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(71)

가 가 가 가 4 1 - 1

(72)

가 가 가 가 4 - 1 - 1 가 가

가 가 가 가 4 - 1 - 1 가 가

가 가 가 가 4 - 1 - 1 가 가

(74)

:

(54)

(劣化), ,

1 (T_A), 3 (T_C), (T_B) (T_D) 25% . T_B + T_C = T_A + T_D T_B = T_D . 75% .

1	(1, 2, 3)	.
2		.
3		.
4	LED	.
5	(1)	.
6	(2)	.
7	(3)	.
8	(4)	.
9	(4)	.
10	(5)	.
11	(5)	.
12	(5)	.
13	(5)	.
14		.
15		.
16		.

* *

- 3 :
- 7 : LED
- 21 :
- 22 :
- 23 : (階調數)
- 24 : / (非)
- 25 :
- 31 :
- 35 :
- 60 :
- 70 : (光源)

(同期) (各色) (field-sequential) ,

가 , PDA(Personal Digital Assistants) (屋外) 가

가 , 가

가 (低) 가

(大別)

() (視認性) , (full) 가

TFT(Thin Film Transistor) TN(Twisted Nematic)

TFT TN STN(Super Twisted Nematic) (

高) , 가 (現狀) 4% , 가 , (純度)

, 1 3 (副) , 가 , (純度)

, (, AM-LC

D'99 Digest of Technical Papers(T.Yoshihara, et. al., 185 , 1999) SID'00 Digest of Technical

Papers(T.Yoshihara, et. al., 1176 , 2000)).

, 가

, , (利點) ,

, (2ms)

, 100 1000

15 , 가 TFT (長軸) ,

, 2 ,

16 , 16 (a)

, 16 (b) , 16 (b)

. 1 3 , 16 (a)

, 16 (a) , ,

, (半分) ,

가 가 ,

(, 11-119189).

T_B , T_C , T_A , T_D
 $T_B + T_C = T_A + T_D$

3 (T_B) (T_C) (T_A) (T_D)
 가 + 가

4

4 가 (sequence),
 (margin)

5 1 4

5 가 (單色)

6 1 4

6 가 가 r, g, b , 3
 $r' = r - w, g' = g - w, b' = b - w, w = 4$
 r, g, b r', g', b'

0 가

5 가

7 1 6
 (出射) /

7 /

8 1 6

/

8 /

가 , .

9 , 1 8 , , .

9 , , , , , , .

11 , , , 1

1 4 7 10 () (, ,) , (11)

가 , 8, 9 , 2ms 가 , 가 (反轉) , 가 , 가 , 가 (1)

1 1 , 3 , 2 LED

1 , 21 22 2 가 LED (7) (導光)

2 3 (2), (3), (4), (21) () () (1), (3) (5) () (40, 40...)

(3) (40, 40...) (32) (33) TFT(Thin Film Transistor)(41) (33) T

(50)가 (32) (42) TFT(41) (40, 40...) TFT(41) (42) T

FT(41) (32) , 가 (4) (11, 12) (40, 40...) (12) , (3) (11) (13) 14 (13)

(22) (21) () , (6) (端面)
) LED (7)가 , LED (7) , 4 , ,
 (6) 3 , , (R), (G), (B) LED가 , ,
 , , , LED (6) LED ()
 7) LED ,
 .
 (21) , , (21) 가 (22) (22)
 , (21) / .
 1 , 31 (SYN)가 , (CS)
 . (30) (PD)가 (32) (CS)
 (PD) 가 (32)
 (21) , 가
 가 .
 , (31) (CS)가 (34), (32),
 (33) (35) (34) VR1 VR2
 , VR1 (32) , VR2 (33) .
 (32) (30) (PD) (31) (CS)
 , (40) (42) (33) (33)
 (40) (43) (22) LED (7)가 , , (35) LED
 (22) .
 , (30)
 (PD)가 , (30) , (PD) (3)
 1) (CS) (32) , (33) , (31)
 (35) (34) (CS) VR1 VR2 ,
 VR1 (32) , VR2 (33) .
 , (32) , (CS) , (30) (PD)
 , (40) (42) . (33) , (CS) ,
 (40) (43) TFT(41)가 , (40) 가 , 가 .
 (33) (35) , (CS) (22) (22) LED
 (7)가 , , LED (經時的) , ,
 .
 , (40, 40...)(640×480, (對角) 3.2) TFT
 , (3) (2) 200 (燒成) ,
 200 (11, 12) , (11, 12) (rayon)
 , (14) 2 (粒徑) 1.6μm
 (empty) (11, 12)
 , (封入)
 (13) 8nC/cm² . (cross-nicole)
) 2 (1, 5) (21) , 가
 (暗)
 (21) , , 가 LED (7)
 (22) , , .
 5 1 , 5 (a) (21)
 , 5 (b) (22)(LED) , , / 1 3
 , , 1 LED

LED /

LED /

(T_A) (T_C) 25% 25%
 (T_B) (T_D)
 25% , $T_B + T_C = T_A + T_D$ $T_B = T_D$.

(22)(LED)

(22) ($T_A + T_B + T_C$) 75% .

가 , 가 ,
 60Hz , 가 ,

(單體) 1850cd/m² 176cd/m²
 9.5% 1.1W .

1 , 16 (T_A) (T_C) 50% ,
 (T_B)
 (T_D) 0% 7.1% .

2465cd/m² 174cd/m²
 1.5W .

