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(22) 2002 06 18

(71) 416

(72) 810-4 206 905

2 1216-1 102 405

1012 114 202

(74)

:

(54)

, ,
, 가 , ,
가 . . , ,
가 . . , ,
,

2 가

3

4

5 7

(time divisional color display)

(dielectric anisotropy)

1

가

(flat panel display, FPD)

TFT - LCD 가

(thin film transistor, TFT)

TFT - LCD

1

3

가

가 (R), (G), (B)

가 R, G, B

(

R. G. B.

C, D
(LED),

(CCFL, cold cathode fluorescent lamp)

R, G, B (

5.5ms

1

가

7

,
,

1

2

2

1

,

가

가

1

2

1

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1 1 가 1 가 ,
1 가가 1 , 1
,

2 2 ,
2 2 가 2 가 ,
2 가가 2 1 ,
.

,
1 3 ,
1 3 가 3 가 ,
3 가가 1 , 1
4 ,
2 4 ,
2 4 가 4 가 ,
4 가가 2 2 ,
.

1 2 가가
1 2 ,
1 2 가
1 2 , 1
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가
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,

가 ,
가

1 , (liquid crystal panel assembly,
1) (300) (gate driver)(420) (data driver)

)(430), (420) (driving voltage generator)(560) (430)
 (gray voltage generator)(570), (300) (800)
), (800) (700), (signal controller)(550)
) .
 .
 (300) 가 (G₁ - G_n, D₁ - D_m) (pixel)
 , (C_{lc}) (G₁ - G_n, D₁ - D_m) (switching element)(Q)
 (scanning signal) (storage capacitor)(C_{st}) (G₁ - G_n, D₁ - D_m)
 (G₁ - G_n) (gate signal)
 (D₁ - D_m) (image signal) (data signal)
 G₁ - G_n) (D₁ - D_m) (Q) , (C_{lc})
 (C_{st}) .
 .
 voltage) (C_{lc}) (Q) (common voltage, V_{com}) (reference
 (C_{st}) . [, (previous gate line)']
 (previous gate type) .
 , (300) 2 . . 2
 .
 2 , (300) (100) (100) (200) (3)
 . 가 (100) (G_{i-1}, G_i) (D_j) (Q) (C_{st})
 (190, 270) (100) (190) (200) (200) (270)
 (190) (Q) (270) (200) (全面) .
 (V_{com}) .
 (3) (190) (270) (100, 200) . ()
 .
 (190) (C_{st}) 가 (100) (190) (190)
 G_{i-1}) (G_{i-1}) (C_{st}) . .
 2 (Q) (MOS) , (190)
 (amorphous silicon) (polysilicon) .
 2 (270) (100) (190, 270)
 .
 (800) (601-603) (6011), (6012) (601-603) (300)
 . . .
 (601-603)
 (800) 3 .
 .
 (800) (801), (800) (300) (807) (806)
 (805) (601-603) (802, 803), (804), (805) .
 (805) (300) (805) (300) (6011-6013)
 . . .

(8051-8053) , (8051-8053) (300) (8051-8053)
 (8010) 가 (8051-8053) (G₁-G_n) (8010) ()

(805) (8051-8053) (601-603) 가 (601-603) (805) (6011-6013)
 (808) , (808) (601-603) (601-603) 가 (8)

05) (806) (805) (805) (805)

(804) (805) (300) (805)

(804) (802, 803) (802) (802), (300)

(802, 803) (804) (802)

(801) (802) (802)

5) (805) (8051-8053) (8010) , (8051-8053) (8051-8053) (8051-8053) (601-603)
 (8051-8053) (8051-8053) (8051-8053) (8051-8053) (8051-8053) (601-603)
 (8051-8053) (8051-8053) (8051-8053) (300) (3001-3003) (804), (802, 803), (601-603)
 (801) 가

1 source driver) , (420) (430) (scan driver) (IC
 IC (300) (Q) IC (300) , (G₁
 -G_n, D₁-D_m) (300) (300) (300), (G₁-G_n) (560)
 (420) (V_{on}) (300) (V_{off}) (G₁-G_n) 가

(430) (gray voltage) (300) (D₁-D_m) (D₁-D_m) (570)

(300) (420) (430), (560), (700)

(550) (graphic controller)() RGB (R, G, B)
 V_{sync} (input control signal), (vertical synchronizing signal,
 (horizontal synchronizing signal, H_{sync}), (main clock, CLK),
 (data enable signal, DE) (550) (300), (R', B')
 (420) (430) (560) (550), (R, G, B) (300)

