

(19) (KR)
(12) (A)

(51) 。 Int. Cl.⁷ (11) 10-2004-0071959
G02F 1/1335 (43) 2004 08 16

(21) 10-2003-0007881
(22) 2003 02 07

(71) . 20

(72) 2 1027-3 301

(74)

:

(54)

IC 가
, 1
(Red) , (Green) 2
2 (Blue) , (White) 2
3 (Green) (Red) ,
1 3 .

6

IC, RGBW

1

2

3

4 RGBW

5

6

7

* *

51 : 51a :

51b : 52 :

53 : 54 :

55 : 56 : DC/DC

57 : LCM 58 :

59 : 60 :

IC

가 LCD
 (Liquid Crystal Display Device), PDP(Plasma Display Panel), ELD(Electro Luminescent Display), VFD(Vacuum Fluorescent Display) 가 가

CRT(Cathode Ray Tube) LCD가 가

가

()

가

가

가

가 가

CCFL(Cold Cathode Fluorescent Lamp)

가

가

가 (Normally white) 가

가

가

1

(G) (D)

(1) (1) (8)

(2) (1)

b) (2) (1) (1) 가 (1a) (1)

(1) (R, G, B) (Vsync, Hsync) (1b) (1)

a)가 (DCLK) (DTEN) (1) (4) (4)

(3) 가 (1b) (5) (4) (1)

(V_{DD}), (V_{GH}), (V_{GL}), (V_{ref}) (Vcom)

DC/DC (6) (8) (9)

(3)가 (PC) (R, G, B)

(Vsync, Hsync) (DCLK) (DTEN) (1)

(1b) (1a)가 (1a)가 (1)

(Control signal) 가 (1b)가 (1)

(8)

(1) (pixel)

2

4 RGBW

3

2 (Pentile[™] 1A) (Red) (Green) ClairVoyante Laboratories (社) (Blue)

3 RGB (stripe) , R B G

2 3

, 2 1 (Red) (Green) , (Blue)

1

, 2 3 2

, 3 RGB 1 (Red), (Green), (Blue)

, RGB 3 1

2 3 가 , 2 (Pentile TM 1A) 가 4 , 6

가 , 3 RGB 가 2 3 가

Pentile TM 1A 가 2 가 2 가

IC IC

Pentile TM 1A 가 ,

, Pentile TM 1A 가

4 , CRT RGB (white) 가 RGBW

, IC (數)가 4/3 가 가

가

, (Pentile TM 1A) 가 가

, RGB (stripe) IC (數)가 가 ,

IC 가

, RGBW RGB IC (數)가 4/3 가

가

, IC 가

(Green) 1 (Red)
 (Blue) 2
 (White) 3
 (Green) (Red)
 1 3
 (Blue) (White) (Red) (Green) 가
 (Blue) (White) 1, 3 (Red) (Green)
 1/2
 (Red), (Green), (Blue), (White) 1:1:
 1:1
 (T)가
 IC
 5 6
 7
 (D) 5 (51) (G)
 (52) (51) (51) (58)
 (51b) (52) (51) 가 (51a) ,
 (51) (R_i, G_i, B_i) (Vsync, Hsync)
 (DCLK) (DTEN) (R_i, G_i, B_i)
 (R_o, G_o, B_o, W_o) (60) , (51)
 (51a)가 (R_o, G_o, B_o)
 (51b) , W_o) (54) , (54) (53) , 가 (51)
 (54) (51) (51b)
 (V_{GL}), (V_{ref}) (Vcom) (V_{DD}), (55) , (V_{GH})
 (58) (59) DC/DC (56) ,
 (53)가 (PC) (R_i, G_i, B_i)
 (Vsync, Hsync) (DCLK) (DTEN)
 (51) (51b) (51a)가 (51)
 (Control signal) 가 (51a)가 (51b)가 (51)
 (58)