5 1 16 , 가 ,
 가 1.3 (混色) , 가 ,

(2)

1 T_A, T_B, T_C, T_D 2 .
 1 (等方相)- C (相轉移) (11, 12)
 (13) 10V 가 C
 ± 3 (100 94) (13) (昇溫) , -1 / (25)
 (120) (昇溫) , (25) 11
 nC/cm² 2 (1, 5) (21) ,
 가

(21) , 가 LED (7)
 (22) , ,

6 2 , 6 (a) (21)
 6 (b) (22)(LED) , /

1 3 , (T_A) (T_C)
 20% , (T_B)
 30% , ($T_B + T_C = T_A + T_D$) $T_B = T_D$.
 30% , $T_B + T_C = T_A + T_D$ $T_B = T_D$.

(22)(LED) , 1 ,

(22) $(=T_A + T_B + T_C)$ 70% .

가 , 가 ,

60Hz .

10.6% 1725cd/m² 183cd/m² 1.0W .

2 2465cd/m² 16 179cd/m² 7.3% 1.5W .

6 2 16 가 2 가 , 가 , 가 1.4 .

(3)

1 T_A, T_B, T_C, T_D , 3

7 3 (b) (22)(LED) , 7 (a) (21) / .

1 3 , $(T_A), (T_B), (T_C), (T_D)$, 1 , 25% .

(22)(LED) / 1 (22) . 1 (22)

3 (22) , (22) (T_E, T_F) .

7 $(=T_E + T_A + T_B + T_C + T_F)$ 85% 5% . (22)

가 , 가 ,

60Hz .

8.4% 2096cd/m² 177cd/m² 1.2W .

7 3 16 가 3 가 , 가 , 가 1.2 .

(4)

가 , 0) , (LED) 가 (,

가 4 , 가 0 , , , 가

8 4 , 4 8 , 1 2

8 , 23 , , (PD) , (, ,) LED / / 24 (,)

/ (24) , (23) (, ,) (PD) 가 0 (35) (31) , (CS) L (送出)

9 4 , 9 (b) (22)(LED) , 9 (a) (21)

4 , (23) , 2 (6) , (24) (35) 가 0 , 가 0 LED (21) , / (24)

4 , 1725cd/m² 183cd/m² 10.6% 1.0W , 1.0W , (赤黑), (綠黑), (靑黑) 가 , 0.28W

4 LED , , , , (, ,) 1.0W , 4

(5)

5 , 4 , 3 , , , 4

10 (a) (r'), (g'), (r), (g), (b) , 10 (b) (最低) , 10 (a) , (r, b) (g) (r'=r-g, b'=b-g)

, (g) (g) (w=g) (g'=-g-g)

, 5 , 1 , , 가 0 LED , 4

5 (LED) / .

(22) 5, 11 (小) , 5 (小) (22a 22e) (21) LED /

가 0 ,

LED .

12 5 . 12 , 1 8

LED (7) , LED

12 , 25 , 3 (PD) (25)

4 (PD') (23) (30) (23)

(PD') (24) , (PD') 가 0 (35) ,

(21) 5 (24) / (24) , (PD') 가 0 (35) ,

(35) (31) (31) , (31) , (

CS) LED (22) , (31) , (31) , (

(31), (32), (33), (34)

(PD)가 (PD') , 1 4 ,

13 5 , 13 (a) (21)

60Hz 1 13 (b) (22)(LED) , , /

3 (22) / , 13 (b) , 1 (21) /

가 (22) , / (24) LED 70% ,

(22)

2 가 LED (7) (21) , (21) , ,

(22) , 13 LED

(23) (, , 가 , 0) , / 가 0 (24)

(35) 가 ' , , 가 0 LED /

(24) (31) , (21) .

0.9W, (, ,) 1.7W , 0.26W

1190cd/m² 180cd/m² ,

15.1% .

5 5 , LED , , ,

1.7W , (, ,)

5, 5

LED (DMD) LED, EL 가

14 14
2 (R, G, B) (60, 60...)가 (40, 40...)
3 (3) (2) 가 (22) (40, 40...)
(70) (6)

50%, 1 ()

(1)

, 1

(2) 1

(3)

$T_A, T_B, T_C, T_D, T_B + T_C = T_A + T_D$

(4)

(5) 1

(6) 1 4

(7) /

(8) , , / , 1 6 .

(9) , 1 8 .

(10) 1 9 .

(11) 10 .

(12) 가 , 가 10 11 .

(13) , , 1 .

(14) , , 1 .

1 , 가 , .

(57)

1. (光源) (入射) (同期) (field-sequential) , (走査) , 1 .

2. 1 ,

3.

$$T_B + T_C = T_A + T_D$$

4.

5.

1 4

6.

1 4

7.

1 4

(出射) /

8.

1 4

/

9.

