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(43)2002 - 0039898
2002 05 30(21) 10 - 2000 - 0069724
(22) 2000 11 22

(71)

3 416

(72)

890 LD 108 1601

(74)

:

(54)

REV , LCD
REV , REV ,
REV , LCD
4 , 가 1

, 2 × 1 가

3

, , 가

1

$$2 \qquad 2 \times 1$$

3 1

4

5

6 5 REV

7

8 2

9

10

11 10 REV

12

< >

100, 600: 110, 610 : REV

120, 620 : 130, 630, 640 :

200, 700 : 300 :

400 : 500, 800 : LCD

710, 720 :

[illegible]

가 . 2 × 1 (+) (-) 가 (Flickering) .
 2 × 1 LCD 가 ,
 가
 , 4 가
 ,
 가
 .
 RC
 , (Cst)
 가 가
 ,
 , 1
 , 가
 .
 2 , 가
 .
 3 , 가
 .
 4 , 가
 .
 5 , 가
 .
 6 , 가
 .
 1 ,
 ,
 , LCD
 REV , REV ;
 ;

REV

;

,

,

,

p

LCD

,

,

가 1

p 4

.

2

,

,

, LCD

가

REV

LCD

/

/

REV

REV

;

;

REV

REV

;

,

,

,

p

,

,

가

p

q

LCD

.

,

p

4

.

3

,

,

,

가

,

,

LCD

REV

,

REV

;

;

;

REV

.

4

,

,

,

가

,

EV LCD / REV LCD / 가 R
REV REV REV ;

;

REV

REV

.

5

,

,

,

가

,

(a)

;

(b)

LCD

REV

;

(c)

REV

;

(d)

.

6

,

,

,

가

,

(a)

;

(b)

LCD

REV

LCD

/

/

/

REV

REV

;

(c)

REV

;

(d)

.

2 × 1

,

가

,

가

,

3

1

,

3

1

(200),

(300),

(400)

LCD

(500)

(100),

.

(100) LCD () R, G, B
 (Vsync), (Hsync), 가 가
 (DE) (MCLK) (200)
 (400) .
 , (100) [R(0:N), G(0:N), B(0:N)]
 (200) (STH), (200)
 , LCD (500) 가 (LP), (200)
 (HCLK) (200) .
 가 (100) (400) LCD (500) 가
 가 (STV), 가
 (CPV) (400) .
 (100) () , LCD
 (Vcom) REV REV
 REV (REVM) (200) .
 , REV (REVM) 4 ,
 가 .
 (200) (), (), (), (),
 D/A () () 가 LCD (500) [R(0:N),
 G(0:N), B(0:N)] REV (REVM) (LP)가 가 ,
 (100) L
 CD (500) (D1, D2, D3, ..., Dm) .
 , (200) D/A 가 REV (REVM)가
 LCD (500) REV REV
 (REVM)가 LCD (500) .
 (300) (Von) , (Voff) T
 FT (Vcom) (400) .
 (400) , (100)
 (CPV) (STV) , (Von, Voff Vcom)
 (G1, G2, G3, ..., Gn) LCD (500) (300)
 .
 LCD (500) (400) (G1, G2, G3, ..., Gn)
 (D1, D2, D3, ..., Dm)
 ,
 (TFT) , .
 RGB RGB ,
 R , G , B 가 , (400)
 (G1, G2, G3, ..., Gn) 가 (200) (D1, D2,

D3, ..., Dm) (100) 가 R,G,B REV (REVM) (D1, D2, D3, ..., Dm)

4

4 가 2 4 ,

2 × 1

가

, 가

5

5 REV (110), (120) 가
 (130) (CPV) REV (REVM) (Vsync)

, REV (110) (Vsync)
 가 REV (REV4) (CPV) 1 REV (REV1), 2 REV (REV2), 3 REV (REV3) 4

(120), 2 2 (S1 S2) (130)

(130), 4 × 1 2 (S1 S2) REV (110)
 REV 4 REV (REVM) (Vsync) 2 (120)

4 × 1 (130)

