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12/178,049 23 July 2008 (23.07.2008) US(71) Applicants (for all designated States except US): **SONY CORPORATION** [JP/JP]; 1-7-1 Konan, Tokyo, Minato-ku, 108-0075 (JP). **SONY ELECTRONICS INC.** [US/US]; 1 Sony Drive, Park Ridge, NJ 07656 (US).

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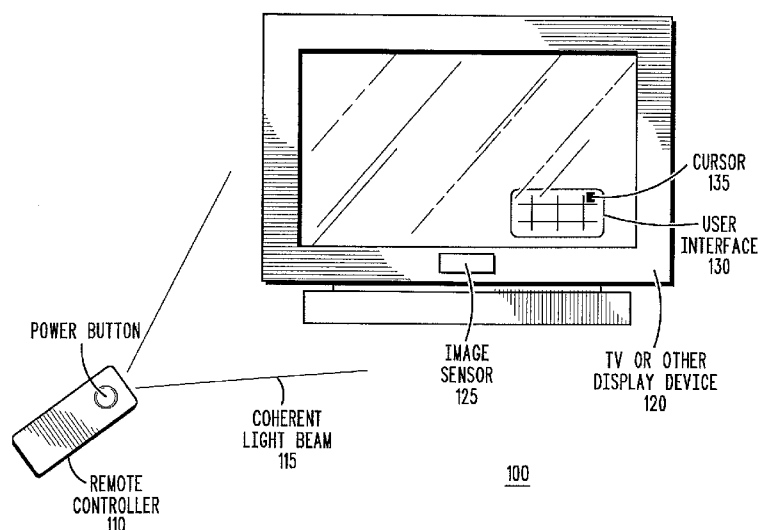
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Published:

- 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))

[Continued on next page]

(54) Title: MAPPING DETECTED MOVEMENT OF AN INTERFERENCE PATTERN OF A COHERENT LIGHT BEAM TO CURSOR MOVEMENT TO EFFECT NAVIGATION OF A USER INTERFACE

**FIG. 1**

(57) Abstract: A method, system and apparatus provide that movement of an interference pattern of a coherent light beam is mapped to cursor movement to effect navigation of a user interface. A remote controller operable to emit a coherent light beam is in cooperative arrangement with a display device operable to display a user interface, navigable by means of a cursor. A laser diode element and coupled diffuser element of the remote controller generate the coherent light beam. Movement of the remote controller causes movement of an interference pattern of the coherent light beam impinging upon a sensor of the display device; movement of the interference pattern is sensed by the display device and mapped to corresponding movement of the cursor in the user interface. Thus, the remote controller may be used to navigate an on-screen user interface by movement of the remote controller itself.



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22 April 2010

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2009/050052**A. CLASSIFICATION OF SUBJECT MATTER*****H04N 5/44(2006.01)i, H04Q 9/00(2006.01)i***

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)

H04N 5/44; G08C 19/00; G09G 5/08; H01J 40/14

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

(Chinese Patents and application for patent)

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

eKOMPASS(KIPO internal) & Keywords: interference pattern, sensor, cursor, map

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5554980 A1 (HASHIMOTO; KOOSUKE et al.) 10 September 1996 See abstract, claims 1-2 and FIGS. 1, 4.	1-11
A	US 2004-0095317 A1 (JINGXI ZHANG et al.) 20 May 2004 See abstract, claims 1, 2 and FIGS. 1, 4a-4b.	1-11
A	US 6130664 A1 (SUZUKI; KATSUTOSHI) 10 October 2000 See abstract, claim 1 and FIG. 1.	1-11
A	US 2005-0258346 A1 (DAVID LEHOTY et al.) 24 November 2005 See abstract, paragraphs [0011]-[0014], claims 1, 7 and FIG. 3.	1-11

☐ 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 application or patent 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 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

23 FEBRUARY 2010 (23.02.2010)

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24 FEBRUARY 2010 (24.02.2010)

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2009/050052**Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)**

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.: 12-20
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

Claim 9 relate to a remote controller, but claims 12-20 dependent on claim 9 relates to a system. (For your reference, claims 5-8 and 10-11 also relate to a system.) As claims 12-20 do not clearly define the matter for which protection is sought, those claims do not meet the requirement of PCT Article 6.
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2009/050052

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