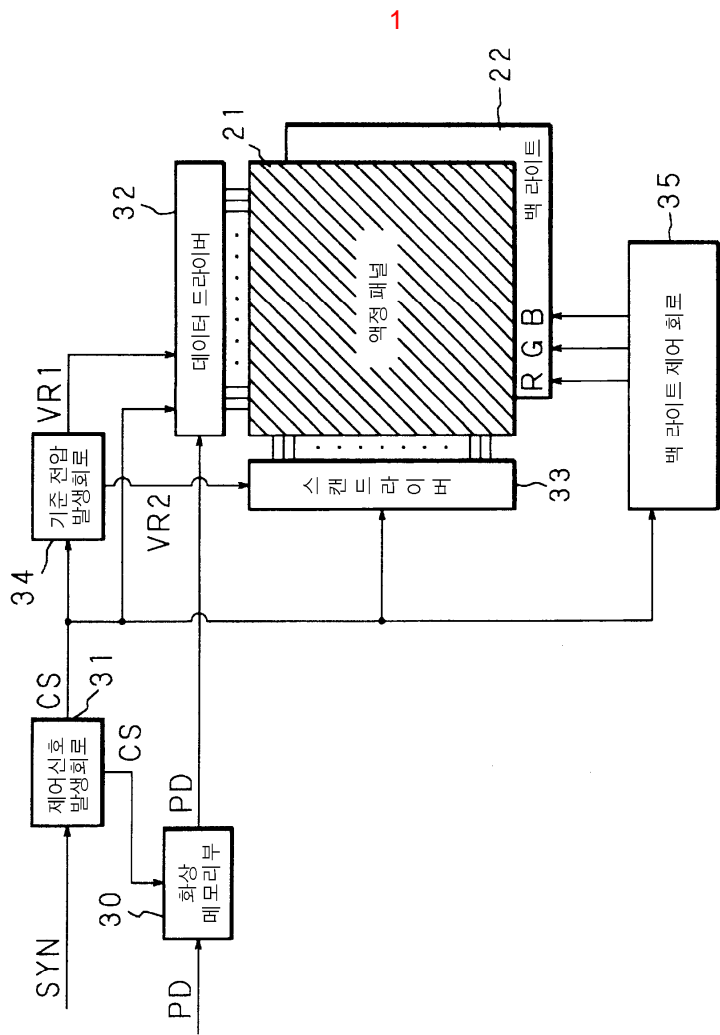
1 4

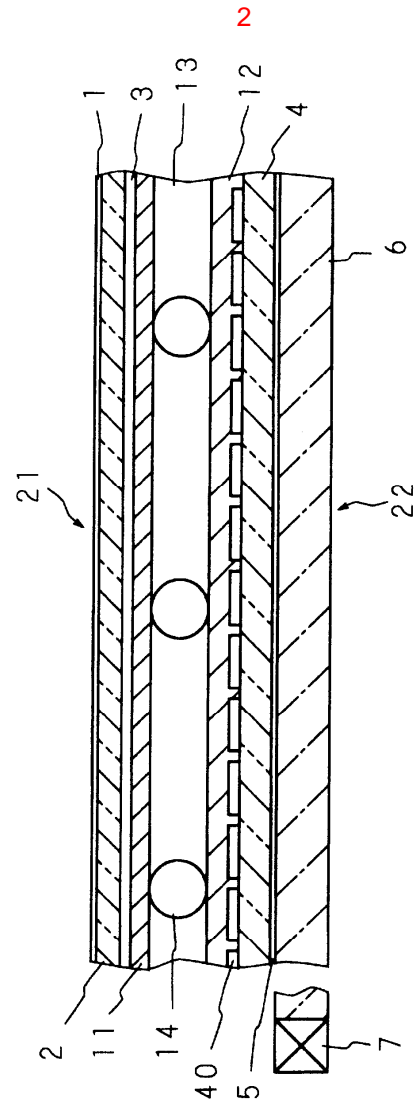
(非)

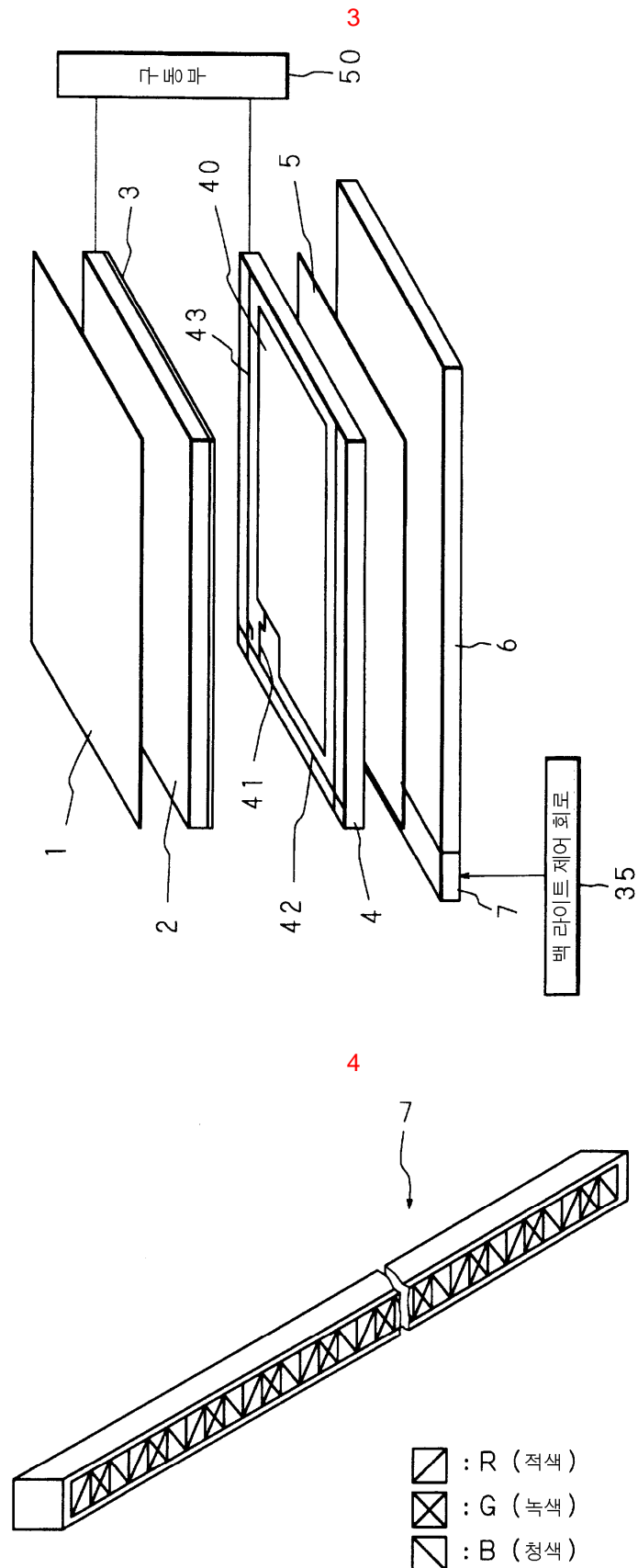
10.

