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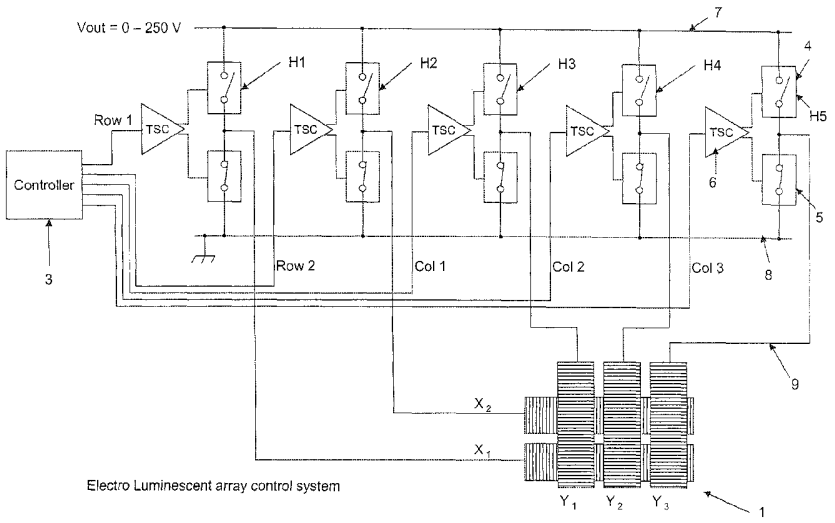
— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

[Continued on next page]

(54) Title: CONTROL OF AN ELECTROLUMINESCENT DISPLAY MATRIX



(57) Abstract: An electoluminescent display 1 with a plurality of display elements arranged in rows X and columns Y to form a matrix. Each element is connected to a rowconductor associated with its respective row and to a column-conductor associated with its respective column such that the element may be illuminated by applying a voltage across the conductors. The display further comprises a driver comprising a half H-bridges H1 etc. which are controlled by controller (3) so as sequentially to supply drive voltages from rail (7) Full drive voltage is supplied to a row-conductor of a row that is to be driven and one third drive voltage is supplied to the remaining row-conductors. The column-conductor(s) associated with the elements to be illuminated are grounded. Two thirds voltage is applied to the conductors associated with the remainder of the columns.

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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.

INTERNATIONAL SEARCH REPORT

International Application No
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A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G09G3/32

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 G09G

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, PAJ, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	US 4 652 872 A (FUJITA YUJI) 24 March 1987 (1987-03-24) column 4, line 47 - column 5, line 38; figures 1-3 column 6, line 38 - column 7, line 59; figures 5-8	1-5,7, 10-14,16 6,8,9
Y	WO 00/51103 A (COLORADO MICRODISPLAY INC) 31 August 2000 (2000-08-31) page 10, paragraph 3 - page 15, paragraph 2; figures 3-8 page 17, paragraph 2 - page 18, paragraph 1; figures 12,13	6,8,9
X Y	US 6 351 076 B1 (YOSHIDA TAKAYOSHI ET AL) 26 February 2002 (2002-02-26) column 18, line 44 - column 20, line 25; figures 14,15	1-5,7, 10-14,16 6,8,9

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[X] Further documents are listed in the continuation of box C.

[X] 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

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"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

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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
3 December 2004	27 01 2005

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016	Morris, D

Form PCT/ISA/210 (second sheet) (January 2004)

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PATENT ABSTRACTS OF JAPAN vol. 1995, no. 01, 28 February 1995 (1995-02-28) -& JP 06 301355 A (TOPPAN PRINTING CO LTD), 28 October 1994 (1994-10-28)	1-5,7, 10-14,16
Y	abstract paragraph '0012! - paragraph '0020!; figures 7,8 paragraph '0024! - paragraph '0026! paragraph '0040! - paragraph '0046!; figure 2	6,8,9
A	US 4 823 121 A (OHBA TOSHIHIRO ET AL) 18 April 1989 (1989-04-18) column 1, line 52 - column 2, line 51; figure 2 column 3, line 37 - column 3, line 61; figure 3 column 8, line 62 - column 9, line 8; figure 5 column 10, line 12 - column 10, line 56; figure 8	2-5,7, 14,16

INTERNATIONAL SEARCH REPORT

International application No.
PCT/GB2004/003374

Box 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.:
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 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:

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.:

see annex

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: 1-14,16

An electroluminescent display having a driver arranged to sequentially supply first through third drive voltages to rows and columns of the display matrix.
No mention is made of the type of power supply which supplies the first through third voltages.

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2. claim: Independent claim 15

A power supply for an electroluminescent matrix display capable of supplying drive voltages.
No mention is made as to the sequence in regard to how these drive voltages are applied to rows and columns of the display.

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3. claim: Independent claim 17

A method of driving an electroluminescent display in which the display elements are divided into four groups, and driving of the groups of display elements is dependent upon those groups which have the greater charge requirement.
No mention is made of how these charges are generated, nor is mention made with regard to the sequence with which the driver must supply drive voltages to the rows and columns of the display matrix.

INTERNATIONAL SEARCH REPORT

International Application No
T/GB2004/003374

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