, 6 (Blue) 1 (White) (Red) (Green) , 2 (Green) (Red) 3
 1, 2, 3
 1 (Red) (Green) , 3 (Green) (Red) 2 (Blue) (White) 1, 3
 ue) (Blue) (White) 1, 3 (Red) (Green) (Red) (Green) 가 , (Bl
 1/2
 6
 6 'A' , R,G,B,W 가 1:1:1:1
 (White balance) 가
 7 (G/L1, G/L2) ,
 (D/L1,D/L2,D/L3) , (T) , (T)
 (Clc) , (T) (Cst)가
 , 6 'A'
 7 , 6
 (T)가
 (Blue) 1 (White) 1 (Red) (Green) 2
 Green) 1 (Red) 2 (Blue) (White) 3 ((R,G,B,W) 6
 RGB 3 , 2 6
 2, 3 1, 2 (D/L1, D/L2) , 2 (D/L2, D/L3)
 3
 RGB IC 1/2
 RGB
 (white) R,G,B

$$W_{sub} = \frac{3R_i G_i B_i}{R_i G_i + G_i B_i + B_i R_i} \text{ or } W_{sub} = \left(\frac{3R_i G_i B_i}{R_i G_i + G_i B_i + B_i R_i} \right)^2 \quad 1$$

$$W_{sub} = \min(R_i, G_i, B_i) \text{ or } W_{sub} = (\min(R_i, G_i, B_i))^2 \quad 2$$

$$W_{sub} = \min(R_i, G_i, B_i)$$

$$R_o, G_o, B_o = \left(\frac{W_{sub} + \max(R_i, G_i, B_i)}{\max(R_i, G_i, B_i)} \right) (R_i, G_i, B_i) - W_{sub} \quad 3, 4$$

$$R_i : G_i : B_i = R_o + W_{sub} : G_o + W_{sub} : B_o + W_{sub} \text{ 가 } R, G, B$$

가

가

가

RGB

IC

가

RGB

, R, G, B, W 4
(White balance) 가

1:1:1:1 ,

RGB

가

(57)

1.

1

(Red)

(Green)

White) , 2 2 (Blue) (

) , 3 (Green) (Red

1 3

2.

1 ,

(Blue) (White) (Red) (Green) 가

3.

1 ,

(Blue) (White) 1, 3 (Red) (Green)

1/2

4.

1 ,

(Red), (Green), (Blue), (White) 1:1:

1:1

5.

1 ,

.

6.

5 ,

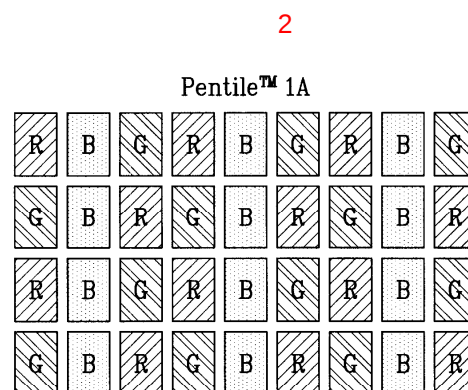
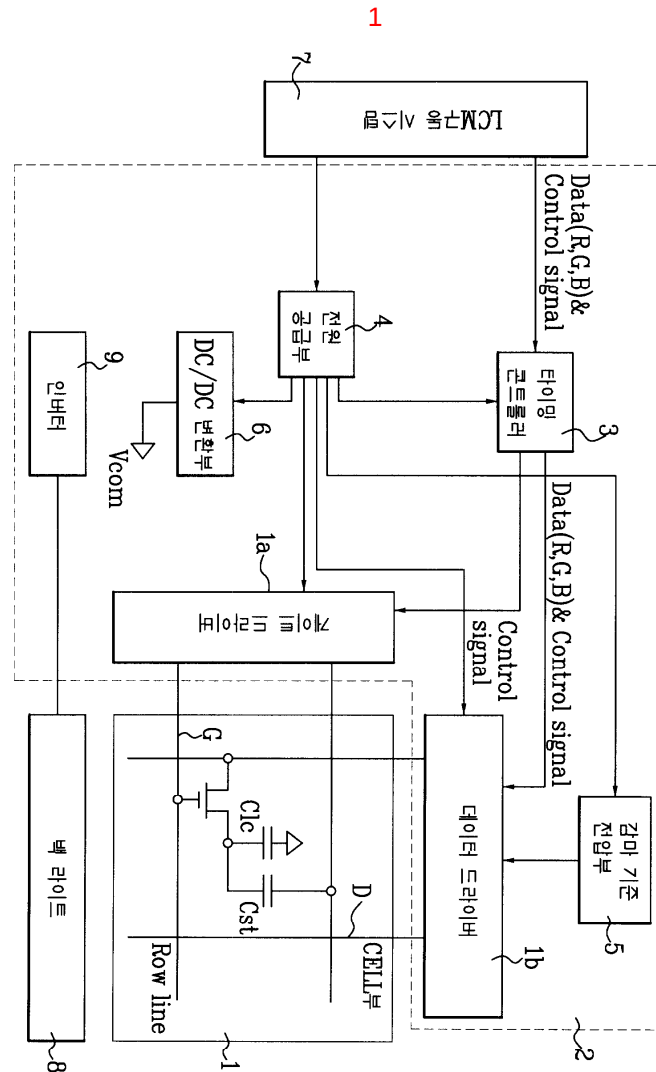
(T)가

