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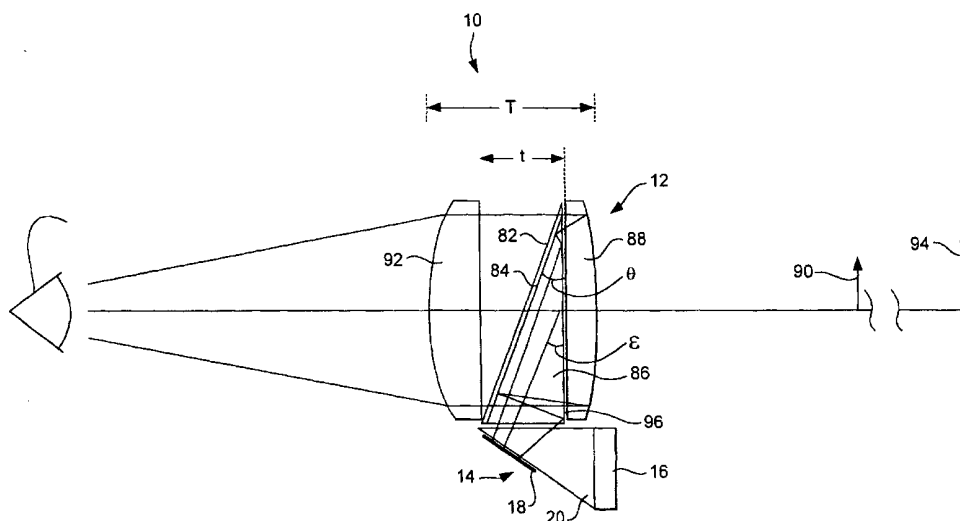
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09/394,014 10 September 1999 (10.09.1999) US
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- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): CURLEY, Michael, J. [US/US]; 450 Franklin Street, Mountain View, CA
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: DISPLAY ILLUMINATION SYSTEM



(57) Abstract: A virtual image display system is provided which comprises a non-emissive, reflective microdisplay (18) which forms a source object; an optical system which forms a magnified, virtual image of the source object from light reflected off the microdisplay; a light source system (16) which produces light to illuminate the display system; and an illumination system which forms at least two virtual light sources to illuminate the display system.



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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 00/23014

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 G02B17/04

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)
 IPC 7 G02B

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)
 PAJ, EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A X X	<p>EP 0 520 340 A (YAZAKI) 30 December 1992 (1992-12-30) column 2, line 27 - line 41; figure 1</p> <p style="text-align: center;">---</p> <p>"HUD Turn Signal Reminder" RESEARCH DISCLOSURE, July 1989 (1989-07), page 499 XP000045811 the whole document</p> <p style="text-align: center;">---</p> <p>US 5 671 994 A (TAI ET AL) 30 September 1997 (1997-09-30) column 3, line 39 - column 4, line 49; figure 1 column 4, line 15 - line 29 column 6, line 8 - line 25; figure 2A</p> <p style="text-align: center;">---</p> <p style="text-align: center;">-/--</p>	<p>1-6,20</p> <p>9</p> <p>1,7,8</p> <p>20-29</p>

Further documents are listed in the continuation of box C.

Patent family members are listed in 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

11 December 2000

Date of mailing of the international search report

08. 06. 2001

Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

International Application No

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>WO 96 36898 A (CHEN) 21 November 1996 (1996-11-21) page 15, line 23 - line 33; figure 8</p> <p>---</p>	1,20
A	<p>PATENT ABSTRACTS OF JAPAN vol. 017, no. 320 (P-1558), 17 June 1993 (1993-06-17) & JP 05 034629 A (PIONEER ELECTRON CORP), 12 February 1993 (1993-02-12) abstract</p> <p>---</p>	10
A	<p>FR 2 693 004 A (THOMSON-CSF) 31 December 1993 (1993-12-31) abstract; figure 5 page 2, line 3 - line 6</p> <p>---</p>	10
A	<p>US 5 905 478 A (HILDEBRAND) 18 May 1999 (1999-05-18) cited in the application column 13, line 6 -column 14, line 5; figures 7,8,9,10A</p> <p>---</p>	
A	<p>US 5 684 497 A (HILDEBRAND) 4 November 1997 (1997-11-04) cited in the application column 13, line 9 - line 26; figure 12</p> <p>---</p>	
A	<p>US 5 625 372 A (HILDEBRAND) 29 April 1997 (1997-04-29) cited in the application column 12, line 62 -column 13, line 8; figure 8</p> <p>---</p>	
A	<p>US 5 892 624 A (KINTZ) 6 April 1999 (1999-04-06) cited in the application column 5, line 59 -column 6, line 12; figures 1-3,7,10 column 6, line 42 - line 55</p> <p>---</p>	
A	<p>US 5 771 124 A (KINTZ) 23 June 1998 (1998-06-23) cited in the application column 5, line 40 -column 6, line 11; figure 1</p> <p>-----</p>	

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 00/23014

Box I Observations where certain claims were found unsearchable (Continuation of item 1 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.:
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:

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 II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

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

see additional sheet

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.:

1-13,20-29

Remark on Protest

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-13,20-29

system which forms at least two virtual image sources

2. Claims: 14-19

microdisplay illuminated over a wide angular range

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 00/23014

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Information on patent family members

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