G', B') (LC) (700) (700), (R', B')

synchronization start signal, STV), (vertical
 CPV) (gate clock signal,
 (gate on enable signal, OE)

(OE) (CPV) (560)
 가 (horizontal synchronization start signal, STH)
 al, HCLK (load signal, LOAD TP) (data clock sign
 3) (LC) (601-603), (6011-601

$$\begin{array}{ccccccc}
 & (420) & & (550) & & (G_1 - G_n) & \\
 \text{가} & & (G_1 - G_n) & & (Q) & & (43) \\
 0) & (550) & & (570) & (Q)\text{가} & & \\
 G', B') & & (D_1 - D_m) & & (Q) & & \\
 & & & & 5.5\text{ms} & & \\
 \end{array}$$

(601-603) (6011-6013) . (700) (6011-6013) (550) (LC)
 (3001-3003), 가 (300) (3001-3003)
 (601-603), (3001-3003) (601-603)

4

(601) (6011-6013), (3001)
(6011-6013) (3001)
(601) (3001)

가 , (3002) (602)
, (3002) (602)
(6012) .

(3003) 가 (603) , (3003) 가 ,

가 (3001)
 (601) (6011) . (3001) 가 가
 (3002, 3003)

가 (6011-6013)

5 7 , (3001-3003) T1=T2 가 , (b) ,
 T2 T1=T2 . 가 . T1 T

2 , (b)

T1 T2

5 (c)

가

T3 T4 가

(300) (d)

가

(300)

가

6 (c)

가

50%

(T3, T4)

(300) 8

5.5ms

0.7ms

5

가

7

가

(6011-6013)

CCFL

가

가

0

(300) (d)

(601-603)

(300)

3

가

가 가

(57)

1.

2.

3.
1 ,

4.
3 ,

5.

6.

5 ,

2

6

7

9.

8 ,

10.

1 ,

가 ,

11.

10 ,

12.

10 ,

13.

10 ,

14.

13 ,

가

15.

1

2

1

1

,

1

1

가

1

가

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1

가가

1

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1

1

2

2

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2

2

가

2

가

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2

가가

2

1

2

16.

15 ,

1

3

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1 3

가 3

가 ,

3

가가

1

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1

2

4

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2

4

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2 4

가 4

가 ,

4

가가

2

2

4

17.

15 ,

1

2

가가

18.

15 ,

1

2

1 2

가

19.

15 ,

1

2

가

2

가

,

1

가

20.