7.

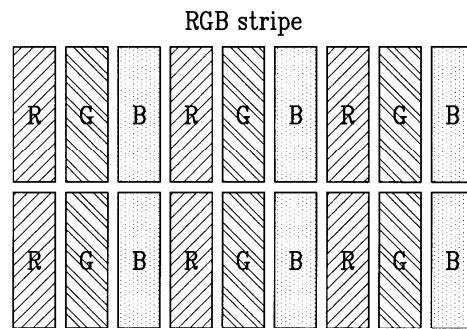
6 ,

,

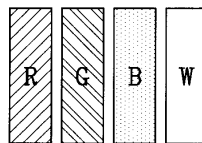
.



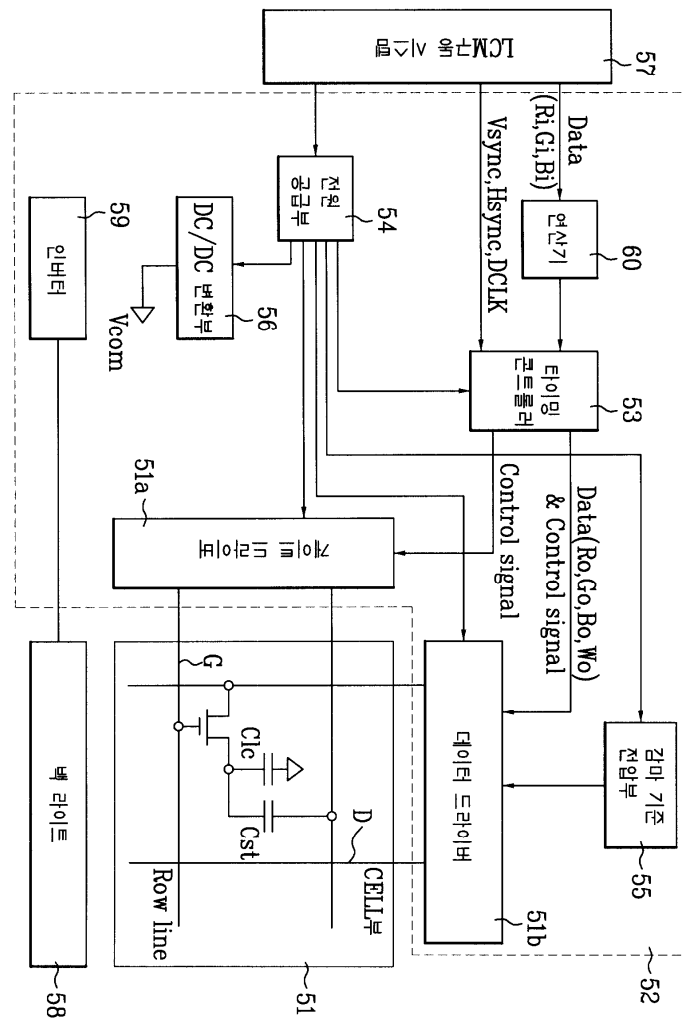
3



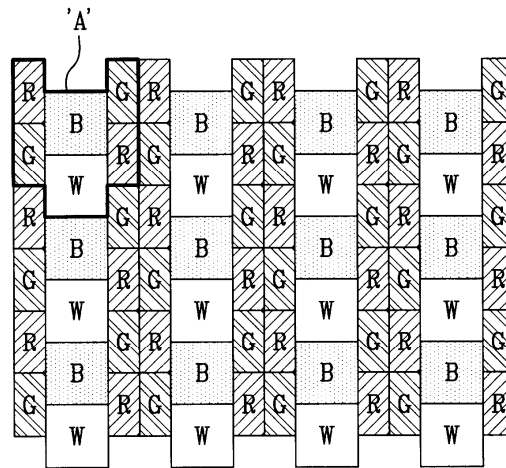
4



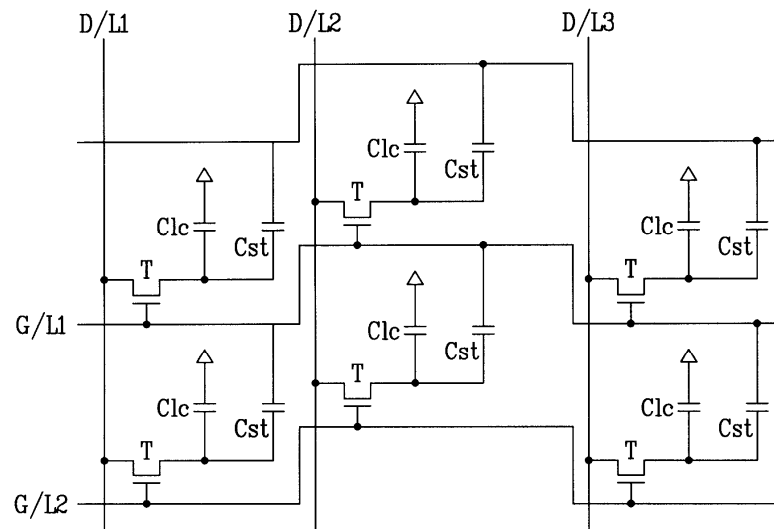
5



6



7



专利名称(译)	液晶显示器		
公开(公告)号	KR1020040071959A	公开(公告)日	2004-08-16
申请号	KR1020030007881	申请日	2003-02-07
[标]申请(专利权)人(译)	乐金显示有限公司		
申请(专利权)人(译)	LG显示器有限公司		
当前申请(专利权)人(译)	LG显示器有限公司		
[标]发明人	BAEK HEUMEIL 백흠일		
发明人	백흠일		
IPC分类号	G02F1/1335		
CPC分类号	B66F11/00 B66F19/00		
代理人(译)	金勇 新昌		
其他公开文献	KR100475115B1		
外部链接	Espacenet		

摘要(译)

为了实现上述目的，本发明提供了一种液晶显示装置，包括：基板；多个数据驱动器IC；红色和绿色子像素交替排列在第一线区域和蓝色子像素中，交替排列在基板的第二线区域中，以便具有红色和绿色子像素宽度的两倍的宽度，绿色和红色子像素交替排列在基板的第三线区域中，以便具有与红色和绿色子像素相同的宽度，并且重复地布置具有子像素的第一至第三线区域。6 指数方面 数据驱动IC，RGBW

