

(19)
(12)

(KR)
(A)

(51) 。 Int. Cl. 7
G02F 1/1339

(11)
(43)

2002 - 0036737
2002 05 16

(21) 10 - 2001 - 0069566
(22) 2001 11 08

(30) JP - P - 2000 - 0034 2000 11 09 (JP)
2163

(71) 가 가
가
5 7 1

(72) 5 7 1 가 가
5 7 1 가 가

(74)
:

(54) ,

가
가 , (R) , (G) (G)
가 0.05% 0.15%
가,

6

, (spacer), ,

1		1	LCD	,	
2	1	A - A	LCD	,	
3	1	B - B	LCD	,	
4a	4c		1	LCD	CF
5		1	LCD	,	
6		1	LCD	,	
7		2	LCD	,	
8		3	LCD	,	
9		4	LCD	,	
10		5	LCD	,	
11		LCD	가	,	
12		LCD	가	,	
13a	13c	LCD		,	
14a	14c	LCD		,	
15	LCD			,	
16	LCD			,	
17	TN			,	
18	IPS			.	

CF (columnar spacer)가 , TFT (TFT) (CF) (cell gap) CF .

(R) , (G) (B)
 가 CF TFT
 TFT TN(Twisted Nematic) IPS(In - Plane Switching)

17 TN (71;
) TFT (51) CF (61) (70) , TFT (51)
 1 (52), 1 (52) 1 (53), 1 (52)
 (54), (54) (55), (56)
 (57), (57) 1 (58)

CF (61) 2 (62), 2 (62) 2 (63), 2 (63), 2
 (62) (MB) (65), (64) BM (65) (66), BM (65) (66)
 (OC) (67), OC (67) 2 (68)

TN , TFT (51) (54) CF (61) (64)
 가 , TFT (51) CF (61) (72)

18 IPS (54) (64) (54) (64) 18 IPS (55)
 (54) (64) TFT (51) 1 (52) TN

가 IPS , TFT (51) (54) (64)
 , TFT (73) 가
 , TFT (51) (71)
 TN , IPS ()
 LCD)가 가

LCD , (71) CF (61) TFT (51) (70)
 ()가 CF (61) TFT (51) (71)
 CF (61) TFT (51) , (71)
 , 가, (70) CF (61) TFT (51)
 (trade - off)가
 (CA) (CA)

$$(CA) = (Px) \cdot (Py) / (Lx) \cdot (Ly)$$

B, Px, 가, Py, 가, Lx, Ly, R, G, (CA)

63, (CA)가 0.05%, 0.15%, (2000 - 3421), 2001 4 27, 2001 - 117103

(Px), (Py), 가, 가, TFT (51), (Px), (Py), 가, (Px), (Py), 8μm, TFT, P(G), (13μm), CF (61), TFT (51), (shift) "

가, R, G, B, (13a, 75), (76)가, (75), (76)가, " 1/1", " 1/2", " 1/3", 13b, 13c, (76), 13, (76), 1, (75), (76), 1/3

R, G, B, 가, (Px), 가, (Py)가, (Lx), (Ly), 13a, 13c, (CA)

" 1/1", 0.19%,
 " 1/2", 0.095%,
 " 1/3", 0.063%

(CA), (0.05%, 0.15%), (77), " 1/2", (76)가, 13b

14a x) 14c (Ly) 13a 13c (76) 13c , 가 (L) (76) 가 (Px)

(Py) 13a 13c .

(CA) :

" 1/1" , 0.285%

" 1/2" , 0.142%

" 1/3" , 0.094%

, , (CA) " 1/3"

. , 14c (77) (76)가

()

, 가 (76) 가 (Px) (Py) , (Lx) (76) 가 (Ly) (Px) ,

(Py)가 , .

15 LCD , (CA)가

" 1/2" , (76)가 15 , LCD

(76) (75)((75))

(76)가 (75) (stagger) , (75) (

(CA)가 가 " 1/2" (76) (70)

(76) (76)가

, LCD 가 , LCD , (76) (76)

, (71) 가 .

LCD LCD 16 () 16 LCD 가 가 .

