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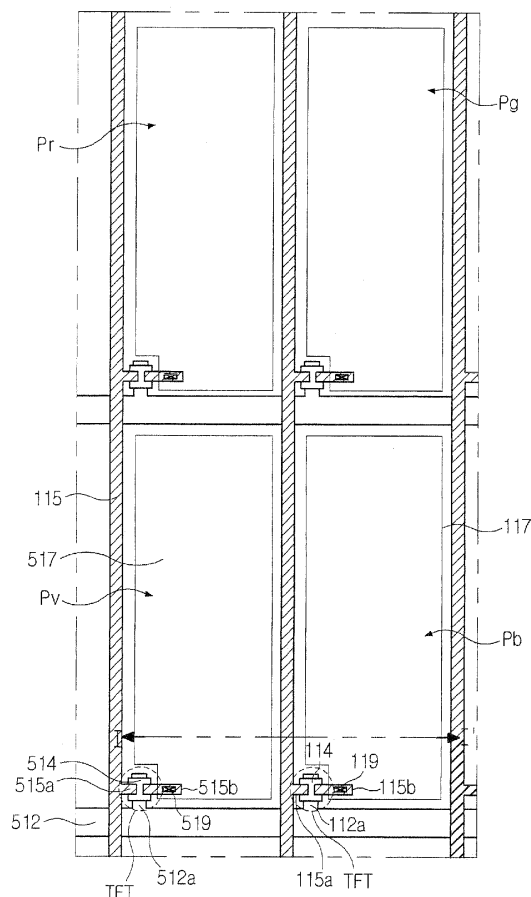
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(54) **Liquid crystal display device and driving method thereof**

(57) Provided is an LCD device. The LCD device includes data displaying subpixels, and a viewing angle controlling subpixel. An LC layer of a VA mode using negative LCs is interposed between a first pixel electrode to which red, green, and blue data voltages are applied, and a common electrode to which a common voltage is applied. The viewing angle controlling subpixel includes the liquid crystal layer of the vertical alignment mode driven in response to a voltage applied to the common electrode, a side electrode separated from the common electrode, and a second pixel electrode. Each of the subpixels includes a rib distorting an electric field applied to the liquid crystal layer. The viewing angle controlling subpixel substantially directly passes light from the data displaying subpixels during a wide viewing angle mode, and delays phase of the light from the data displaying subpixels during a narrow viewing angle mode.

Fig. 2



EP 1 986 039 A3



EUROPEAN SEARCH REPORT

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EP 07 15 0401

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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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A	* paragraphs [0005], [0036] * * paragraphs [0161] - [0166], [0206] - [0207] * * paragraphs [0219] - [0220], [0226] - [0246]; figures 1,13,18-23 *	2,3,7,9-11	G02F1/139 G02F1/1343
A	US 5 808 705 A (HISHIDA TADANORI [JP] ET AL) 15 September 1998 (1998-09-15) * figures 1,3,6,8,9; examples 1-4 *	1-12	
			TECHNICAL FIELDS SEARCHED (IPC)
			G02F
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 22 April 2010	Examiner Wahl, Martin
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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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 07 15 0401

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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专利名称(译)	液晶显示装置及其驱动方法		
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外部链接	Espacenet		

摘要(译)

提供一种LCD装置。LCD装置包括显示子像素的数据和视角控制子像素。使用负LC的VA模式的LC层插入在施加红色, 绿色和蓝色数据电压的第一像素电极与施加有公共电压的公共电极之间。视角控制子像素包括响应于施加到公共电极的电压而驱动的垂直配向模式的液晶层, 与公共电极分离的侧电极, 以及第二像素电极。每个子像素包括肋, 该肋扭曲施加到液晶层的电场。视角控制子像素在宽视角模式期间基本上直接传递来自数据显示子像素的光, 并且在窄视角模式期间延迟来自数据显示子像素的光的相位。

