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(54) **Light emitting display and driving device and method thereof**

(57) A driving device for a light emitting display, which includes a plurality of scan lines for transferring a selection signal, comprises: a first driver for shifting a first signal having a first integer multiple of first pulses by a first period, and sequentially outputting the first signal; a second driver for shifting a second signal having a second pulse by a second period, and sequentially outputting the

second signal; and a third driver for sequentially outputting the selection signal having a second integer multiple of third pulses corresponding to at least one of the first integer multiple of first pulses, and a fourth pulse corresponding to the second pulse, in response to the first signal and the second signal.

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European Patent Office

PARTIAL EUROPEAN SEARCH REPORT

Application Number

which under Rule 45 of the European Patent Convention EP 05 10 5436 shall be considered, for the purposes of subsequent proceedings, as the European search report

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 6 417 830 B1 (BYEON, II JAE) 9 July 2002 (2002-07-09) * column 2, paragraph 1; claim 1 * * column 3, line 24 - column 4, line 31; figures 3,4,6 *	1,9	G09G3/32
X	----- EP 1 061 497 A (SONY CORPORATION) 20 December 2000 (2000-12-20) * paragraphs [0051], [0052]; figures 8,9 *	9	
X	----- EP 1 424 674 A (MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD) 2 June 2004 (2004-06-02) * paragraphs [0255] - [0269], [0276], [0279]; figures 6,31 *	9	
A	-----	1,16,20,24	
TECHNICAL FIELDS SEARCHED (IPC)			
G09G H03K			
INCOMPLETE SEARCH			
<p>The Search Division considers that the present application, or one or more of its claims, does/do not comply with the EPC to such an extent that a meaningful search into the state of the art cannot be carried out, or can only be carried out partially, for these claims.</p> <p>Claims searched completely :</p> <p>Claims searched incompletely :</p> <p>Claims not searched :</p> <p>Reason for the limitation of the search: see sheet C</p>			
Place of search		Date of completion of the search	Examiner
The Hague		5 December 2005	Amian, D
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons</p> <p>..... & : member of the same patent family, corresponding document</p>			

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EPO FORM 1503 03 82 (P04C07)



Claim(s) searched incompletely:
1-7, 9-15, 20-26

Claim(s) not searched:
8, 16-19

Reason for the limitation of the search:

The application relates to the generation of a plurality of select pulses to each of a plurality of scan lines of a matrix display. In all of the embodiments the output signals of two or more shift registers are logically combined to generate the selection signals for the scan lines.

The subject-matter of claim 16 is substantially unclear (Art. 84 EPC). According to lines 20-22 of the claim it appears that the output signal is based on the first pulse and on itself (reference to third signal in line 22). Such a recursive system could not be identified in and thus clarified through the use of the description. Claims 8 and 17-19 depend on claim 16. A meaningful search for these claims (16, 8, 17-19) was not possible.

In the independent claims 9, 20 and 24 parts of the circuits disclosed in the embodiments of the application are claimed. The scope of those claims therefore encompasses not only completely different circuits but those circuits could have a substantially different use (claims broader than supported by the description, Article 84 EPC). Not one such alternative is mentioned in the description. Those claims are therefore not commensurate with the disclosure of the application. Due to the broad scope of those claims a meaningful search over the whole scope of the claims was not possible. Claims 10-15, 21-23, 25 and 26 depend on one of claims 9, 20 and 24 and were also not fully searched.

It appears that the search should be complete for the subject-matter of claim 1 which would then automatically include claims 2 - 7. Due to some minor clarity issues in claim 1 and more important ones in claims 2 and 7 some doubt regarding the completeness of the search with regards to claims 1 - 7 remains.

Extent of the search:

The search covered scan drivers for matrix displays which provide a sequence of select pulses to each scan line (during one frame). In this broad context the search was focused on:

- a) systems where at least some of the pulses lead to the simultaneous selection of plural scan lines;
- and
- b) scan drivers where the output signals of two or more shift registers are logically combined to generate the selection signals for the scan lines.

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 05 10 5436

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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05-12-2005

Patent document cited in search report	Publication date	Patent family member(s)	Publication date	
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EP 1424674	A	02-06-2004	CN 1552050 A WO 03023750 A1 US 2005041002 A1	01-12-2004 20-03-2003 24-02-2005

专利名称(译)	发光显示器及其驱动装置和方法		
公开(公告)号	EP1610293A3	公开(公告)日	2006-03-01
申请号	EP2005105436	申请日	2005-06-21
[标]申请(专利权)人(译)	三星斯笛爱股份有限公司		
申请(专利权)人(译)	三星SDI CO., LTD.		
当前申请(专利权)人(译)	三星SDI CO., LTD.		
发明人	SHIN, DONG-YONG, LEGAL & IP TEAM, SAMSUNG SDI LTD		
IPC分类号	G09G3/32 G09G3/20 G09G3/30 G11C19/00		
CPC分类号	G09G3/325 G09G3/3266 G09G2300/0842 G09G2300/0861 G09G2310/0251 G11C19/00 G11C19/28		
代理机构(译)	hengelhaupt, Jürgen		
优先权	1020040048154 2004-06-25 KR 1020040048152 2004-06-25 KR 1020040048153 2004-06-25 KR		
其他公开文献	EP1610293B1 EP1610293A2		
外部链接	Espacenet		

摘要(译)

一种用于发光显示器的驱动装置，包括用于传输选择信号的多条扫描线，包括：第一驱动器，用于将具有第一整数倍的第一脉冲的第一信号移位第一周期，并依次输出第一驱动器信号；第二驱动器，用于将具有第二脉冲的第二信号移位第二周期，并顺序输出第二信号；第三驱动器，用于响应于第一信号和顺序输出具有与第一脉冲的第一整数倍中的至少一个相对应的第三整数倍的第二整数倍的选择信号，以及与第二脉冲相对应的第四脉冲。第二个信号。

European Patent Office PARTIAL EUROPEAN SEARCH REPORT Application Number EP 05 10 5436

which under Rule 45 of the European Patent Convention shall be considered, for the purposes of subsequent proceedings, as the European search report

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 6 417 830 B1 (BYEON, II JAE) 9 July 2002 (2002-07-09) * column 5, paragraph 1; claim 1 * * column 3, line 24 - column 4, line 31; figures 3,4,6 *	1,9	G09G3/32
X	EP 1 061 497 A (SONY CORPORATION) 20 December 2000 (2000-12-20) * paragraphs [0051], [0052]; figures 8,9 *	9	
X	EP 1 424 674 A (HATSUSHITA ELECTRIC INDUSTRIAL CO., LTD) 2 June 2004 (2004-06-02) * paragraphs [0255] - [0269], [0276], [0279]; figures 6,31 *	9	
A		1,16,20,24	

TECHNICAL FIELD OF THE INVENTION (IPC)
G09G
H03K

INCOMPLETE SEARCH
The Search Division certifies that the present application, or one or more of its claims, does/do not comply with the EPC to such an extent that a meaningful search into the state of the art cannot be carried out, or can only be carried out partially, for the reasons stated.

Claims searched incompletely:
Claims not searched:
Reason for the limitation of the search:
see sheet C

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Date of issue	Date of completion of the search	Examiner
The Hague	5 December 2005	Amian, D

CATEGORY OF CITED DOCUMENTS

X particularly relevant if taken alone
Y document of interest to examiner with another search
A document cited by applicant
W both written and oral
P intermediate document

1. priority or parent document, the invention
2. related prior art document, not published on, or
3. other filing date
L. document cited for other reasons
K. member of the same patent family, corresponding document