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(72) Inventors:
• **Arasawa, Ryo**
Atsugi-shi
Kanagawa-ken 243-0036 (JP)
• **Fukutome, Takahiro**
Atsugi-shi
Kanagawa-ken 243-0036 (JP)

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(71) Applicant: **SEMICONDUCTOR ENERGY LABORATORY CO., LTD.**
Atsugi-shi, Kanagawa-ken 243-0036 (JP)

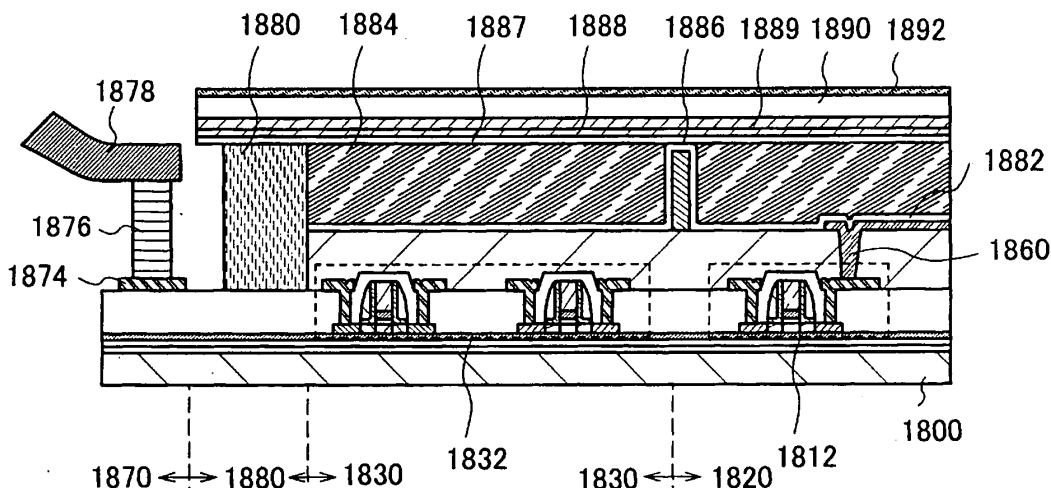
(74) Representative: **Grünecker, Kinkeldey, Stockmair & Schwanhäusser**
Anwaltssozietät
Leopoldstrasse 4
80802 München (DE)

(54) **Method for driving liquid crystal display device, liquid crystal display device, and electronic device**

(57) An object of the present invention is to provide a driving method of a liquid crystal display device for improvement of image quality and a liquid crystal display device in which the driving method is used One frame period is divided up into an n (n: integer, $n \geq 3$) number

of periods (hereinafter referred to as subframe periods). Furthermore, a voltage is applied to a liquid crystal so as to correct for a loss in luminance resulting from response speed of the liquid crystal. The voltage for correction is applied during subframe periods other than the first subframe period.

FIG. 22





EUROPEAN SEARCH REPORT

Application Number
EP 08 00 5871

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 2005/104824 A1 (SHEN YUNG-HUNG [TW] ET AL SHEN YUNG-HUNG [TW] ET AL) 19 May 2005 (2005-05-19) * paragraphs [0025] - [0029]; figures 9,10 *	1-14	INV. G09G3/36
A	US 2006/214897 A1 (MURAI KIYOAKI [JP]) 28 September 2006 (2006-09-28) * paragraphs [0254] - [0261]; figure 23b *	1-14	
A	KIMURA N ET AL: "60.2: Invited Paper: New Technologies for Large-Sized High-Quality LCD TV" 2005 SID INTERNATIONAL SYMPOSIUM. BOSTON, MA, MAY 24 - 27, 2005; [SID INTERNATIONAL SYMPOSIUM], SAN JOSE, CA : SID, US, vol. XXXVI, 24 May 2005 (2005-05-24), pages 1734-1737, XP007012386 * the whole document *	1-14	
			TECHNICAL FIELDS SEARCHED (IPC)
			G09G
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 21 July 2009	Examiner Bellatalla, Filippo
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 08 00 5871

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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21-07-2009

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
US 2005104824	A1	19-05-2005	TW	230291 B	01-04-2005

US 2006214897	A1	28-09-2006	JP	2006301563 A	02-11-2006

专利名称(译)	用于驱动液晶显示装置的方法，液晶显示装置和电子装置		
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[标]申请(专利权)人(译)	株式会社半导体能源研究所		
申请(专利权)人(译)	半导体能源研究所有限公司.		
当前申请(专利权)人(译)	半导体能源研究所有限公司.		
[标]发明人	ARASAWA RYO FUKUTOME TAKAHIRO		
发明人	ARASAWA, RYO FUKUTOME, TAKAHIRO		
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其他公开文献	EP1986180B1 EP1986180A2		
外部链接	Espacenet		

摘要(译)

本发明的一个目的是提供一种用于改善图像质量的液晶显示装置的驱动方法和一种使用该驱动方法的液晶显示装置。一帧周期被分成 n (n : 整数, $n \geq 3$) 周期数 (以下称为子帧周期)。此外, 将电压施加到液晶, 以校正由液晶的响应速度引起的亮度损失。在除第一子帧周期之外的子帧周期期间应用用于校正的电压。

FIG. 22