. LCD LCD (71, 16) , 가 가 (X)

, 16 , , 가 (Y) 가 가 .

, 가 (flicker)

15 LCD , (76)가 , (76)

, 가 (Y)

16 , (76)가 " G" (76) ()
 가 (78)가 (76)가 (Y)
 (76)가

IPS LCD , (specific resistance)
 (76)가 (71)
 (71) LCD , 가 가
 (76) (71) , LCD (71) 가 ,

LCD , LCD 가 (CF)

1 , CF TFT ,
 1() 가 .

1 ,

2 (TFT) , TFT ; CF TFT CF ;
 (cell gap)
 , 0.05% 0.15% ,
 가 .

2 , ,

3 , 가 , CF ; TFT
 TFT ; TFT
 , 0.05% 0.15% ,

가 .

3 , 가 .
 4 , 가 , CF ; TFT
 TFT ; CF TFT
 , 0.05% 0.15% ,
 , 가 .

4 , 가 .
 , TFT TFT 가 .
 , TFT .
 , , 가 , , 1/1
 , , ,

, 가 1/2 가 .
 TFT 5 TFT , CF CF TFT ,
 TFT 1 TFT ;
 TFT CF 2 ;
 TFT CF
 , , CF ,

6 TFT , TFT TFT
 TFT CF CF , CF
 ;
 , 가 .

, CF TFT ,
가 1()

가

1

1 1 LCD 2 1 A - A LCD
, 3 1 B - B LCD , 4a 4c 1 LCD

1 3 LCD (21;) TFT (1) CF (11)
(20) TFT (1) 1 (2), 1
(2) 1 (3), 1 (2) (; 10),
1 (2) (14) (10) (14)
(5) TFT (1) (14) (10) (5),
(22), (4) (6) (22) (6), (5) (7)
1 (8)

, IPS LCD (4) (14) (4) (14)
(5) TFT (1) 1 (2) TFT(30)
(6), (9), (10) (24) (21) (rubbing) 29

CF (11) 2 (12), 2 (12) 2 (13) (23) 2 ()
12) 2 (13), 2 (12) BM (15), BM (15) (16),
BM (15) (16) OC (17), OC (17) (26), (2)
6) 2 (18) (26) TFT(30) (; 10)
(10) TFT (1) (26)
(20) (21) (20) , CF (11) T
FT (1) 1 (8) (26) 2 (18)

, LCD 가 CF (11) 4a 4c

4a , , 2 (12) , , BM (15), (16)
 OC (17) , , (28) , (positive) 가 O
 C (17)

4b (31A) (31B) (31) (28) ,
 (, (UV))가 , 4c 가 (28)
 (UV) (26)가 CF (11) (31) (31B) 가 (2)
 6) TFT (1) (; 10) (26) CF (11)
 TFT (1) (21) (20) (21) (2)
 6) 4 μ m 7 μ m 가 (26) (20) (21)
 , 2 (13) 2 (13) CF (11) (23) CF (
 11)

1 3 , TFT(30)가 TFT (1) , (2)
 1) CF (11) TFT (1) (26) (20)
 , LCD가 .
 (26) , (26)가 CF (11) ,
 (26) CF (11) TFT (1) CF (11) ,

LCD , 5 , (26) (CA)가
 , 가 " 1/2" 가,
 (26) (Y) , (G)
 , (G) , (26) (X)
 , (25) ,

LCD 가 6 가 가 , 6 가 (X)
 , 가 (Y)
 , 가 (Y)
 6)가 (26) (26) (26) (2)
 (26) 가 (26) (26)
 (26) (26)가 (26) ,

1 LCD , (CA)가
 , (26) (26)가 (Y)
 , (G) (G) , (G) (26)
 (X) , (G) , (26)

(26) (26) (26) (26)

가, LCD (26)가 CF (11)
(26)가

2
7 2 LCD (26)가 (X) 2
(26)
1

2 LCD 7 (CA)가 가, (26) (G) (B)
가 " 1/2" (26) (X) (26) (26) (G B)
(X)

2 LCD 1 (26) LCD 1
가 (26)가 (X) 2
(26)가 (16) 가 (26)

2 1 가
3

8 3 LCD 3
(2 21) (gate line) 1 3
LCD 8 (26) 1 1
(21) (26) 가 (Y) 1
가

3 1 가

4

9 LCD 가 "

1/3" (26) (26)가

4 LCD , 9

(26) (CA)가

가 " 1/3" (26) 가, (26) (26)

