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(54) **Liquid crystal display device including backlight unit and method of driving the same**

(57) A liquid crystal display device includes: an LED array unit (80) including a plurality of LED arrays (80a, 80b, 80c, 80d), the LED array unit emitting a light; an LED driving unit (90) supplying at least two PWM signals (PWM1, PWM2) to the LED array unit (80), the at least two PWM signals having different phases from each other; a liquid crystal display panel (50) displaying images

using the light from the LED array unit (80); a gate driving unit (60) supplying a gate signal to the liquid crystal display panel (50); a data driving unit (70) supplying a data signal to the liquid crystal display panel (50) in synchronization with the gate signal; and a timing controller (100) generating a plurality of control signals for the LED driving unit (90), the gate driving unit (60) and the data driving unit (70).

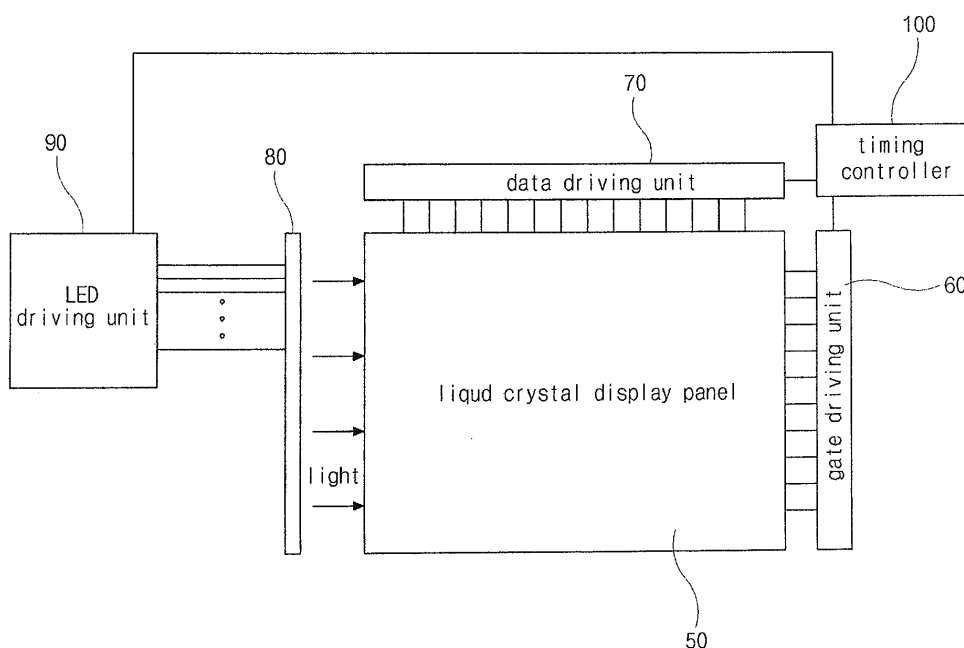


FIG. 2



EUROPEAN SEARCH REPORT

Application Number
EP 08 16 5643

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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Y	* paragraphs [0001], [0004], [0005], [0007], [0008], [0012] - [0014], [0021]; figures 3,4 *	5-8,10, 11,15-20	
Y	JP 2005 116298 A (SONY CORP) 28 April 2005 (2005-04-28) * paragraphs [0016], [0029], [0094], [0104] - [0111]; figures 1-3,10-13 *	5-8,10, 11,15-20	
A	US 2007/176883 A1 (HSU CHIH-CHE [TW] ET AL) 2 August 2007 (2007-08-02) * paragraphs [0029], [0031], [0039], [0040]; figures 6-8 *	1-20	
A	US 2007/091056 A1 (OKITA MITSUTAKA [JP] ET AL) 26 April 2007 (2007-04-26) * paragraphs [0010], [0011], [0064] - [0084]; figures 3,5 *	1-20	
A	SANJOH A ET AL: "Off current characteristics of amorphous silicon thin film transistors under gate-side illumination" THIN SOLID FILMS, ELSEVIER-SEQUOIA S.A. LAUSANNE, CH, vol. 208, no. 1, 10 February 1992 (1992-02-10), pages 125-131, XP024615023 ISSN: 0040-6090 [retrieved on 1992-02-10] * page 1 *	1-20	TECHNICAL FIELDS SEARCHED (IPC) G09G H05B
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The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 24 August 2009	Examiner 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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EPO FORM 1503 03.82 (P04C01)

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

EP 08 16 5643

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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24-08-2009

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专利名称(译)	包括背光单元的液晶显示装置及其驱动方法		
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代理机构(译)	庆祝活动, JENTSCHURA & PARTNER		
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其他公开文献	EP2048648A2 EP2048648B1		
外部链接	Espacenet		

摘要(译)

一种液晶显示装置, 包括: LED阵列单元 (80), 包括多个LED阵列 (80a, 80b, 80c, 80d), LED阵列单元发光; LED驱动单元 (90), 向LED阵列单元 (80) 提供至少两个PWM信号 (PWM1, PWM2), 所述至少两个PWM信号具有彼此不同的相位;液晶显示面板 (50), 使用来自LED阵列单元 (80) 的光显示图像;栅极驱动单元 (60), 向液晶显示板 (50) 提供栅极信号;数据驱动单元 (70) 与栅极信号同步地向液晶显示板 (50) 提供数据信号;时序控制器 (100) 为LED驱动单元 (90), 栅极驱动单元 (60) 和数据驱动单元 (70) 产生多个控制信号。

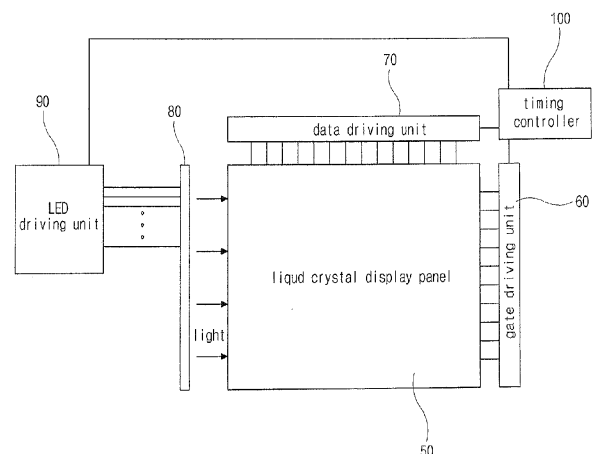


FIG. 2