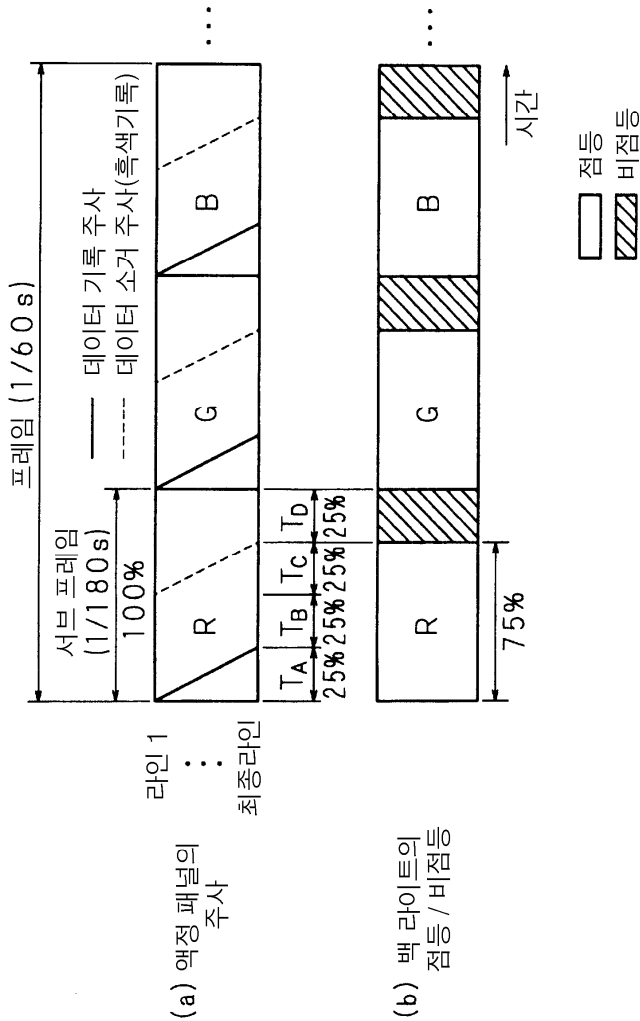
11.

