



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Y	US 2002/158857 A1 (IISAKA HIDEHITO [JP]) 31 October 2002 (2002-10-31) * paragraph [0183]; figure 7 * -----	1-26, 35-76	INV. G09G3/36 G02F1/133 G09G3/20
Y	JP 2001 100711 A (SHARP KK) 13 April 2001 (2001-04-13) * the whole document * & US 6 831 620 B1 (NISHIKUBO KEISHI [JP] ET AL) 14 December 2004 (2004-12-14) * column 6, line 58 - column 7, line 16 * -----	1-26, 35-76	
			TECHNICAL FIELDS SEARCHED (IPC)
			G09G
The supplementary search report has been based on the last set of claims valid and available at the start of the search.			
Place of search <b>Munich</b>		Date of completion of the search <b>29 April 2008</b>	Examiner <b>Kunze, Holger</b>
<p>CATEGORY OF CITED DOCUMENTS</p> <p>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</p> <p>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  .....  &amp; : member of the same patent family, corresponding document</p>			



### CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):
- No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

### LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:
- The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).



The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-26 and 35-76

Liquid crystal display realising gray scale values by using the sub-frame method, whereby a voltage applied to a pixel is based on upon a voltage applied in a previous sub-frame to compensate a voltage drop caused by a parasitic capacitance. Object: To reduce flicker of the display.

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2. claims: 27-34

A liquid crystal display realising gray scale values by using the sub-frame method, whereby two data output drivers are provided, one for setting a pixel to a dark state, another one for setting the pixel to a bright state. Object: To provide a driver structure specific for an LCD using sub-frames for gray scales.

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The common concept linking together the independent claims 1, 15, 27, 33, 45, 50, 58, 63 and 73 is the following:

A liquid crystal display realising gray scale values by using the sub-frame method.

This common concept is not novel, see D1, Fig. 7 and par. 183.

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

EP 05 74 0933

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  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

29-04-2008

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2002158857 A1	31-10-2002	JP 3918536 B2	23-05-2007
		JP 2003114661 A	18-04-2003
		TW 228618 B	01-03-2005
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JP 2001100711 A	13-04-2001	KR 20010015436 A	26-02-2001
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US 6831620 B1	14-12-2004	JP 2001100711 A	13-04-2001
		KR 20010015436 A	26-02-2001
		KR 20030018034 A	04-03-2003
		TW 523731 B	11-03-2003
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专利名称(译)	液晶显示装置，其驱动方法，具有液晶显示装置的液晶电视和具有该液晶显示装置的液晶监视器		
公开(公告)号	<a href="#">EP1756799A4</a>	公开(公告)日	2008-06-11
申请号	EP2005740933	申请日	2005-05-17
[标]申请(专利权)人(译)	夏普株式会社		
申请(专利权)人(译)	夏普株式会社		
当前申请(专利权)人(译)	夏普株式会社		
发明人	MIYATA, HIDEKAZU SHARP K.K		
IPC分类号	G09G3/36 G02F1/133 G09G3/20		
CPC分类号	G09G3/3614 G09G3/2025 G09G3/3648 G09G2310/061 G09G2320/0219 G09G2320/0247 G09G2320/0261 G09G2320/028		
优先权	2004149637 2004-05-19 JP 2004344595 2004-11-29 JP		
其他公开文献	EP1756799A1		
外部链接	<a href="#">Espacenet</a>		

#### 摘要(译)

提供一种装置，用于设定施加到每条数据信号线的电压，以便校正施加到像素的电压，该电压对应于单帧的每个子帧中的灰度数据信号。这样，可以部分地或甚至完全地补偿由每个子帧中的灰度数据信号的电压的组合引起的电压降。因此，可以提供一种液晶显示装置，其能够减少甚至避免在采用时分驱动的情况下由例如薄膜晶体管的栅极 - 漏极电容引起的电压降的影响，和/或用于驱动液晶显示装置的方法。