



EUROPEAN SEARCH REPORT

Application Number
EP 16 20 1677

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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	EP 1 653 434 A1 (SAMSUNG SDI CO LTD [KR]) 3 May 2006 (2006-05-03)	1	INV. G09G3/3266 G09G3/3233 G09G3/3275	
Y	* paragraphs [0065] - [0073], [0086] -	1-8,14		
A	[0122]; figures 8,9,12-15 *	9-13		

X	US 2013/314308 A1 (HSU WEI-CHU [TW] ET AL) 28 November 2013 (2013-11-28)	1-3		
Y	* paragraphs [0060] - [0066], [0068] -	1-8,14		
A	[0070]; figures 4,6,7 *	9-13	TECHNICAL FIELDS SEARCHED (IPC) G09G	

Y	KR 2015 0069773 A (LG DISPLAY CO LTD [KR]) 24 June 2015 (2015-06-24)	1-8,14		
A	* paragraphs [0045] - [0125]; figures 3-6b *	9-13		

A	EP 1 965 370 A2 (SAMSUNG SDI CO LTD [KR]) 3 September 2008 (2008-09-03) * figures 1-4 *	1,9-13		

A	US 2015/109018 A1 (MA MOUXING [CN] ET AL) 23 April 2015 (2015-04-23) * figures 2-7 *	15		

The present search report has been drawn up for all claims				
Place of search Munich		Date of completion of the search 27 June 2017		Examiner Giancane, Iacopo
CATEGORY OF CITED DOCUMENTS 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 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 & : member of the same patent family, corresponding document				

EPO FORM 1503 03/02 (P04C01)



Application Number

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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).



**LACK OF UNITY OF INVENTION
SHEET B**

Application Number

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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-3

An organic light emitting unit having an emission control line in common between adjacent horizontal lines (j-th, j+1-th) of pixels, in which an emission period of the pixels of the j-th line overlaps at least a portion of a sampling period of the pixels of the (j+1)-th line.

2. claims: 4, 14

An organic light emitting unit having an emission control line in common between adjacent horizontal lines (j-th, j+1-th) of pixels, wherein the pixels (P_j, P_{j+1}) of the adjacent lines are supplied with a reference voltage in response to the emission control signal during an initialization period before the sampling period.

3. claims: 5-8

An organic light emitting unit having an emission control line in common between adjacent horizontal lines (j-th, j+1-th) of pixels, wherein each pixels (P_j, P_{j+1}) includes a driving transistor, a first transistor (T₁), a second transistor (T₂), a third transistor (T₃), a fourth transistor (T₄), a storage capacitor (C_{st}), a fifth transistor (T₅) connected in the way depicted in application figure 2.

4. claims: 9-13

An organic light emitting unit having an emission control line in common between adjacent horizontal lines (j-th, j+1-th) of pixels, wherein the first scan signal stages receive a first scan clock (MCLK1) and output the first scan signal in synchronization with a timing of the first scan clock (MCLK1), and the second scan signal stages receive a second scan clock (MCLK2) and output the second scan signal in synchronization with a timing of the second scan clock (MCLK2).

5. claim: 15

An organic light emitting unit having an emission control line in common between adjacent horizontal lines (j-th, j+1-th) of pixels, wherein the first scan signal stages are alternately disposed on left and right sides of the display area, in which the pixels are disposed, and wherein the



**LACK OF UNITY OF INVENTION
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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

second scan signal stages are alternately disposed on right and left sides of the display area, on which the first scan signal stages are not disposed.

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

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5 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
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

27-06-2017

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		DE 102014207420 A1	23-04-2015
		US 2015109018 A1	23-04-2015

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

专利名称(译)	有机发光二极管显示器		
公开(公告)号	EP3176773A3	公开(公告)日	2017-08-09
申请号	EP2016201677	申请日	2016-12-01
[标]申请(专利权)人(译)	乐金显示有限公司		
申请(专利权)人(译)	LG DISPLAY CO. , LTD.		
当前申请(专利权)人(译)	LG DISPLAY CO. , LTD.		
[标]发明人	KIM DAEKU KWANG HEEKWANG LEE CHOOGHOON JUNG YOONJOON		
发明人	KIM, DAEKU KWANG, HEEKWANG LEE, CHOOGHOON JUNG, YOONJOON		
IPC分类号	G09G3/3266 G09G3/3233 G09G3/3275		
优先权	1020150169907 2015-12-01 KR		
其他公开文献	EP3176773B1 EP3176773A2		
外部链接	Espacenet		

摘要(译)

讨论了有机发光二极管显示器。有机发光二极管显示器包括显示区域，其中第一扫描线，第二扫描线和发射线设置为与数据线交叉，像素以矩阵布置，数据驱动器向数据线提供数据电压移位寄存器，向第一扫描线提供第一扫描信号，向第二扫描线提供第二扫描信号，以及向发射线提供发射控制信号。移位寄存器包括：第一扫描信号级，顺序地将第一扫描信号提供给布置在两个相邻水平线上的像素；第二扫描信号级，顺序地将第二扫描信号提供给像素；以及发射控制信号级，同时提供发射控制信号，像素。

FIG. 3