4 2 1
 4 × 1 , REV 8 3

8 × 1

, CPV () (Vsync)
 (Hsync), 가 (DE) (100)

()

(Vsync) (100) 가 ,
 (DE)

6 5 REV , 7

6
3 D , REV (110) 1 D (112), 2 D (114)
(116) .

nc) 3 D REV 6 7 (Vsy
× 1 RVS2 (112, 114, 116) , CPV RVS1, 2

(116) 1 REV (REV1) 7 , RVS2 , 2 REV (REV2) D
1 REV (REV1) . 3 REV (REV3) 1 REV (REV1)
D (114) /Q , 4 REV (REV4) 2 REV (REV2)
D (116) /Q .

1
, 2 × 1 가 .

8 2 , .

8 , 2 (600),
(700), (300), (400) LCD (800) ,
3 .

(600) LCD () R, G, B
(Vsync), (Hsync), 가 가
(DE) (MCLK) (700)
(400) .

, (600) [R(0:N), G(0:N), B(0:N)]
(700) (STH), (200)
, LCD (800) 가 (LP), (700)
(HCLK) (700) .

가 (600) (400) LCD (800) 가
가 (STV), 가
(CPV) (400) .

(600) () , LCD
(Vcom) REV (REVM_O) REV (REVM_E)
, (200) .

, REV (REVM_O) REV (REVM_E) 4
, , , .

(700) (D1, D3, D5, ..., D_{m-1} (, m)) 1
 (710) (D2, D4, D6, ..., D_m (, m)) 2
 (720) , (100) R, G, B [R(0:N), G(0:N), B(0:N)]
 가 LCD (500) (LP)가 가 , (100)
 REV (REVM_O) REV (REVM_E)
 LCD (500) (D1, D3, D5, ..., D_{m-1} (, m
)) (D2, D4, D6, ..., D_m (, m)) .
 , 1 2 (710, 720) (), (), (),
 (), D/A () () .
 , 1 (710) D/A (600) 가 REV
 (REVM_O)가 LCD (500) LCD ,
 REV (REVM_O)가 LCD
 (800) .
 , 2 (720) D/A (600) 가 REV (REV
 M_E)가 LCD (800) LCD , (800)
 REV (REVM_E)가 LCD (800)
 .
 (300) (Von) , (Voff) T
 FT (Vcom) (400) .
 (400) , (600)
 (CPV) (STV) , (300) (Von, Voff Vcom)
 (G1, G2, G3, ..., Gn) LCD (800)
 .
 LCD (800) (400) (G1, G2, G3, ..., Gn)
 m)) (D1, D3, D5, ..., D_{m-1} (, m
)) (D2, D4, D6, ..., D_m (, m)) ,
 (TFT) , .
 RGB RGB ,
 R , G , B 가 , (400)
 (G1, G2, G3, ..., Gn) 가 (700) 1 (710)
 (D1, D3, D5, ..., D_{m-1} (, m)) (700) 2
 (720) (D2, D4, D6, ..., D_m (, m))
 R,G,B . (D1, D3, D5, ..., D_{m-1}) (D2, D
 4, D6, ..., D_m) (600) 가 REV (REVM_O) RE
 V (REVM_E) .
 9 .
 9 , 2 4 ,
 가 2 .

2×1

2

가

, 가

10

10

(630)

,

2

(640)

가

(CPV)

REV

(610),

(620),

1

(Vsync)

REV

(REVM_E)

REV

(R

EVM_E)

, REV

(610)

(Vsync)

가

(CPV)

1 REV

(REV1),

2 REV

(REV2),

3 REV

(REV3)

4

REV (REV4)

,

1

(630)

2

(640)

(620),

2

2

(S1 S2)

1

(630)

2

(640)

1

(630),

4 × 1

2

(S1 S2)

REV

(610)

REV

(REV1, REV4, REV2, REV3)

REV

(REVM_O)

2

(640),

4 × 1

2

(S1 S2)

REV

(

610)

REV

(REV4, REV1, REV3, REV2)

R

EV (REVM_E)

REV

4

(Vsync)

2

(120)

4 × 1

(130)

REV

REV

1

[1]

	REVM_O	REVM_E
FRAME 1	REV1	REV4
FRAME 2	REV4	REV1
FRAME 3	REV2	REV3
FRAME 4	REV3	REV2
FRAME 5	REV1	REV4
...	...	...