(Y) , G G (26)

(26) (X) , G G

(26) (CA)가

4 , 1 가

5

10 LCD 가 "

1/4" (26) (26)가

5 LCD , 10

(26) (CA)가

가 " 1/4" (26) 가, (26) (26)

(Y) , G G (26)

(26) (X) , G G

(26) 가 4 (CA)가

5 , 1 가

11 LCD 가 11 , R, G B

TFT(30) (10) (33)가 TFT(30) (

6) (34)가 가, (14) (35)가 TFT(30)

(9) (14) (2 21) (C1), TFT (1)

(C2) (16) (C3)가 12 LCD 가

R B (26) " G" ,

(CA)가 (26) 가 ,

가,

(26) , (26) (CA) .
 (26) (26) (X) (Y)

가, 가 CF , 가
 . CF ,

(57)

1.

1 ,

2.

1 ,

3.

1 ,

4.

1 ,

5.

;

;

0.05% 0.15%

6.

5

7.

5

8.

5

9.

가

0.05% 0.15%

10.

9

11.

9

12.

9

13.

9 , 가 , 1/1

14.

13 , 가 1/2

15.

가 ;

;

0.05% 0.15% ,

16.

15 ,

17.

15 ,

18.

15 ,

19.

15 , 가 , 1/

1 , , ,

20.

19 ,
.

가 1/2

21.

,
,
1 ;
2 ;

22.

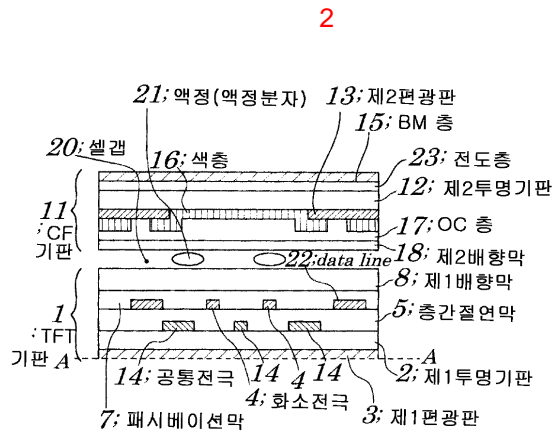
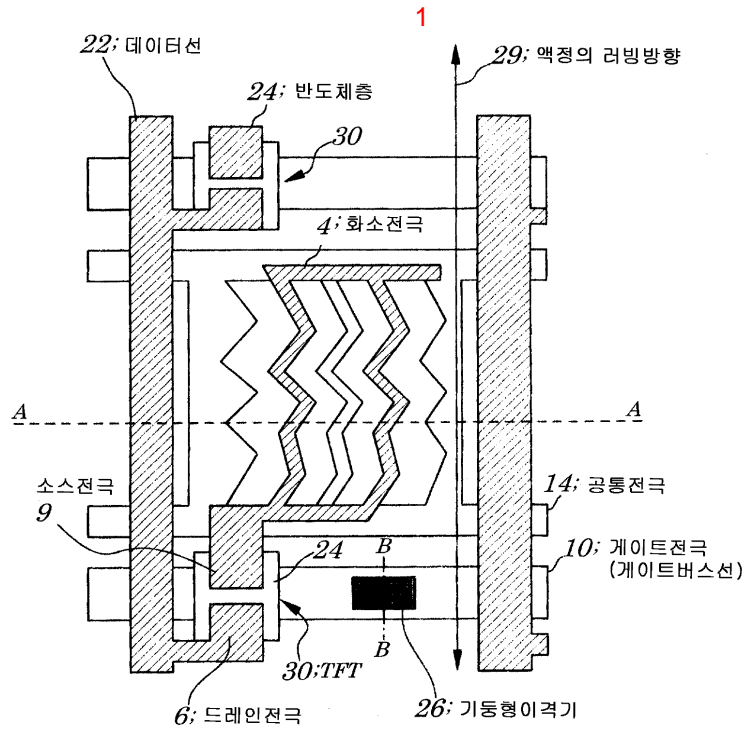
21 ,
.