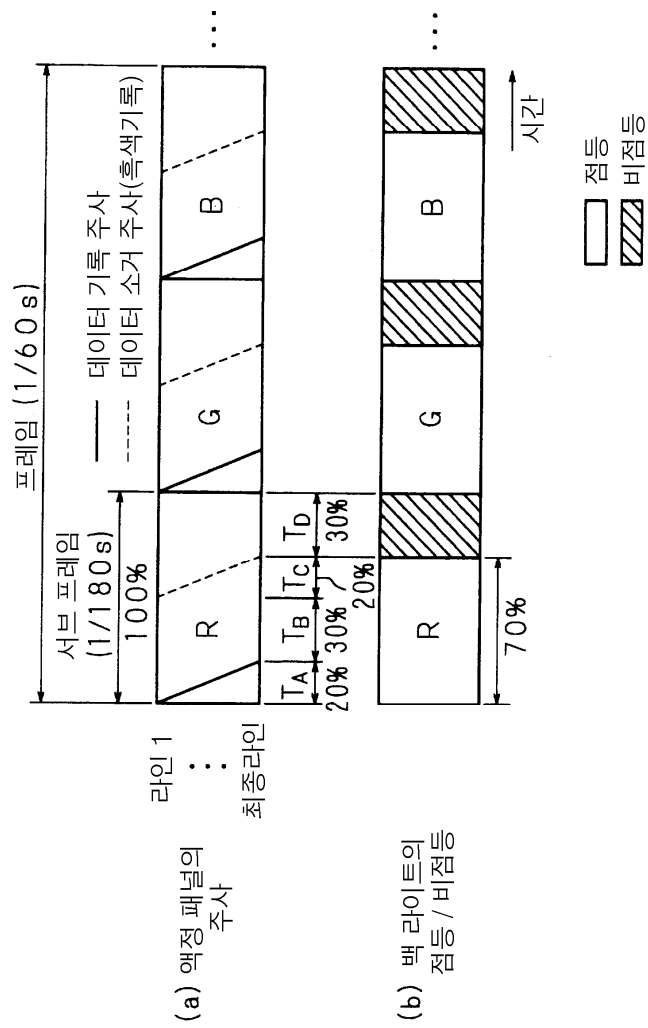
, 1

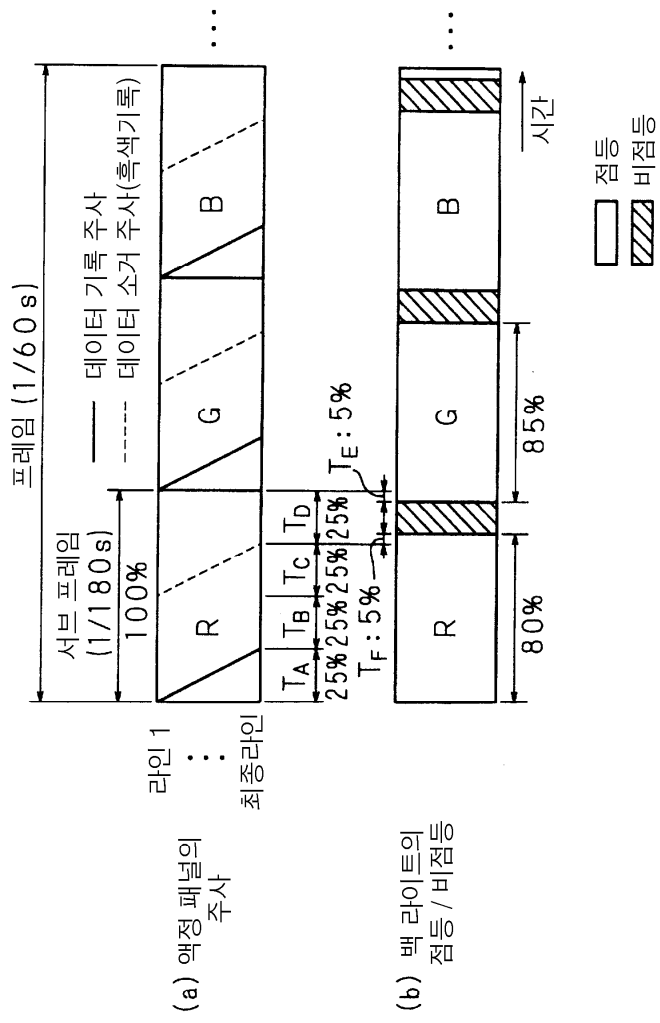




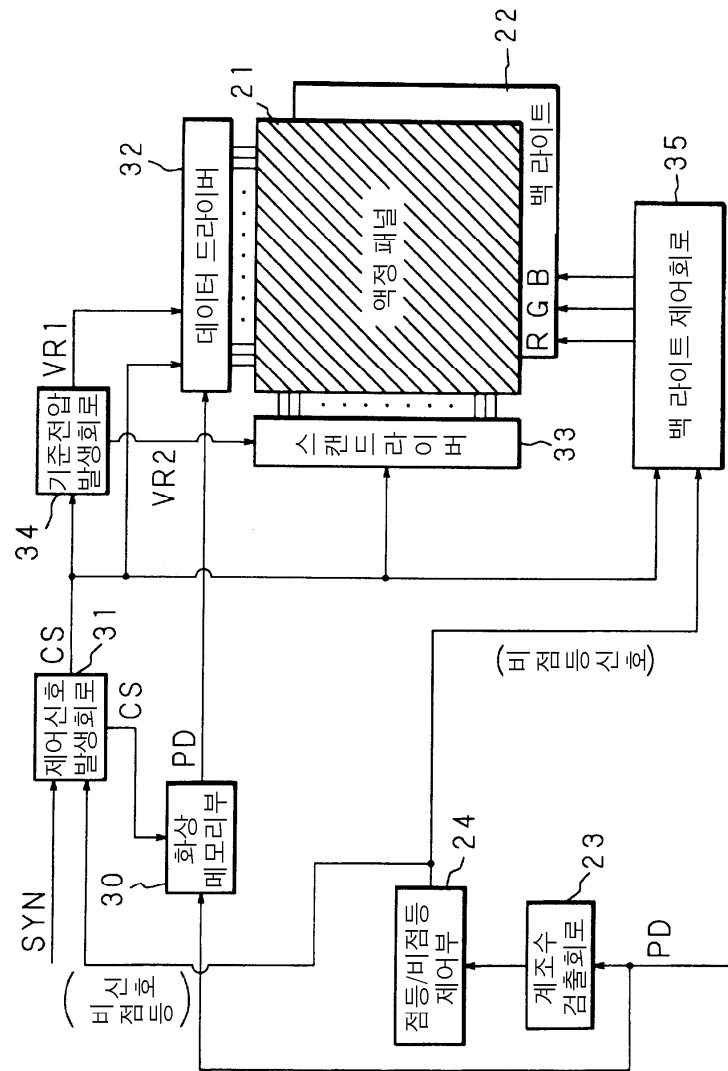


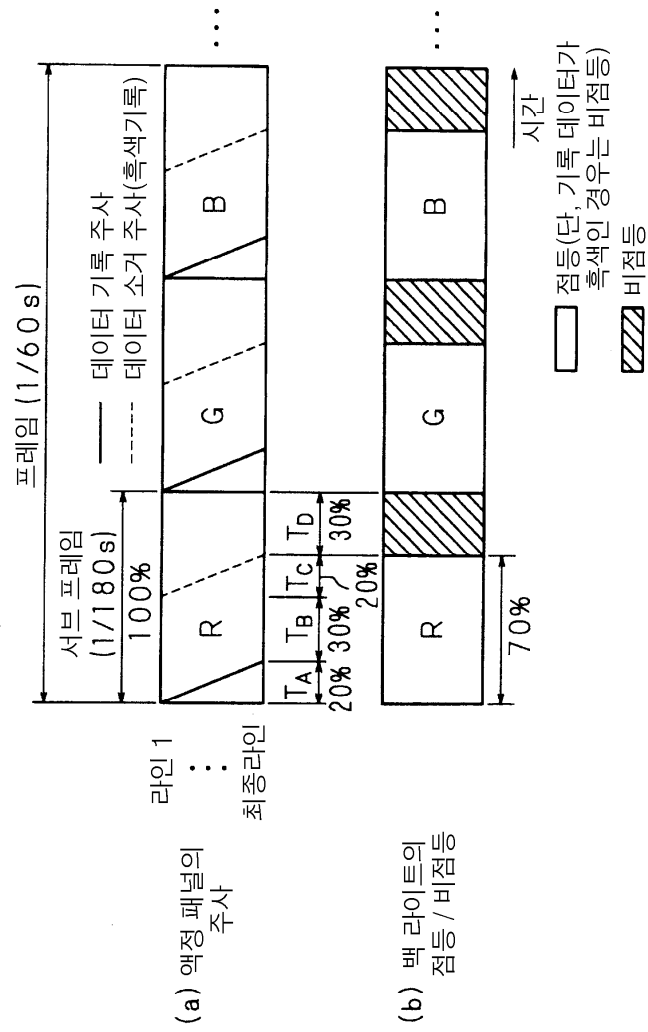