4 2 1
 4 × 1 , REV 8 3
 8 × 1 , CPV (Hsync), 가 (Vsync)
 (Hsync), 가 (DE)
 (100)
 ()
 (Vsync) (100) , 가 ,
 (DE)
 11 10 REV , 12
 12 , REV (610) 1 D (612), 2 D (614)
 3 D (616)
 sync) 3 D REV 10 11 (V
 2 × 1 RVS2 (612, 614, 616) , CPV RVS1,
 1 REV (REV1) 12 , RVS2 , 2 REV (REV2) D
 (616) 1 REV (REV1) 3 REV (REV3) 1 REV (REV
 1) D (614) /Q , 4 REV (REV4) 2 REV (REV2)
 D (616) /Q
 2 , REV (REV_E) 가 REV
 (REV_O)

2 × 1

가

(57)

1.

, LCD

REV

REV

;

;

REV

;

,

,

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p

,

,

가

LCD

.

2.

1

,

,

;

1

p REV

REV

;

1

p REV

REV

.

3.

2

,

REV

,

CPV

1

1

;

1

1 REV

3 REV

1

;

1

1 REV

2 REV

4 REV

2

.

4.

,

, LCD

가

REV

LCD

/

/

REV

REV

;

;

REV

REV

;

가 p q LCD

5.

4 , ;
 1 p REV REV ;
 1 p REV REV
 1 ;
 1 p REV REV
 2

6.

5 , REV ,
 CPV 1 1 ;
 1 1 REV 3 REV 1
 ;
 1 1 REV 2 REV 4 REV
 2

7.

2 5 , 2
 .

8.

3 6 , D
 .

9.

1 2 , 4 , 5 , p 4
 .

10.

, , 가
 , LCD
 REV , REV
 ;
 ;
 REV

11.

10 , ,
 ;
 1 p REV REV ;
 1 p REV REV

12.

11 , REV ,
 CPV 1 1 ;
 1 1 REV 3 REV 1
 ;
 1 1 REV 2 REV 4 REV
 2

13.

, , 가
 ,
 LCD 가 R
 EV REV LCD / REV / ;
 ;

REV

REV

.

14.

13

,

,

;

1

p REV

REV

;

1

p REV

REV

1

;

1

p REV

REV

2

.

15.

14

,

REV

,

CPV

1

1

;

1

1 REV

3 REV

1

;

1

1 REV

2 REV

4 REV

2

.

16.

11

14

,

2

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17.

12

15

,

D

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18.

11

14

,

p

4

.

19.

,

,

가

,

(a) ;

(b) LCD
REV ;

(c) REV ;

(d) .

20.

19 , (b) ,

(b - 1) ;

(b - 2) REV
;

(b - 3) REV .

21.

20 , (b - 2) ,

(b - 21) 1 ;

(b - 22) 1 1 REV 1 REV
3 REV ;

(b - 23) 1 REV 1 2 REV 2 R
EV 4 REV .

22.

, , 가
 ,

(a) ;

(b) LCD
REV LCD / /
/ REV ;

(c) REV ;

(d)

.

23.

22 , (b) ,

(b - 1) ;

(b - 2) REV
;

(b - 3) REV 1 REV ;

(b - 4) REV 2 REV
.

24.

23 , 1 LCD
REV

.

25.

23 , 2 LCD
REV

.