23.

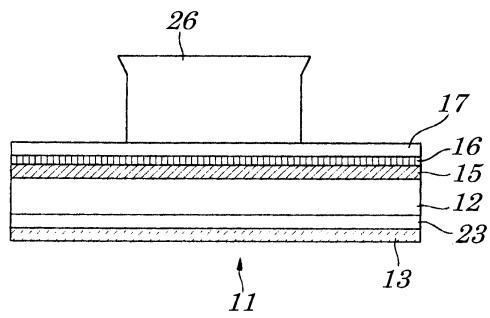
,
,
;

24.

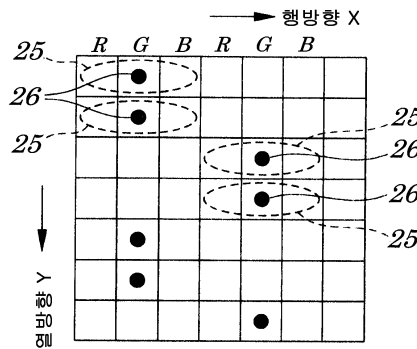
23 ,
.



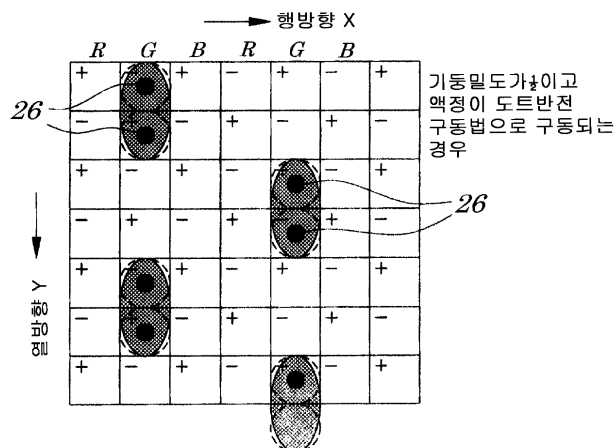
4c



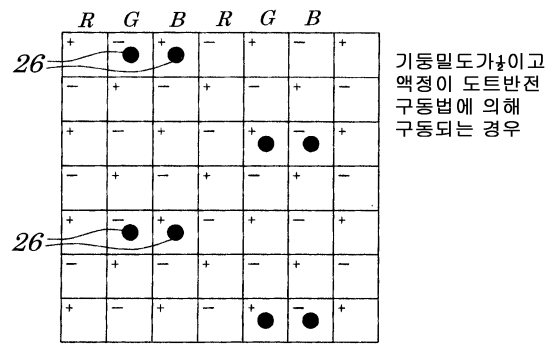
5



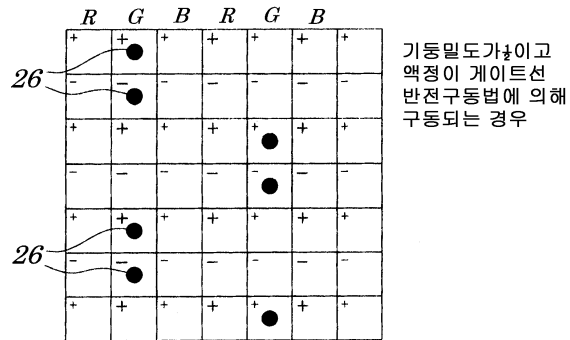
6



7

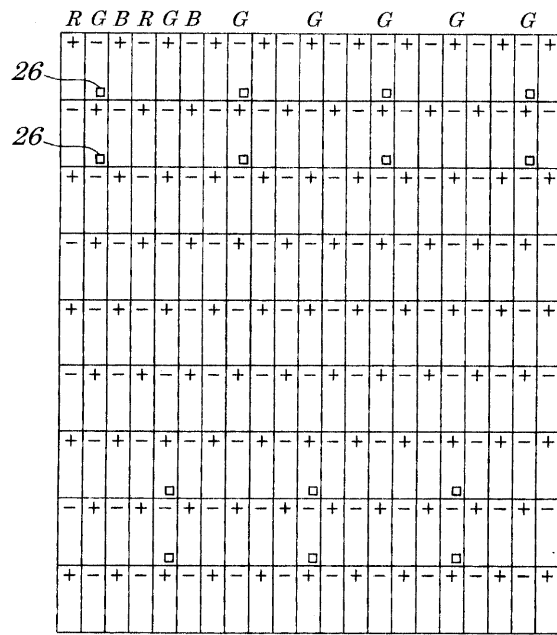


8



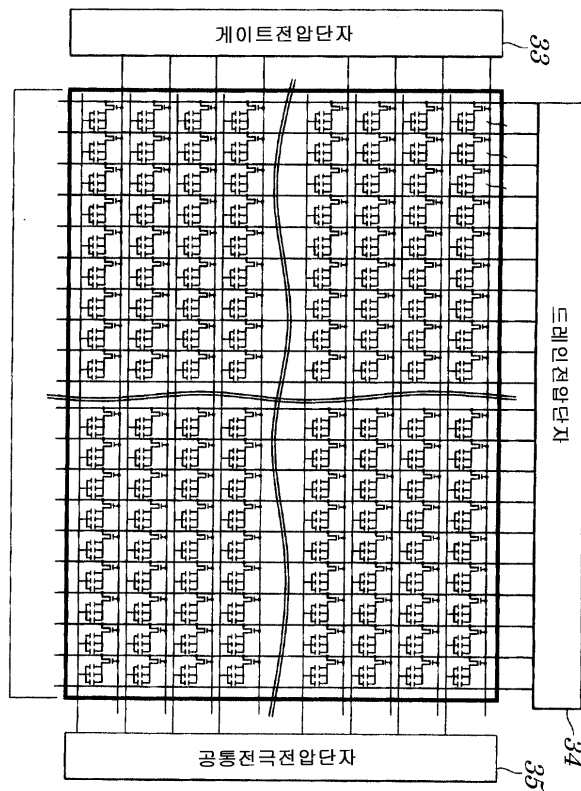
	R	G	B	R	G	B	R	G	B	R	G	B
	+	-	+	-	+	-	+	-	+	-	+	-
26		<input type="checkbox"/>						<input type="checkbox"/>				
	-	+	-	+	-	+	-	+	-	+	-	+
26		<input type="checkbox"/>						<input type="checkbox"/>				
	+	-	+	-	+	-	+	-	+	-	+	-
	-	+	-	+	-	+	-	+	-	+	-	+
				<input type="checkbox"/>						<input type="checkbox"/>		
	+	-	+	-	+	-	+	-	+	-	+	-
	-	+	-	+	-	+	-	+	-	+	-	+
				<input type="checkbox"/>						<input type="checkbox"/>		
	+	-	+	-	+	-	+	-	+	-	+	-
		<input type="checkbox"/>						<input type="checkbox"/>				

