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## EUROPEAN PATENT APPLICATION

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#### (54) Amoled display with optical feedback compensation

(57) In one aspect, the present invention relates to a display. In one embodiment, the display has a substrate, and a plurality of pixels formed on the substrate and arranged in an array. Each pixel includes a driving transistor and a read-out transistor spatially formed on the substrate, where each transistor has a gate electrode, a drain electrode and a source electrode, an organic light emitting diode (OLED) having a cathode layer, an anode layer

and an emissive layer formed between the cathode layer and the anode layer, and formed over the driving transistor and the read-out transistor such that the anode layer of the OLED is electrically connected to the source electrode of the driving transistor, and a photo sensor having a photosensitive layer formed between the anode layer of the OLED and the source electrode of the read-out transistor.

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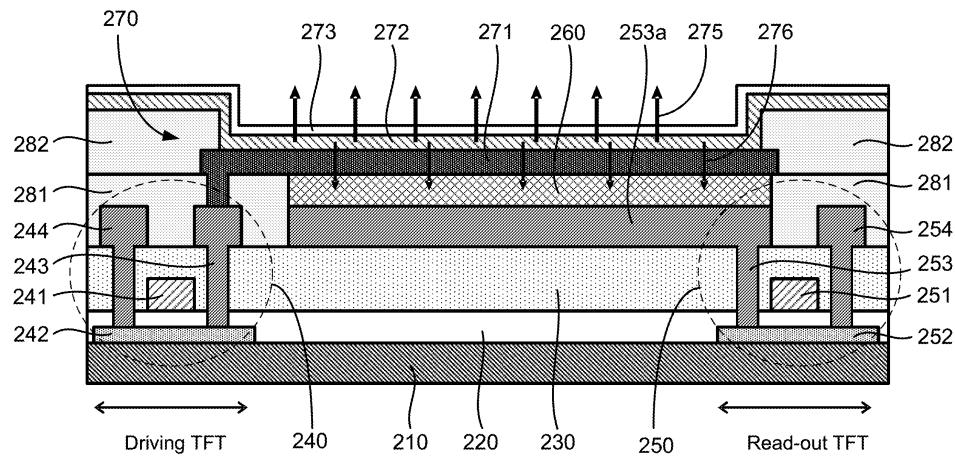


Fig. 2



## PARTIAL EUROPEAN SEARCH REPORT

Application Number

EP 10 17 2977

under Rule 62a and/or 63 of the European Patent Convention.  
 This report shall be considered, for the purposes of  
 subsequent proceedings, as the European search report

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (IPC)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
Y	US 2001/028060 A1 (YAMAZAKI SHUNPEI [JP] ET AL) 11 October 2001 (2001-10-11) * paragraph [0063] - paragraph [0071] * * paragraph [0209] - paragraph [0245] * * figures 3,13,14 *	3,10-14	INV. H01L27/32
Y	XUE JIANGENG ET AL: "Organic optical bistable switch", APPLIED PHYSICS LETTERS, AIP, AMERICAN INSTITUTE OF PHYSICS, MELVILLE, NY, US, vol. 82, no. 1, 6 January 2003 (2003-01-06), pages 136-138, XP012033419, ISSN: 0003-6951, DOI: 10.1063/1.1533116 * figure 1 *	3,10-14	
Y	US 2004/031966 A1 (FORREST STEPHEN R [US] ET AL) 19 February 2004 (2004-02-19) * paragraph [0020] - paragraph [0057]; figures 1-5 *	3,10-14	
Y	US 2006/097296 A1 (NAM JUNG-HYUN [KR]) 11 May 2006 (2006-05-11) * figures 2-3 *	3,10-14	TECHNICAL FIELDS SEARCHED (IPC)
		-/--	H01L
INCOMPLETE SEARCH			
The Search Division considers that the present application, or one or more of its claims, does/do not comply with the EPC so that only a partial search (R.62a, 63) has been carried out.			
Claims searched completely :			
Claims searched incompletely :			
Claims not searched :			
Reason for the limitation of the search:			
see sheet C			
1	Place of search Munich	Date of completion of the search 25 June 2012	Examiner Bernabé Prieto, A
CATEGORY OF CITED DOCUMENTS		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	
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			