1

FRAME n

G1	+	-	+	-	+	-	+	-	+	-
G2	-	+	-	+	-	+	-	+	-	+
G3	+	-	+	-	+	-	+	-	+	-
G4	-	+	-	+	-	+	-	+	-	+
G5	+	-	+	-	+	-	+	-	+	-
G6	-	+	-	+	-	+	-	+	-	+
G7	+	-	+	-	+	-	+	-	+	-
G8	-	+	-	+	-	+	-	+	-	+
G9	+	-	+	-	+	-	+	-	+	-
G10	-	+	-	+	-	+	-	+	-	+
G11	+	-	+	-	+	-	+	-	+	-

FRAME n+1

G1	-	+	-	+	-	+	-	+	-	+
G2	+	-	+	-	+	-	+	-	+	-
G3	-	+	-	+	-	+	-	+	-	+
G4	+	-	+	-	+	-	+	-	+	-
G5	-	+	-	+	-	+	-	+	-	+
G6	+	-	+	-	+	-	+	-	+	-
G7	-	+	-	+	-	+	-	+	-	+
G8	+	-	+	-	+	-	+	-	+	-
G9	-	+	-	+	-	+	-	+	-	+
G10	+	-	+	-	+	-	+	-	+	-
G11	-	+	-	+	-	+	-	+	-	+

2

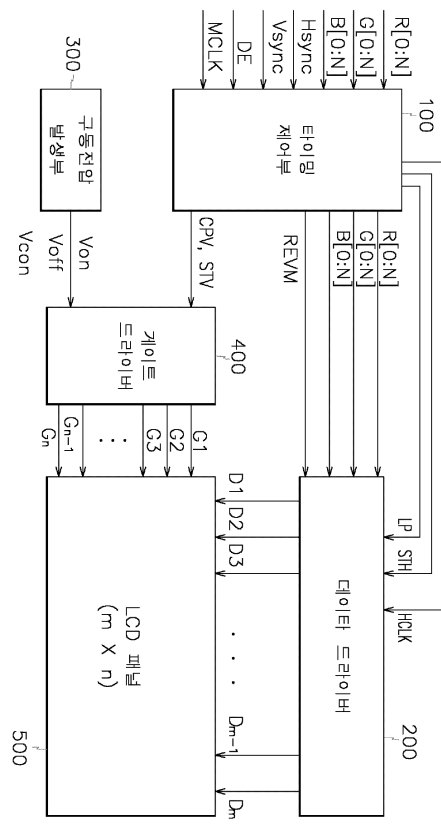
FRAME n

G1	+	-	+	-	+	-	+	-	+	-
G2	+	-	+	-	+	-	+	-	+	-
G3	-	+	-	+	-	+	-	+	-	+
G4	-	+	-	+	-	+	-	+	-	+
G5	+	-	+	-	+	-	+	-	+	-
G6	+	-	+	-	+	-	+	-	+	-
G7	-	+	-	+	-	+	-	+	-	+
G8	-	+	-	+	-	+	-	+	-	+
G9	+	-	+	-	+	-	+	-	+	-
G10	+	-	+	-	+	-	+	-	+	-
G11	-	+	-	+	-	+	-	+	-	+

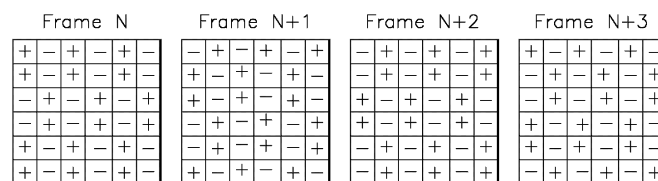
FRAME n+1

G1	-	+	-	+	-	+	-	+	-	+
G2	-	+	-	+	-	+	-	+	-	+
G3	+	-	+	-	+	-	+	-	+	-
G4	+	-	+	-	+	-	+	-	+	-
G5	-	+	-	+	-	+	-	+	-	+
G6	-	+	-	+	-	+	-	+	-	+
G7	+	-	+	-	+	-	+	-	+	-
G8	+	-	+	-	+	-	+	-	+	-
G9	-	+	-	+	-	+	-	+	-	+
G10	-	+	-	+	-	+	-	+	-	+
G11	+	-	+	-	+	-	+	-	+	-

