

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2019/046575

A. CLASSIFICATION OF SUBJECT MATTER
 Int. Cl. G02F1/1335(2006.01) i, G02F1/13357(2006.01) i, G09F9/00(2006.01) i, G09F9/35(2006.01) i
 FI: G02F1/1335, G02F1/13357, G09F9/00 336B, G09F9/35
 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)
 Int. Cl. G02F1/1335, G02F1/13357, G09F9/00, G09F9/35

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
 Published examined utility model applications of Japan 1922-1996
 Published unexamined utility model applications of Japan 1971-2020
 Registered utility model specifications of Japan 1996-2020
 Published registered utility model applications of Japan 1994-2020

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JP 2000-147494 A (NIPPON TELEGRAPH AND TELEPHONE CORP.) 26 May 2000, paragraphs [0040]-[0197], fig. 3-23, paragraphs [0040]-[0197], fig. 3-23	1, 2, 4
Y	JP 2011-119210 A (SONY CORP.) 16 June 2011, paragraph [0020], fig. 1	1-4, 8, 9
A	JP 2002-311410 A (RICOH CO., LTD.) 23 October 2002, paragraphs [0029]-[0100], fig. 1-19	5-7
Y	JP 7-509072 A (ROCKWELL, III, MARSHALL A.) 05 October 1995, page 7, lower right column, line 6 to page 8, upper left column, line 27, fig. 6	3
Y		1-4, 8, 9
Y		9

Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:
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 "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
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Name and mailing address of the ISA/
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INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/JP2019/046575

Patent Documents referred to in the Report	Publication Date	Patent Family	Publication Date
JP 2000-147494 A	26.05.2000	US 2004/0095524 A1 paragraphs [0118]- [0295], fig. 3-23 EP 977077 A2	
JP 2011-119210 A	16.06.2011	US 2011/0109663 A1 paragraph [0051], fig. 1 CN 102072437 A	
JP 2002-311410 A	23.10.2002	(Family: none)	
JP 7-509072 A	05.10.1995	US 5748825 A column 12, line 49 to column 13, line 40, fig. 6	