## PARTIAL EUROPEAN SEARCH REPORT

Application Number

EP 10 17 2977

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (IPC)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
A	US 2007/257250 A1 (TSENG CHANG-HO [TW] ET AL) 8 November 2007 (2007-11-08) * paragraph [0032]; figures 2, 30 *	3,10-14 -----	
			TECHNICAL FIELDS SEARCHED (IPC)

1

EPO FORM 1503 03/82 (P04C10)



**INCOMPLETE SEARCH  
SHEET C**

Application Number  
EP 10 17 2977

Claim(s) completely searchable:  
3, 10-14

Claim(s) not searched:  
1, 2, 4-9, 15

Reason for the limitation of the search:

As a result of an invitation under Rule 62(a) EPC the applicant has not proved (just stated) that the multiple independent claims meet the requirements of Rule 43(2)(c) EPC, the burden of proof in an objection under Rule 43(2) EPC lying within the applicant (see T56/01). Furthermore, the applicant has indicated in his letter of reply dated 13.06.2012 that the search should be based on claims 3 and 10-14. The present opinion is therefore based upon these claims. Other subject-matter must be excised from the application (137(5)EPC).

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

EP 10 17 2977

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.

25-06-2012

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专利名称(译)	具有光学反馈补偿的Amoled显示器		
公开(公告)号	<a href="#">EP2365529A3</a>	公开(公告)日	2012-08-01
申请号	EP2010172977	申请日	2010-08-16
[标]申请(专利权)人(译)	友达光电股份有限公司		
申请(专利权)人(译)	友达光电股份有限公司		
当前申请(专利权)人(译)	友达光电股份有限公司		
[标]发明人	KUO TZU YIN TSAI TSUNG TING		
发明人	KUO, TZU-YIN TSAI, TSUNG-TING		
IPC分类号	H01L27/32		
CPC分类号	G09G3/3258 G09G5/10 H01L27/3269		
代理机构(译)	LANG , CHRISTIAN		
优先权	12/722040 2010-03-11 US		
其他公开文献	EP2365529B1 EP2365529A2		
外部链接	<a href="#">Espacenet</a>		

### 摘要(译)

在一个方面，本发明涉及一种显示器。在一个实施例中，显示器具有基板，以及形成在基板上并以阵列布置的多个像素。每个像素包括驱动晶体管和空间上形成在基板上的读出晶体管，其中每个晶体管具有栅电极，漏电极和源电极，具有阴极层的有机发光二极管 (OLED)，阳极层在所述阴极层与所述阳极层之间形成发光层，并形成在所述驱动晶体管和所述读出晶体管上方，使得所述OLED的阳极层与所述驱动晶体管的源极电连接，以及光电传感器具有在OLED的阳极层和读出晶体管的源极之间形成的光敏层。

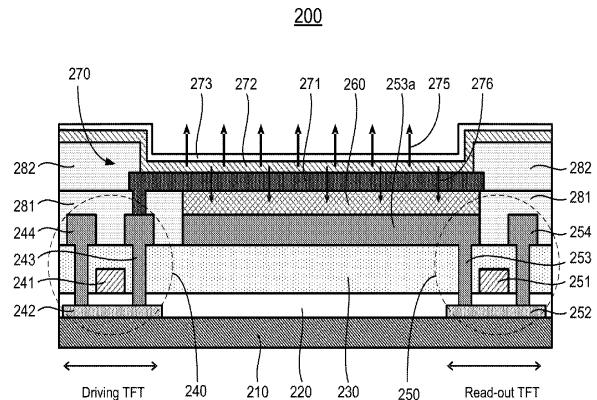


Fig. 2