



(11) Publication number : **0 541 396 A3**

(12)

EUROPEAN PATENT APPLICATION

(21) Application number : **92310203.2**

(51) Int. Cl.⁵ : **G09G 1/00, G09G 3/36**

(22) Date of filing : **06.11.92**

(30) Priority : **08.11.91 JP 293179/91**
31.08.92 JP 232126/92

(43) Date of publication of application :
12.05.93 Bulletin 93/19

(84) Designated Contracting States :
DE GB NL

(88) Date of deferred publication of search report :
21.09.94 Bulletin 94/38

(71) Applicant : **SHARP KABUSHIKI KAISHA**
22-22 Nagaïke-cho
Abeno-ku
Osaka 545 (JP)

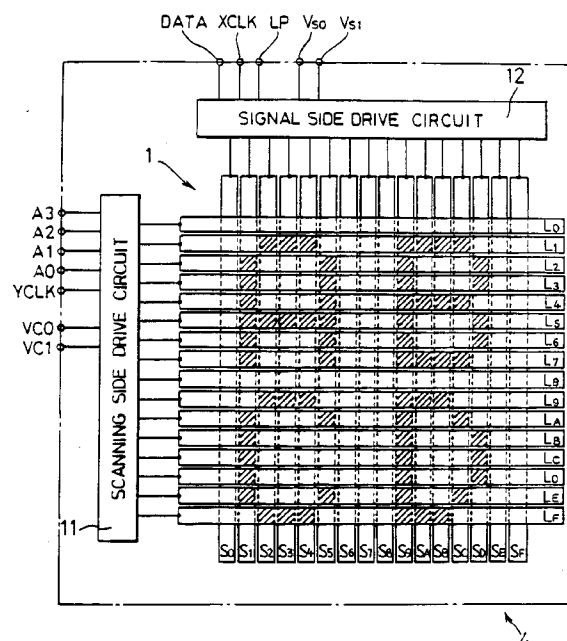
(72) Inventor : **Numao, Takaji**
1-1-302 Kunimi-cho,
Saidaiji
Nara-shi, Nara-ken (JP)
 Inventor : **Katsuse, Hirofumi**
568 Akebono-ryo,
2613-1, Ichinmoto-cho
Tenri-shi, Nara-ken (JP)

(74) Representative : **White, Martin David et al**
MARKS & CLERK,
57/60 Lincoln's Inn Fields
London WC2A 3LS (GB)

(54) **Method for driving liquid crystal panel.**

(57) A method for driving a liquid crystal panel including the steps of providing a ferroelectric liquid crystal of which dielectric anisotropy is negative, between a plurality of scanning and signal electrodes which intersect each other, applying positive and negative voltages to a pixel formed by the scanning electrode with the non-selection voltage and the signal electrode with the rewriting voltage and a pixel formed by the scanning electrode with the non-selection voltage and the signal electrode with the holding voltage so that the changes of the quantities of transmitted light of the two pixels are made almost equal to each other, and applying a positive or negative voltage within the range where an effect of the negative dielectric anisotropy acting on a ferroelectric liquid crystal molecule is increased, and a negative or positive voltage within the range where the effect on the molecule is decreased to a pixel formed by the scanning electrode with the selection voltage and the signal electrode with the holding voltage so that the change of a quantity of transmitted light of the pixel is made almost equal to or smaller than that of the two pixels.

FIG. 3





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 92 31 0203

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.5)
X	EP-A-0 306 203 (STC PLC)	1	G09G1/00
Y	* Abstract *	2,3	G09G3/36
	* page 5, line 10 - line 22 *		
	* page 6, line 6 - page 9, line 21;		
	figures 4,5,7,8,10,11 *		

Y	EP-A-0 435 701 (SHARP K.K.)	2,3	
	* Abstract *		
	* column 3, line 9 - column 4, line 15;		
	figures 6,10,11 *		
	* column 10, line 10 - column 11, line 14;		
	claim 1 *		

D,A	US-A-4 773 716 (NAKANOWATARI)	1	
	* Abstract *		
	* column 1, line 59 - column 2, line 34;		
	figures 1,2,4 *		
	* column 3, line 50 - line 62 *		
	* column 4, line 21 - line 39 *		

The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.5) G09G
Place of search THE HAGUE		Date of completion of the search 14 July 1994	Examiner Corsi, F
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			

EPO FORM 1503 (01.92) (P04C01)