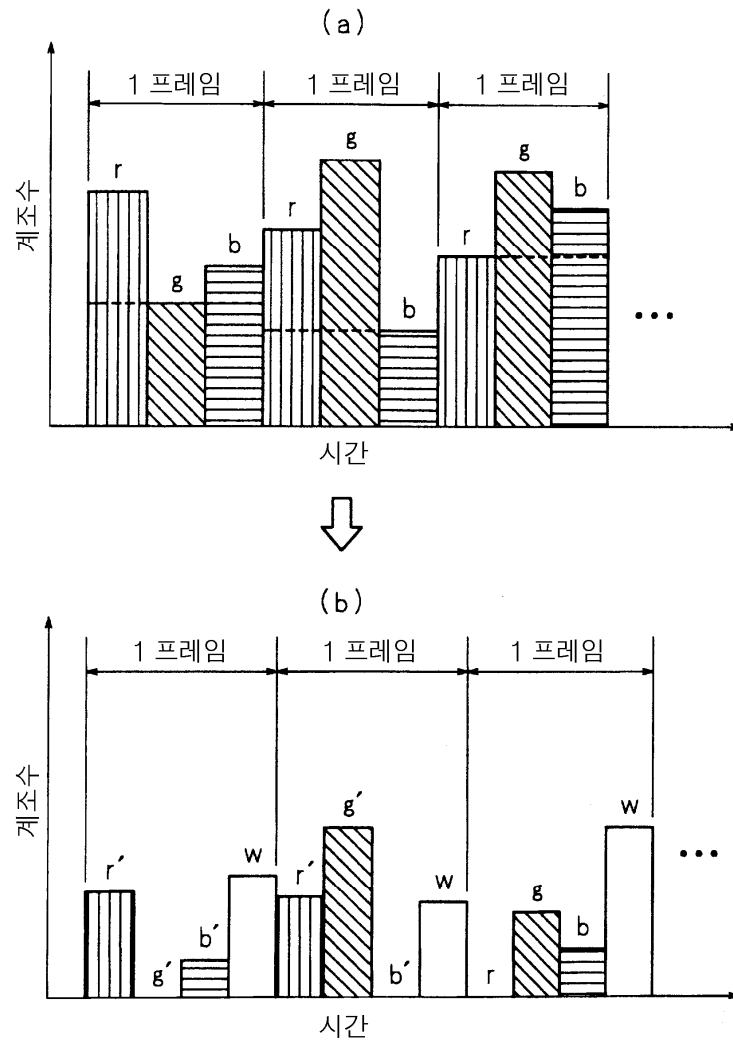


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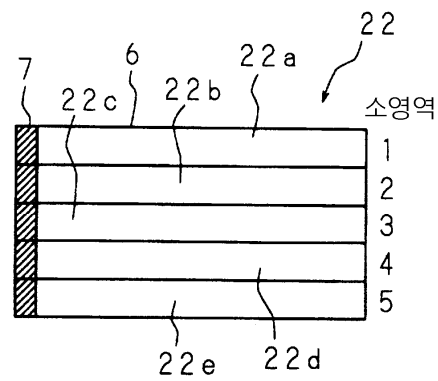