기동밀도가 1/8이고 액정이
도트반전구동법에 의해 구동되는 경우

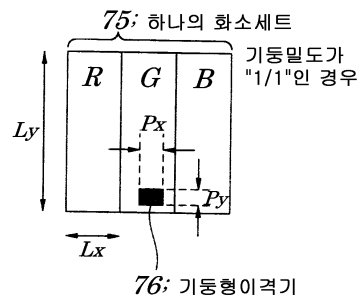


기동밀도가 낮고 액정이
도트반전구동법에 의해 구동되는 경우

12

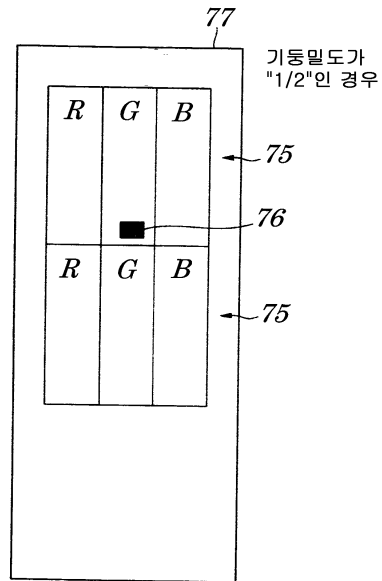


13a

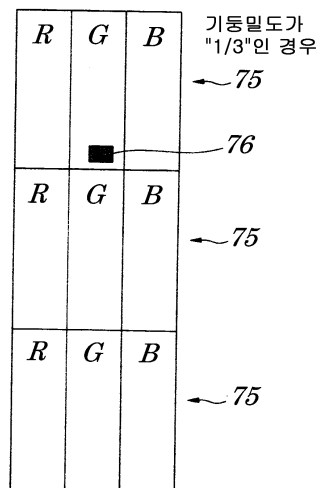


$Lx: 93.5\mu$ $Ly: 280.5\mu$
 $Px: 10\mu$ $Py: 15\mu$

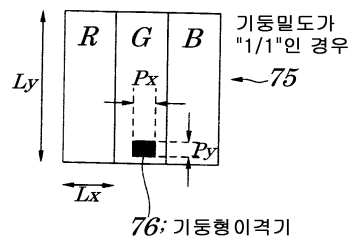
13b



13c

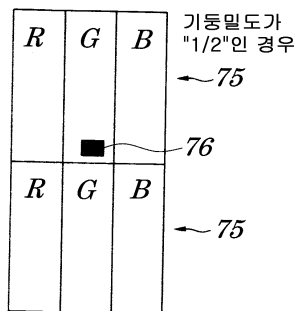


14a

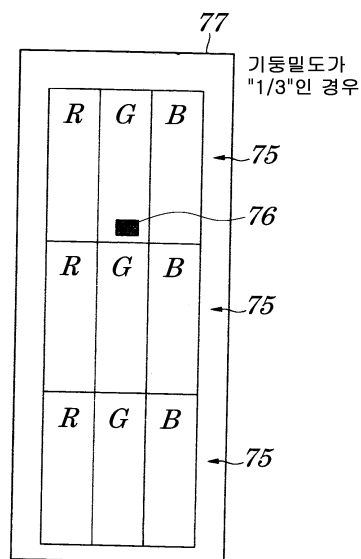


$L_x: 93.5\mu$ $L_y: 280.5\mu$
 $P_x: 10\mu$ $P_y: 15\mu$

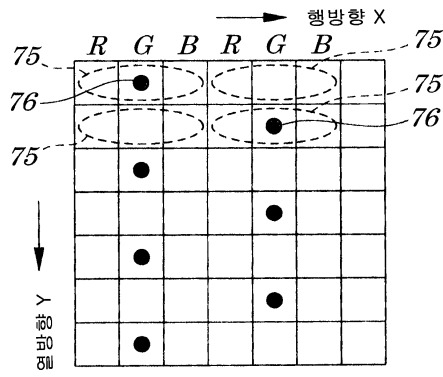
14b



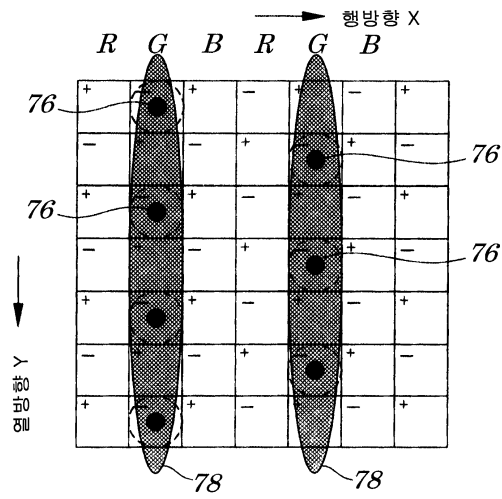
14c



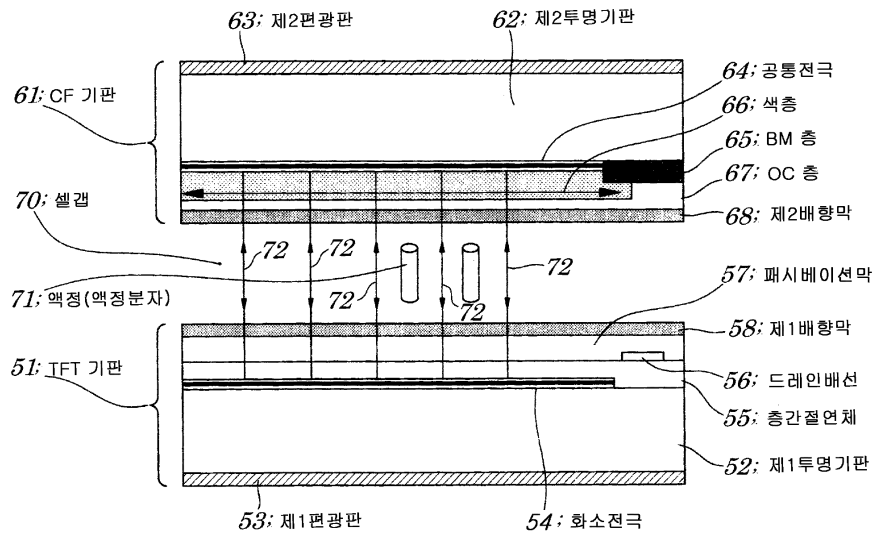
15



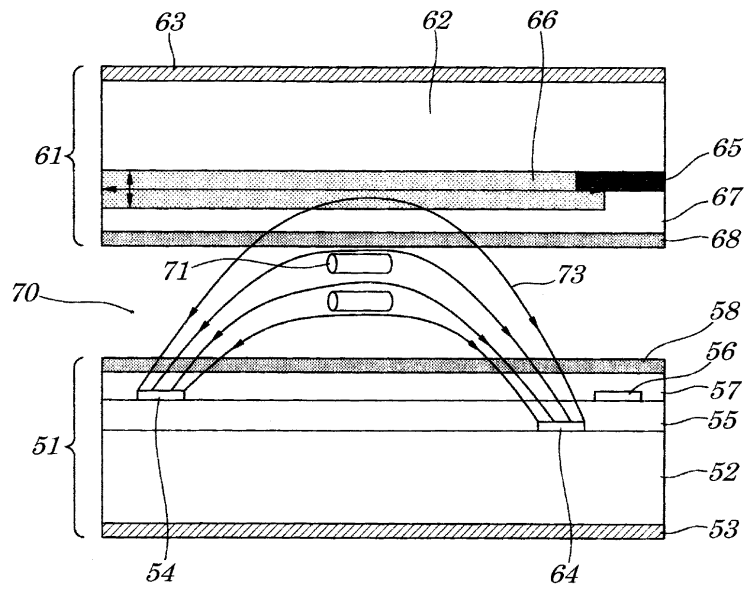