, , ,

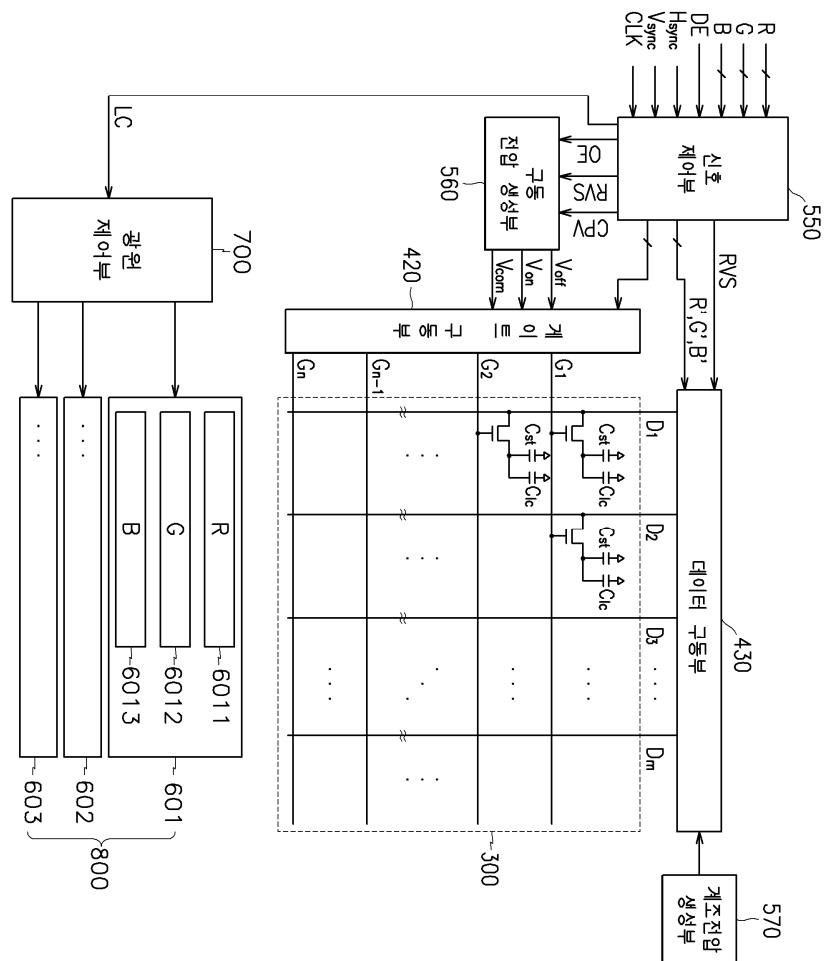
,

가

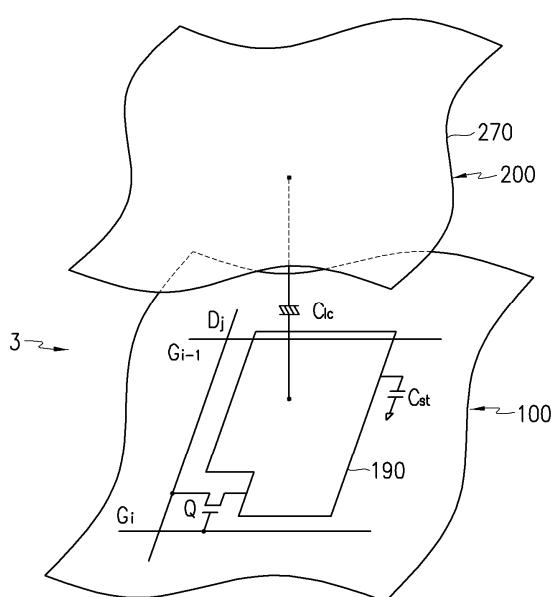
21.

