



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3: **19.11.2003 Bulletin 2003/47** (51) Int Cl.7: **G09G 3/36**

(43) Date of publication A2: **17.04.2002 Bulletin 2002/16**

(21) Application number: **01308816.6**

(22) Date of filing: **17.10.2001**

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR
 Designated Extension States:
AL LT LV MK RO SI

(72) Inventors:
 • **Tsuyuki, Tadashi**
Suwa-shi, Nagano-ken (JP)
 • **Aruga, Yasuhito**
Suwa-shi, Nagano-ken (JP)

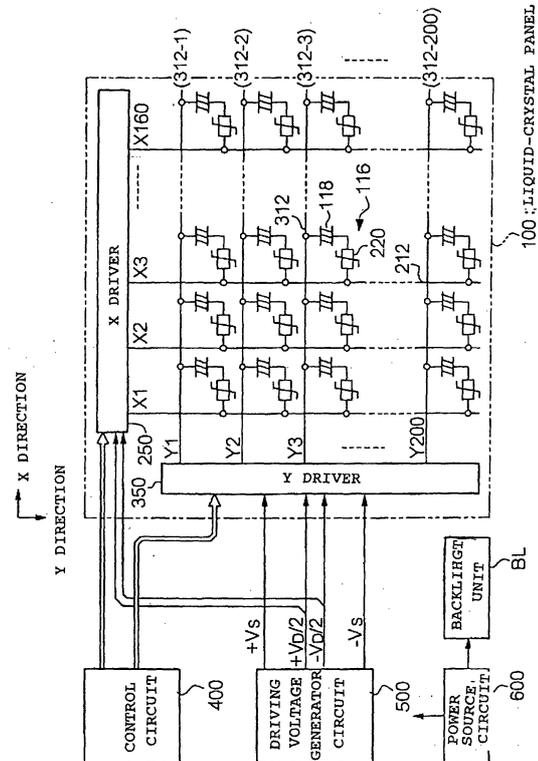
(30) Priority: **17.10.2000 JP 2000317089**

(74) Representative: **Sturt, Clifford Mark et al**
Miller Sturt Kenyon
9 John Street
London WC1N 2ES (GB)

(54) **Electrooptical panel, method for driving the same, and electronic equipment**

(57) The invention seeks to provide a liquid-crystal panel that presents a high-density wiring while maintaining reliability of the wiring. Odd-numbered scanning lines (312-1,312-3,...,312-199) are connected to a first wiring group (G1) while even-numbered scanning lines (312-2,312-4,...,312-200) are connected to a second wiring group (G2). Each of the scanning lines (312-1) through (312-200) is supplied with a scanning signal the polarity of which is inverted every horizontal scanning period. Among wirings (240) forming the first wiring group (G1) and the second wiring group (G2), a line-to-line voltage between any adjacent wirings becomes zero volts for most of the time. Degradation of the wirings due to electrolytic corrosion is controlled even if the spacing between the wirings is narrowed.

[FIG. 1]





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 01 30 8816

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
Y	EP 0 986 045 A (SEIKO EPSON CORP) 15 March 2000 (2000-03-15) * paragraphs [0080],[0096],[0119]; figures 8,13 *	1-8	G09G3/36
Y	EP 0 990 940 A (SEIKO EPSON CORP) 5 April 2000 (2000-04-05) * paragraph [0137]; claims 22,23,26; figures 21-23 *	1-8	
A	PATENT ABSTRACTS OF JAPAN vol. 017, no. 387 (P-1576), 20 July 1993 (1993-07-20) & JP 05 066424 A (TOSHIBA CORP), 19 March 1993 (1993-03-19) * abstract *	1,7	
A	PATENT ABSTRACTS OF JAPAN vol. 017, no. 004 (P-1464), 6 January 1993 (1993-01-06) & JP 04 237021 A (SEIKO EPSON CORP), 25 August 1992 (1992-08-25) * abstract *	1,7	
A	US 5 748 165 A (KATOH KENICHI ET AL) 5 May 1998 (1998-05-05) * column 18, line 24 - line 32; figure 9 *		
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.7) G09G G02F
Place of search THE HAGUE		Date of completion of the search 26 September 2003	Examiner Amian, D
<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 & : member of the same patent family, corresponding document</p>			

EPO FORM 1503 03/82 (P04C01)

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

EP 01 30 8816

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.

26-09-2003

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0986045 A	15-03-2000	JP 2000147455 A	26-05-2000
		CN 1248715 A	29-03-2000
		EP 0986045 A1	15-03-2000
		KR 2000023013 A	25-04-2000
		US 6600470 B1	29-07-2003
EP 0990940 A	05-04-2000	EP 0990940 A1	05-04-2000
		JP 3428029 B2	22-07-2003
		US 6426594 B1	30-07-2002
		WO 9942894 A1	26-08-1999
		JP 2000235173 A	29-08-2000
		TW 421777 B	11-02-2001
		US 2002149323 A1	17-10-2002
JP 05066424 A	19-03-1993	NONE	
JP 04237021 A	25-08-1992	NONE	
US 5748165 A	05-05-1998	JP 7181927 A	21-07-1995
		JP 8137443 A	31-05-1996
		CN 1115535 A ,B	24-01-1996
		DE 4446330 A1	20-07-1995
		KR 139697 B1	15-06-1998

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

专利名称(译)	电光面板，其驱动方法以及电子设备		
公开(公告)号	EP1197945A3	公开(公告)日	2003-11-19
申请号	EP2001308816	申请日	2001-10-17
[标]申请(专利权)人(译)	精工爱普生株式会社		
申请(专利权)人(译)	SEIKO EPSON CORPORATION		
当前申请(专利权)人(译)	SEIKO EPSON CORPORATION		
[标]发明人	TSUYUKI TADASHI ARUGA YASUHITO		
发明人	TSUYUKI, TADASHI ARUGA, YASUHITO		
IPC分类号	G02F1/136 G02F1/133 G02F1/1345 G02F1/1365 G09F9/00 G09F9/30 G09G3/20 G09G3/36		
CPC分类号	G09G3/367 G02F1/1345 G02F2001/13456 G09G3/3614 G09G3/3674 G09G2310/06		
代理机构(译)	斯特，CLIFFORD MARK		
优先权	2000317089 2000-10-17 JP		
其他公开文献	EP1197945A2		
外部链接	Espacenet		

摘要(译)

本发明旨在提供一种液晶面板，其在保持布线可靠性的同时呈现高密度布线。奇数扫描线312-1,312-3, ..., 312-199连接到第一布线组G1，而偶数扫描线312-2,312-4, ..., 312-200连接到第二布线组G2。连接到第二布线组G2。每个扫描线312-1到312-200被提供有扫描信号，该扫描信号的极性在每个水平扫描周期被反转。在形成第一布线组G1和第二布线组G2的布线240中，任何相邻布线之间的线间电压在大多数时间内变为零伏。即使布线之间的间隔变窄，也可以控制由于电解腐蚀引起的布线的退化。

[FIG. 13]

