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# (54) ELECTROLUMINESCENT DISPLAY AND DRIVING DEVICE THEREOF

(57) An electroluminescent display and a driving device of the electroluminescent display are disclosed. The electroluminescent display includes first and second active areas divided from a screen, a first timing controller configured to transmit pixel data of the first active area to be displayed on the first active area to a first driving circuit writing pixel data to pixels of the first active area, a second timing controller configured to transmit pixel data of the second active area to be displayed on the second active area to a second driving circuit writing pixel data to pixels of the second active area, and a bridge circuit configured to distribute an input image to the first and second timing controllers and synchronize the first and second timing controllers when receiving a synchronization request signal from the first and second timing controllers.

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# EUROPEAN SEARCH REPORT

Application Number
EP 17 20 6266

## 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 | KR 2016 0061537 A (LG DISPLAY CO LTD [KR]) 1 June 2016 (2016-06-01) | 1,2,4-8 | INV. G09G3/3233 |
| Y | * paragraphs [0011] - [0015], [0017], | 3,12-14 | |
| A | [0023] - [0031]; figures 1-6 * | 9-11,15 | |
| X | US 2016/155421 A1 (HAN DONG-HEON [KR] ET AL) 2 June 2016 (2016-06-02) * paragraphs [0008], [0025] - [0030], [0148] - [0172]; figures 13-15 * | 1,4,6-8 | |
| Y | US 2016/189595 A1 (CHOI HYUNIL [KR] ET AL) 30 June 2016 (2016-06-30) * paragraphs [0064] - [0068], [0072] - [0075], [0079] - [0084], [0092] - [0096], [0124], [0128] - [0132], [0147] - [0151]; figures 1-7 * | 3,12,13 | |
| Y | US 2013/027383 A1 (ODAWARA RIE [JP] ET AL) 31 January 2013 (2013-01-31) * paragraphs [0017] - [0018], [0094], [0095], [0098], [0112] - [0116], [0119]; figures 1,3,4 * | 3,12,13 | |
| Y | US 2010/302214 A1 (KIM YONG-BUM [KR] ET AL) 2 December 2010 (2010-12-02) | 14 | |
| A | * paragraphs [0067] - [0088]; figures 1,4,5,6,7 * | 15 | |
| Y | US 2015/340013 A1 (LEE KI-SEOB [KR] ET AL) 26 November 2015 (2015-11-26) | 14 | |
| A | * paragraphs [0049], [0066] - [0068], [0071]; figure 4 * | 15 | |

TECHNICAL FIELDS SEARCHED (IPC)
G09G

The present search report has been drawn up for all claims

| Place of search | Date of completion of the search | Examiner |
|---|---|---|
| Munich | 6 July 2018 | Taron, Laurent |

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

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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).

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## 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, 2, 4-11

   synchronized sensing of pixel driving characteristics in an electroluminescent display having plural timing controllers

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2. claims: 3, 12, 13

   transmission of compensation values determined by an external device into memories of an electroluminescent display having plural timing controllers

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3. claims: 14, 15

   generation of an external clock signal in a display device having plural timing controllers

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## ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 17 20 6266

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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06-07-2018

| Patent document cited in search report | Publication date | Patent family member(s) | Publication date |
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EPO FORM P0459

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

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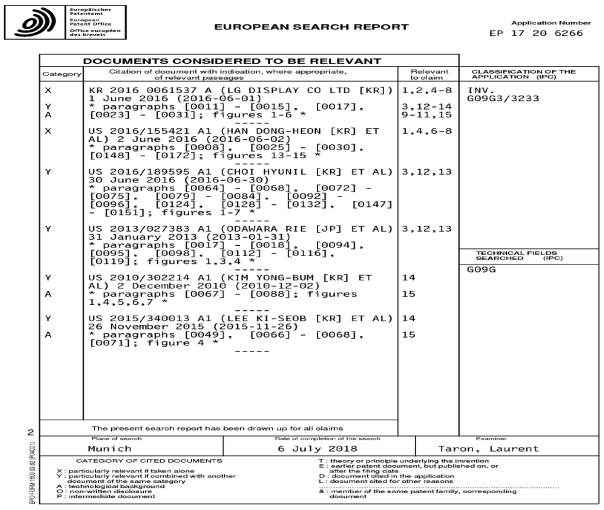
|---|---|---|---|
| 专利名称(译) | 电致发光显示器及其驱动装置 | | |
| 公开(公告)号 | EP3343555A3 | 公开(公告)日 | 2018-08-15 |
| 申请号 | EP2017206266 | 申请日 | 2017-12-08 |
| [标]申请(专利权)人(译) | 乐金显示有限公司 | | |
| 申请(专利权)人(译) | LG DISPLAY CO. , LTD. | | |
| 当前申请(专利权)人(译) | LG DISPLAY CO. , LTD. | | |
| [标]发明人 | KIM TAEGUNG<br>KIM KYUNGROK<br>LEE BYUNGJAE | | |
| 发明人 | KIM, TAEGUNG<br>KIM, KYUNGROK<br>LEE, BYUNGJAE | | |
| IPC分类号 | G09G3/3233 | | |
| CPC分类号 | G09G3/3225 G09G3/3233 G09G2310/0221 G09G2320/0285 G09G2320/045 G09G2360/04 G09G2370/08 G09G3/2018 G09G3/3266 G09G3/3275 G09G2310/0291 G09G2310/08 G09G2320/0233 | | |
| 优先权 | 1020160181608 2016-12-28 KR | | |
| 其他公开文献 | EP3343555A2 | | |
| 外部链接 | Espacenet | | |


摘要(译)

公开了一种电致发光显示器和电致发光显示器的驱动装置。电致发光显示器包括从屏幕划分的第一和第二有源区域，第一时序控制器，被配置为将要在第一有源区域上显示的第一有源区域的像素数据发送到第一驱动电路，将像素数据写入第一有源像素区域，第二时序控制器，配置为将要在第二有源区域上显示的第二有源区域的像素数据发送到第二驱动电路，将像素数据写入第二有源区域的像素，以及桥接电路，配置为分配输入图像当从第一和第二定时控制器接收同步请求信号时，第一和第二定时控制器同步第一和第二定时控制器。

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| A | * paragraphs [0067] - [0088]; figures 1,4,5,6,7 * | 15 | |
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