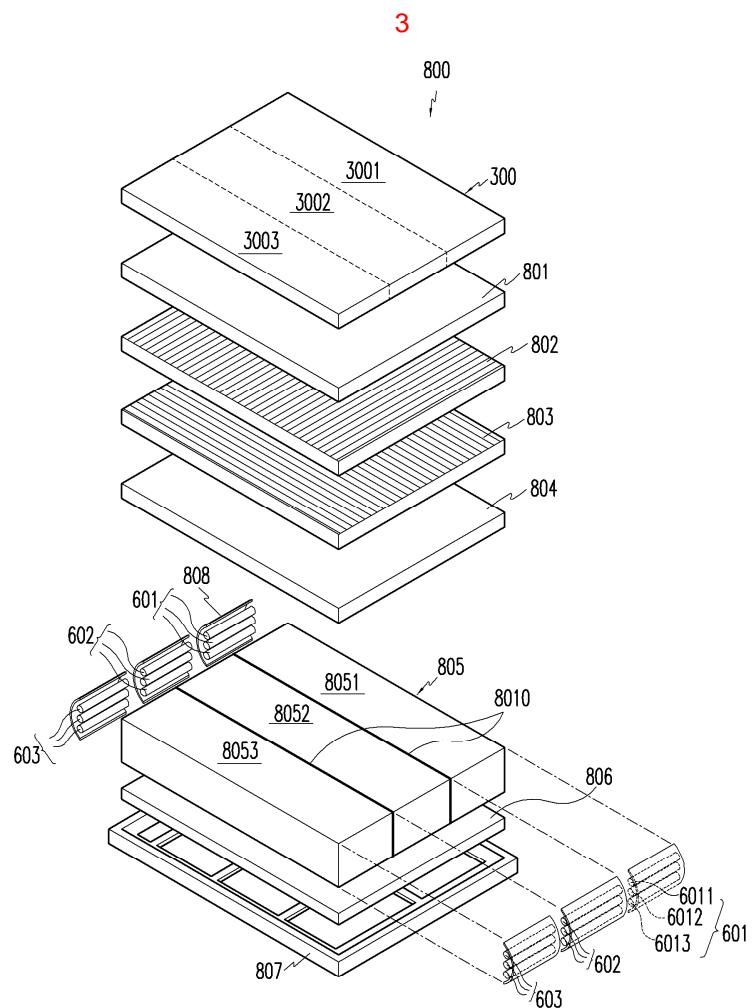
20 ,

1

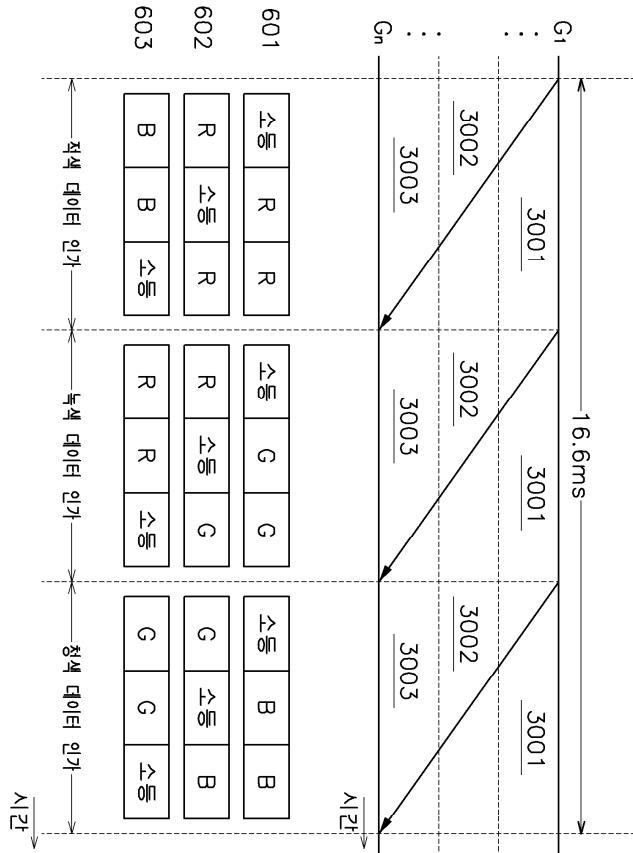


2

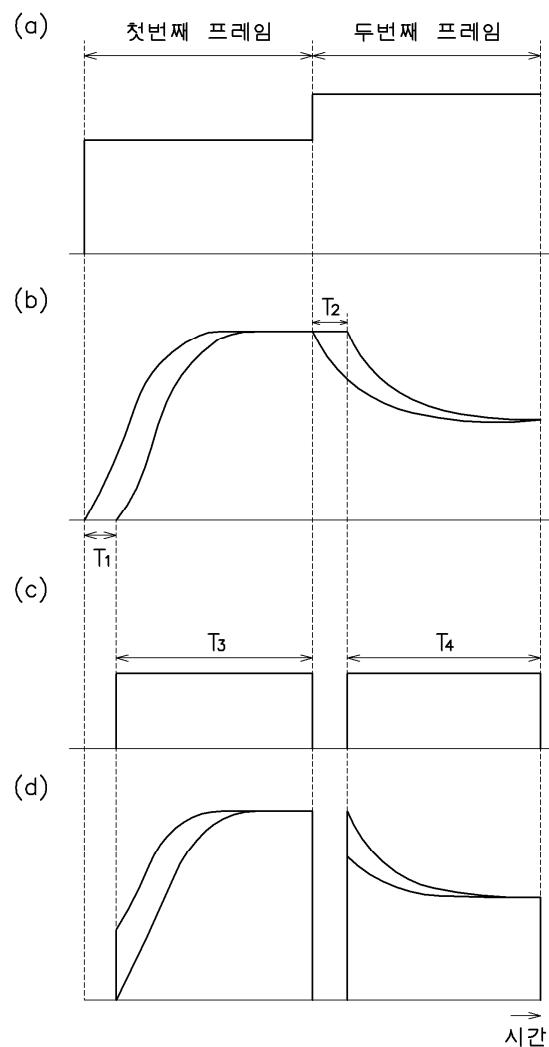




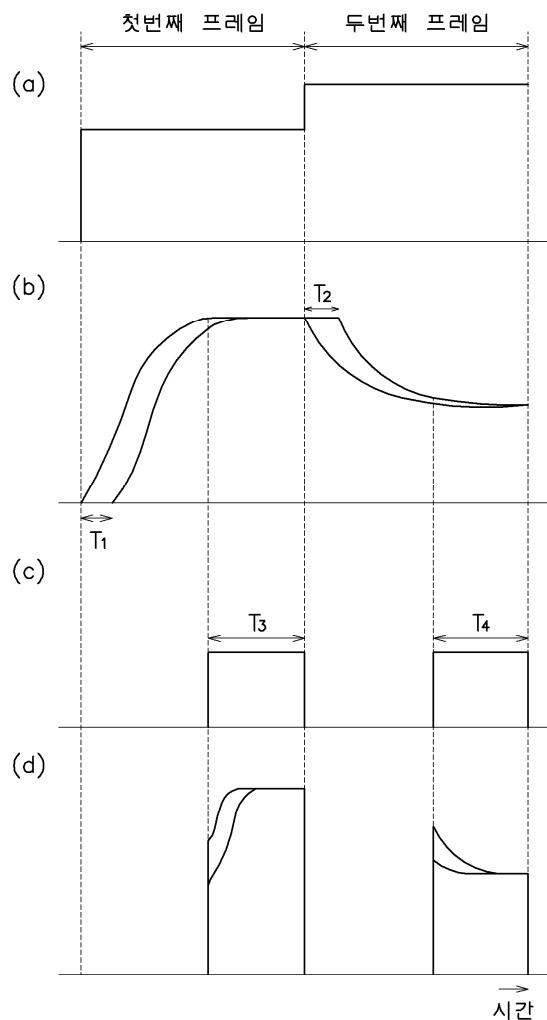
4



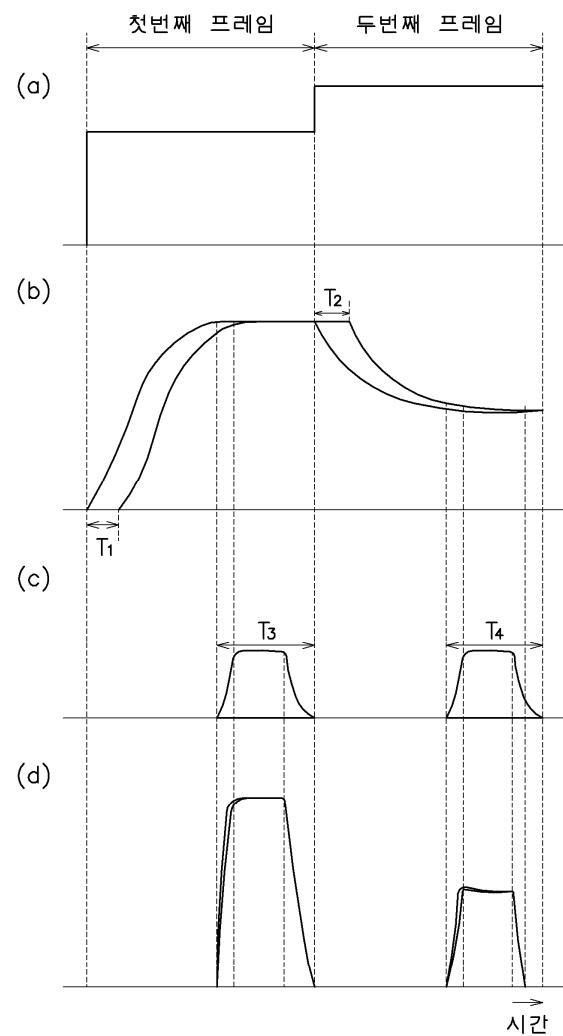
5



6



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| | | | |
|----------------|---|---------|------------|
| 专利名称(译) | 时分彩色显示型液晶显示装置，其驱动方法和背光装置 | | |
| 公开(公告)号 | KR1020030096904A | 公开(公告)日 | 2003-12-31 |
| 申请号 | KR1020020034000 | 申请日 | 2002-06-18 |
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| 发明人 | 김파 박철우 민웅규 | | |
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| 其他公开文献 | KR100878269B1 | | |
| 外部链接 | Espacenet | | |

摘要(译)

本发明涉及时分彩色显示系统的液晶显示器，不包括多个各自包括填充有液晶材料，分别具有液晶电容的像素，并且光被馈送到像素的子集从所述多个像素，另一个的一些像素提供光。优选地，将数据电压施加到没有提供光的像素，并且不将数据电压施加到提供光的像素。因此，因为为了将液晶面板组件划分成多个区域，并且仅保留对应于扫描区域，该区域是截止状态下的光源的光源，同时保证足够的数据扫描时间增加了光源的点亮时间进行扫描。结果，随着光源的点亮时间增加，液晶电容器的充电时间增加，图像质量提高，并且图像质量的清晰度增加。 4 指数方面 液晶显示器，LCD，脉冲，扫描，背光