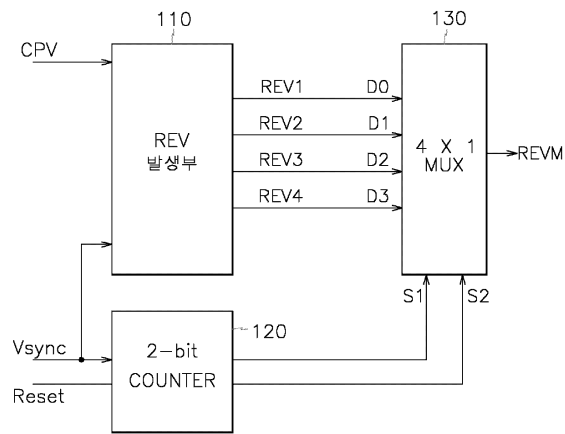
3



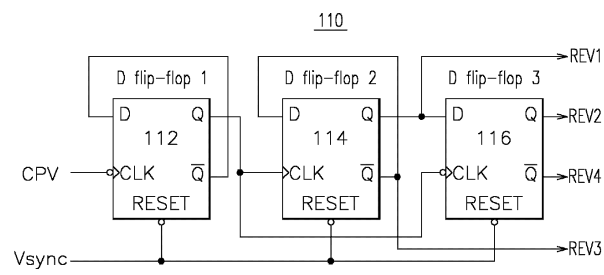
4



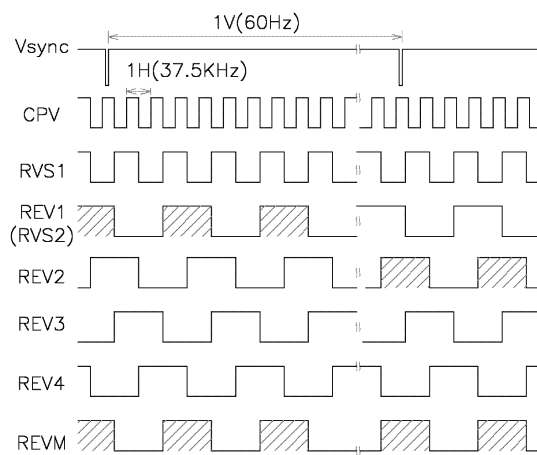
5



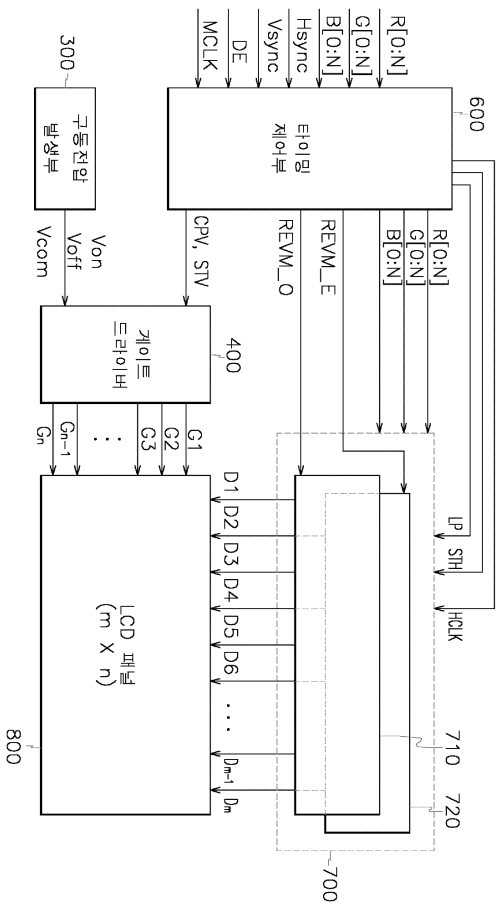
6



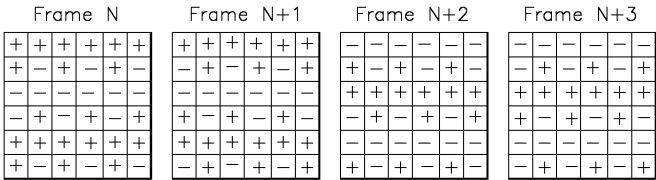
7



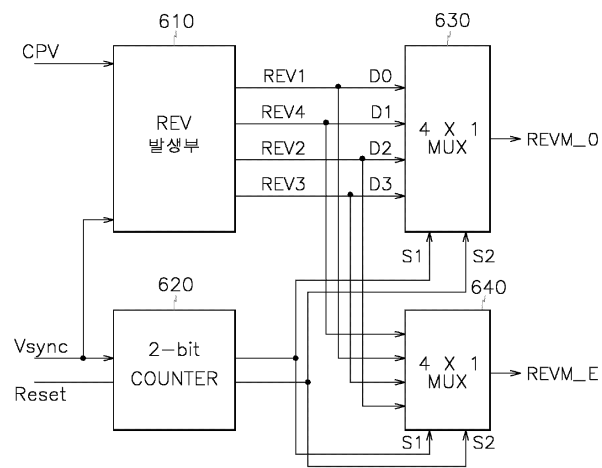
8



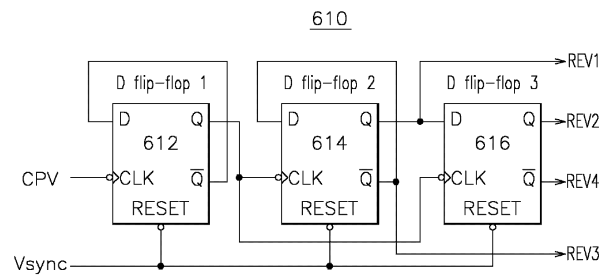
9



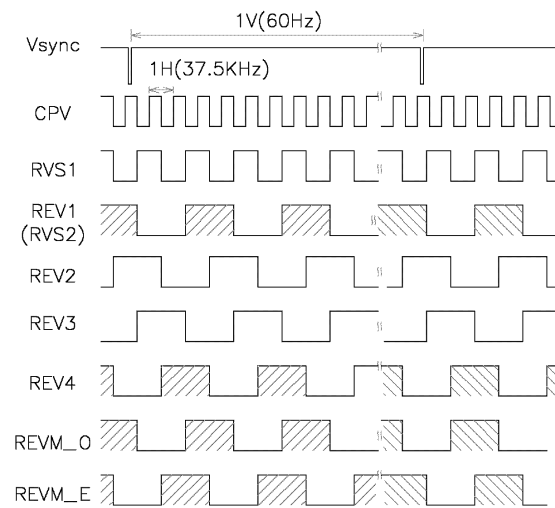
10



11



12



专利名称(译)	具有多帧反转功能的液晶显示装置		
公开(公告)号	KR1020020039898A	公开(公告)日	2002-05-30
申请号	KR1020000069724	申请日	2000-11-22
[标]申请(专利权)人(译)	三星电子株式会社		
申请(专利权)人(译)	三星电子有限公司		
当前申请(专利权)人(译)	三星电子有限公司		
[标]发明人	YOUN WONBONG 윤원봉		
发明人	윤원봉		
IPC分类号	G09G3/36 G09G3/20 G02F1/133		
CPC分类号	G09G2320/0247 G09G3/3614 G09G2320/0223		
代理人(译)	KIM, WON GUN 您是我的专利和法律公司		
其他公开文献	KR100350651B1		
外部链接	Espacenet		

摘要(译)

本发明涉及具有多帧反转功能的液晶显示器及其驱动装置和方法。根据本发明，定时控制单元包括多帧反转驱动部分。指定数据电压极性的REV信号被改变，该数据电压的极性将位于LCD面板中的液晶的极性与公共电极电压进行比较并改变。输出调制的REV信号。数据驱动器部分将从定时控制单元提供的调制REV信号的数据驱动电压输出到基础。LCD面板的反转驱动是根据栅极导通电压和数据驱动电压到周期重复4帧。反转的形式是根据变换线下框架的变化来驱动的。循环1帧。因此，可以消除当驱动液晶显示器的点反转时产生的闪烁效应和当以2×1点反转水平条纹现象驱动时产生的闪烁效应。点反转，闪烁，移位驱动，水平条纹。