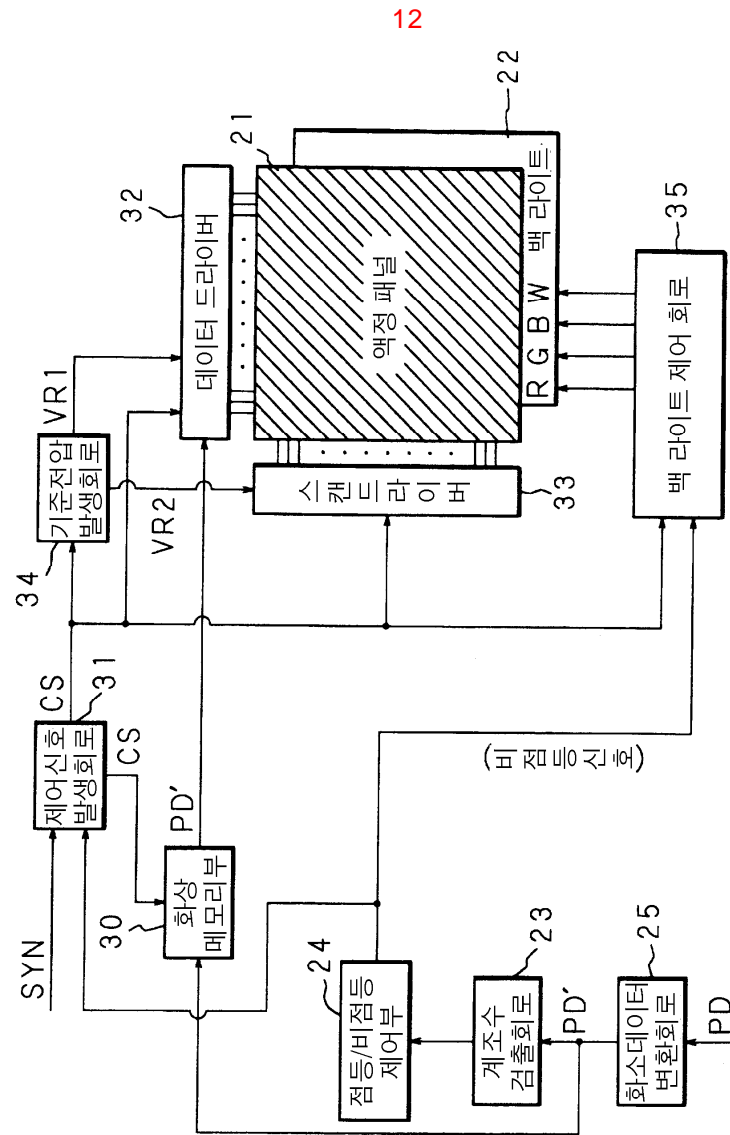


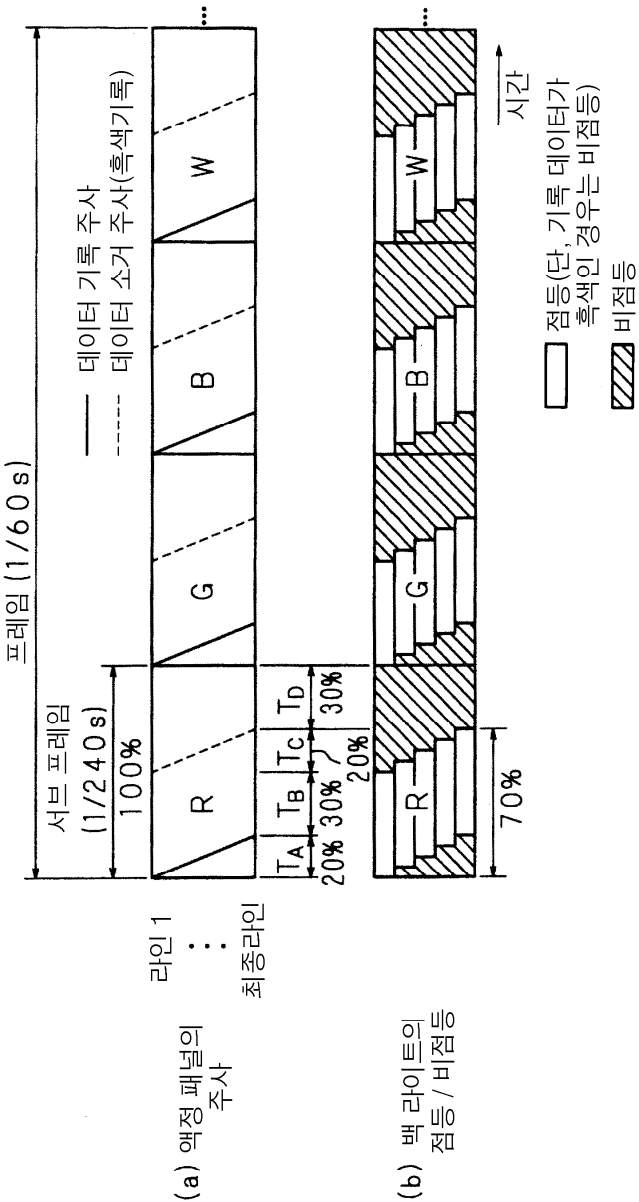
10

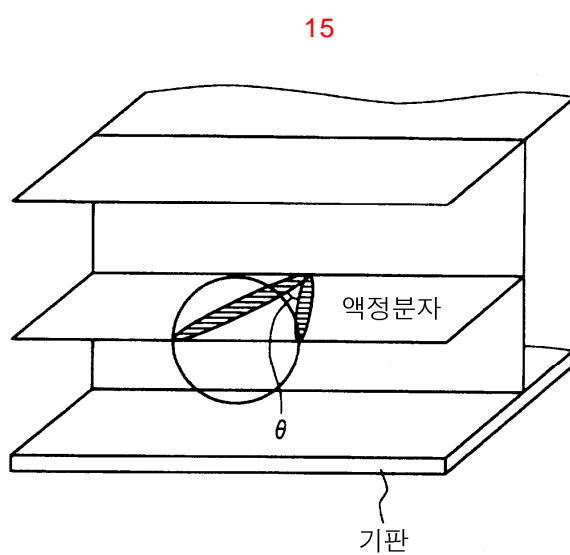
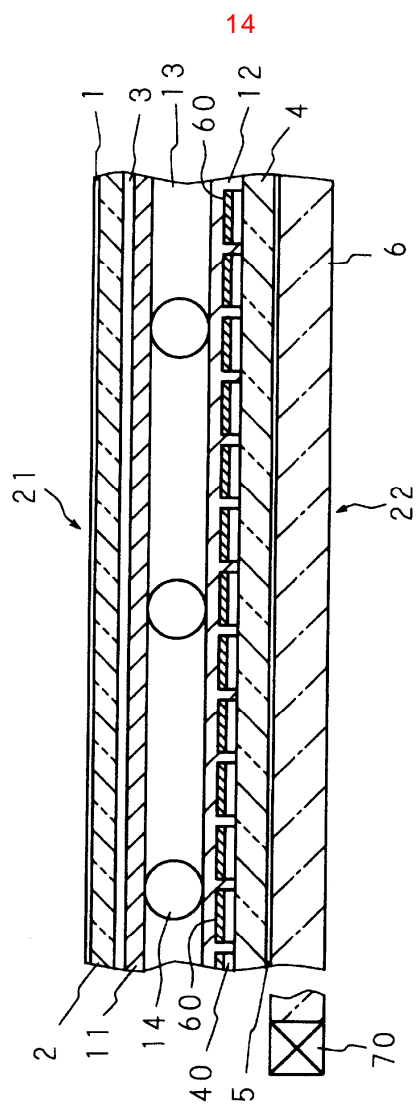


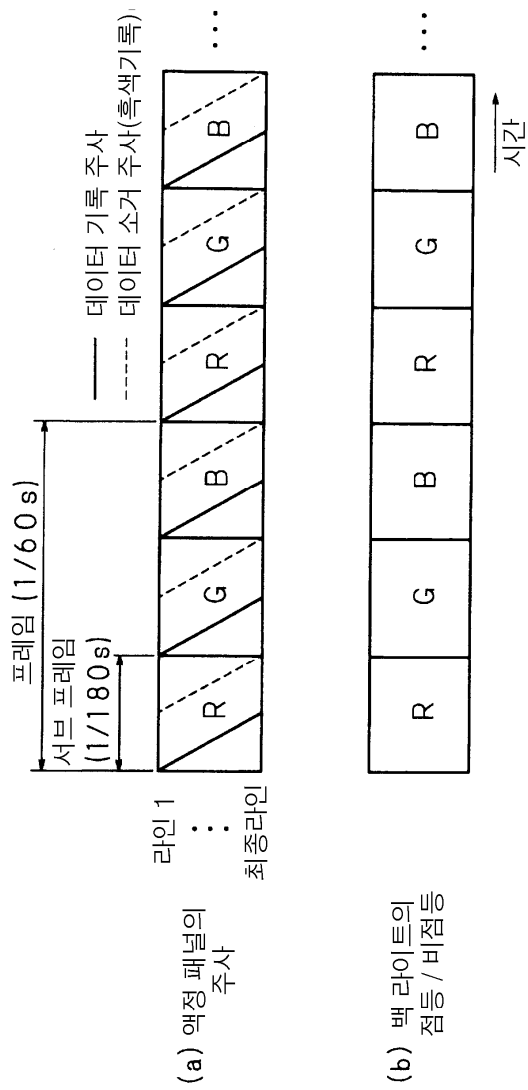
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专利名称(译)	显示装置和显示方法		
公开(公告)号	KR1020040053786A	公开(公告)日	2004-06-24
申请号	KR1020030085406	申请日	2003-11-28
[标]申请(专利权)人(译)	富士通株式会社		
申请(专利权)人(译)	富士sikki有限公司		
当前申请(专利权)人(译)	富士sikki有限公司		
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发明人	요시하라도시아키 마키노데츠야 베츠이게이이치		
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代理人(译)	MOON, KI桑		
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其他公开文献	KR100922118B1		
外部链接	Espacenet		

摘要(译)

本发明的目的在于提供一种显示装置和显示方法，该显示装置和显示方法导致显示清晰度的劣化，特别是亮度的降低和用于规划光学使用效率的提高。对于每个子帧，1帧可以被称为寄存器注入所需的时间 ($T(SB)A(/SB)$)，它划分为红色，绿色和3的子帧用于蓝色戏剧化，时间 (T) 取消扫描所需的 (SB) $C(/SB)$ ，以及从完成时刻到下一颜色 (下一子帧) 的寄存器注入的开始时刻的时间 ($T(SB)D(/SB)$) 从寄存器注入和取消扫描的完成定时到取消扫描的开始定时的时间 ($T(SB)B(/SB)$) 是子帧的25%。满足 $TB = TD$ 和 $TB + TC = TA + TD$ 的关系。在从寄存器注入的开始定时开始的取消扫描的完成定时的间隔中，背光灯点亮。间隔从间隔中的取消扫描的完成定时到下一颜色的寄存器注入的开始定时发出光。背光的点亮时间可以是子帧的75%。公共电极，LED阵列，背光，刻度数，液晶面板。