16



17



18



专利名称(译)	液晶显示装置及其制造方法和滤色器基板		
公开(公告)号	KR1020020036737A	公开(公告)日	2002-05-16
申请号	KR1020010069566	申请日	2001-11-08
[标]申请(专利权)人(译)	NEC液晶技术株式会社		
申请(专利权)人(译)	日元号技术可否让这个夏		
当前申请(专利权)人(译)	日元号技术可否让这个夏		
[标]发明人	MATSUMOTO KIMIKAZU 마쓰모토기미카즈 WATANABE MAKOTO 와타나베마코토		
发明人	마쓰모토기미카즈 와타나베마코토		
IPC分类号	G02F1/1335 G02F1/1339 G02F1/133 G02F1/1343		
CPC分类号	G02F1/134363 G02F1/13394		
代理人(译)	JO, EUI JE		
优先权	2000342163 2000-11-09 JP		
其他公开文献	KR100443236B1		
外部链接	Espacenet		

摘要(译)

目的：补偿信号电荷的影响，防止横向电场的干扰，即使柱状隔离物带有信号电荷。组成：在液晶显示器件中，表示柱状衬垫的横截面积与三种单位像素R，G，B的面积的比例的列面积比控制在0.05%至0.15%。一对柱状衬垫26仅布置在沿着以矩阵排列的单位像素的行方向X或列方向Y的任意位置彼此相邻的像素中。

