal that is in phase with that of the RF-signal in the first antenna loop.

# INTERNATIONAL SEARCH REPORT

International application No  
PCT/NL2010/050019

## A. CLASSIFICATION OF SUBJECT MATTER

INV. H01Q1/22

ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

H01Q

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

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

EPO-Internal, WPI Data, PAJ, COMPENDEX, INSPEC

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2006/214864 A1 (RAHIM MUHAMMAD R [US]) 28 September 2006 (2006-09-28)	1-3, 5-7, 9
A	* abstract; figures 3, 9, 14 column 8, lines 39-67	4, 8, 10-12
A	US 6 703 935 B1 (CHUNG KEVIN KWONG-TAI [US] ET AL) 9 March 2004 (2004-03-09) * abstract; figures 1-7	1, 6
A	US 6 024 585 A (MICKIEVICZ SCOTT KEITH [US] ET AL) 15 February 2000 (2000-02-15) * abstract; figures 1-6	4, 10

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

\* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

14 July 2010

Date of mailing of the international search report

26/07/2010

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040.  
Fax: (+31-70) 340-3016

Authorized officer

Cordeiro, J

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/NL2010/050019

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2006214864	A1	28-09-2006	CA 2605787 A1 28-09-2006
			EP 1872438 A2 02-01-2008
			US 2008100527 A1 01-05-2008
			WO 2006102135 A2 28-09-2006
US 6703935	B1	09-03-2004	NONE
US 6024585	A	15-02-2000	NONE