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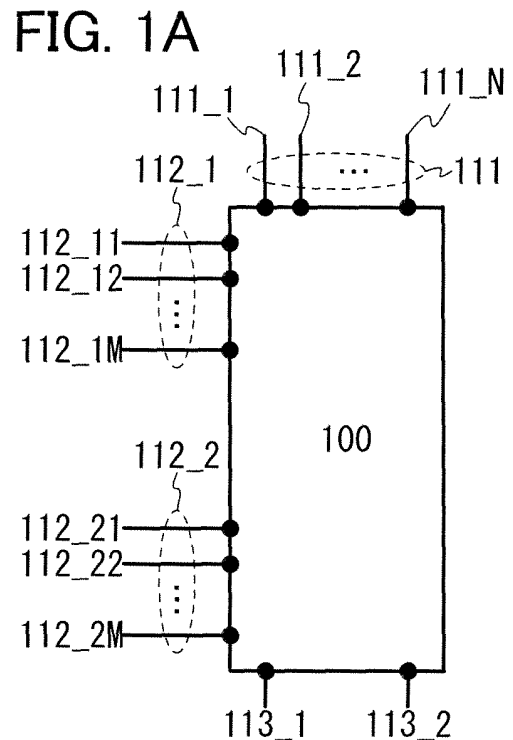
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(54) **Display device, liquid crystal display device and electronic device including the same**

(57) A liquid crystal display device includes a pixel having a first to  $n$ th ( $n$  is a natural number of 2 or more) subpixels and a circuit (100). To the circuit,  $N$  ( $N$  is a natural number of 2 or more) wirings (111\_1, 111\_...N) for supplying a digital signal with  $N$  bits and first to  $n$ th wiring groups having  $M$  ( $M$  is a natural number of 2 or more) wirings (112\_11, ..., 112\_2M) for supplying  $M$  different voltages are electrically connected. The liquid crystal display device has a function of converting the digital signal into  $n$  analog signals by using the  $M$  voltages supplied to the first to  $n$ th wiring groups and inputting the  $n$  analog signals to first to  $n$ th subpixels. The first to  $n$ th subpixels each include an electrode (113\_1, 113\_2) for driving a liquid crystal element.



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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	US 2002/186230 A1 (KUDO YASUYUKI [JP] ET AL KUDO YASUYUKI [JP] ET AL) 12 December 2002 (2002-12-12)	11-13	
	* paragraphs [0090] - [0096]; figure 12 *		
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The present search report has been drawn up for all claims			
Place of search <b>Munich</b>		Date of completion of the search <b>1 June 2010</b>	Examiner <b>Harke, Michael</b>
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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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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			TECHNICAL FIELDS SEARCHED (IPC)
The present search report has been drawn up for all claims			
Place of search <b>Munich</b>		Date of completion of the search <b>1 June 2010</b>	Examiner <b>Harke, Michael</b>
<b>CATEGORY OF CITED DOCUMENTS</b> 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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**ANNEX TO THE EUROPEAN SEARCH REPORT  
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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

专利名称(译)	显示装置，液晶显示装置和包括其的电子设备		
公开(公告)号	<a href="#">EP2136354A3</a>	公开(公告)日	2010-07-14
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[标]发明人	KIMURA HAJIME UMEZAKI ATSUSHI		
发明人	KIMURA, HAJIME UMEZAKI, ATSUSHI		
IPC分类号	G09G3/36		
CPC分类号	G09G3/3688 G09G3/3696 G09G2310/027 G09G2320/0673 G09G2320/068 G09G3/3413 G09G3/3607 G09G3/3655 G09G2330/023		
优先权	2008150608 2008-06-09 JP		
其他公开文献	EP2136354B1 EP2136354A2		
外部链接	<a href="#">Espacenet</a>		

摘要(译)

液晶显示装置包括具有第一至第n (n是2或更大的自然数) 个子像素的像素和电路 (100)。对于电路, N (N是2或更多的自然数) 布线 (111\_1, 111\_N) 用于提供具有N位的数字信号, 并且第一至第n布线组具有M (M是2或更多的自然数) 布线用于提供M个不同电压的 (112\_11, ..., 112\_2M) 电连接。液晶显示装置具有通过使用提供给第一至第n布线组的M个电压并将n个模拟信号输入到第一至第n子像素将数字信号转换为n个模拟信号的功能。第一至第n子像素均包括用于驱动液晶元件的电极 (113\_1, 113\_2)。

