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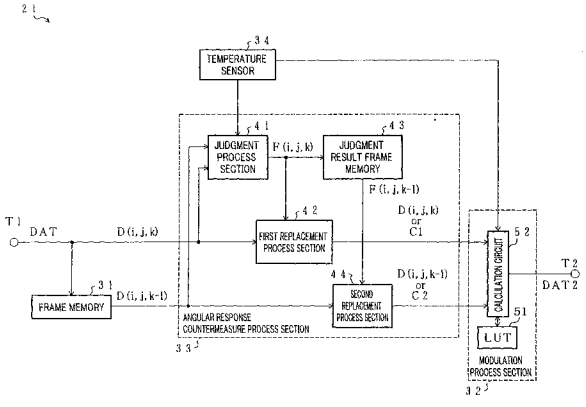
(54) Driving method of liquid crystal display apparatus, driving apparatus of liquid crystal display apparatus, and program thereof

(57) In a liquid crystal display apparatus in which a plurality of areas in which response speeds are greatly different from each other coexist in a pixel, a gradation does not reach a desired one in several frames or a excessive brightness occurs, no matter what a degree the facilitation of gradation transition may be set. A first replacement process section replaces the image data of the desired target frame with a first gradation, when a gradation transition from a current frame to a desired target frame corresponds to the above gradation transition. A second replacement process section replaces the image data of the current frame with a second value. The first value is set to a value causing the pixel to respond at a fully high speed without the occurrence of the excessive brightness. Without avoiding the deterioration of the image, it is possible to drive a liquid crystal display apparatus, in which areas whose response speeds are different from each other coexist in the pixel, such as a liquid crystal display apparatus of vertically aligned mode and normally black mode.

FIG. 1



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EUROPEAN SEARCH REPORT

Application Number
EP 04 25 1487

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A,D	US 2002/075436 A1 (KUBO MASUMI ET AL) 20 June 2002 (2002-06-20) * figure 1a *	1-24	
X	US 2001/040546 A1 (OHMURO KATSUFUMI ET AL) 15 November 2001 (2001-11-15) * paragraphs [0013], [0119] - [0127]; figures 19,20C *	14-16, 18-23	

TECHNICAL FIELDS SEARCHED (IPC)

G09G
G02F

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	10 October 2006	Gundlach, Harald

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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A : technological background
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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 04 25 1487

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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)	液晶显示装置的驱动方法，液晶显示装置的驱动装置及其程序		
公开(公告)号	EP1460612A3	公开(公告)日	2006-11-15
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优先权	2003075992 2003-03-19 JP		
其他公开文献	EP1460612A2		
外部链接	Espacenet		

摘要(译)

在液晶显示装置中，其中响应速度彼此大不相同的多个区域在像素中共存，灰度在几帧中没有达到期望的一个或者发生过度的亮度，无论程度如何。可以设定促进渐变过渡。当从当前帧到期望目标帧的灰度转变对应于上述灰度转变时，第一替换处理部分用第一灰度替换期望目标帧的图像数据。第二替换处理部分用第二值替换当前帧的图像数据。第一个值设置为一个值，使像素以完全高速响应，而不会出现过高的亮度。在不避免图像劣化的情况下，可以驱动液晶显示装置，其中响应速度彼此不同的区域在像素中共存，例如垂直对准模式和常黑模式的液晶显示装置。 。

FIG. 1