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(71) 가 가
5 7 1

(72) 5 - 7 - 1 가 가

(74)

:

(54)

가
(trail - leaving phenomenon)

가

1		1			
2	1		(BC)		
3	1				
4		LCD	CRT		
5	1		LDC		
6	1				
7		1	A	0%	
8		1	A	25%	
9		1	A	25%	
10		1	A	50%	
11		1	A	75%	
12	2			0%	
13	2			25%	
14	2			50%	
15	2			75%	
16		1	B	0%	
17		1	B	25%	
18		1	B	50%	
19		1	B	75%	
20		1	A	B	
21	A	B	2		

22	0%	100%	2	,	A	B
23	1	(BC)가 " 0"	100%			
24	1	(BC)가 " 0"	100%			
25	1	(BC)가 " 0	100%			
26	2					
27	2	3	LCD			
28	2	가				
29	a b	(thinning - out processing)	29	a	8	× 8
		4 × 8	19	B	8	× 8
		4 × 4				
30	2					
31	2					
32	2					
33	2					
34	2					
35						
36	1					
37	2	3	LCD			

(LCD)

2001 - 126686 (2001 4 24)

가 NTSC(National Television System Committee)
 , CRT(Cathode Ray Tube) () 16.7ms
 (LCD : Liquid Crystal Display) () 20
 30ms 16.7ms LCD CRT
 가 가 LCD LCD
 CRT
 () 64 - 82019 LCD 가
 가 , LCD LCD
 가 , LCD
 (on) (off)
 1
 , () 11 - 109921 LCD 가
 1 LCD LCD 1
 가 1 ()
 2
 1 2 LCD
 LCD
 1 , 1
 1 1/4 4 가 가
 , 2 LCD
 2 LCD 1 1/4 1 4
 가 ,

, LCD
, 가
CRT

1

가

CRT

1

가 1

가

가

가 1

가 가
가

가

가

(black signal)

가

가 1

가

가

가

가

가

가 1

CRT

가

가

1

1

1

LCD(1) ,

(2) ,

(3) ,

(4) ,

(5) ,

(6) ,

(7) ,

(8)

(9) ,

(10) ,

(11)

LCD(1)

(TFT)

LCD

LCD(1)

()

LCD(1)

가

()

TFT ,

1

가

LCD(1)

(V_{com}) 가(D_R),(D_G),(D_B)(S_H)(S_V)

가

LCD(1)

LCD(1)

WXGA(w

ide extended graphics array)

가 1365 × 768

(G), (B)

3 × 1365 × 768

가 3

(R),

(2)

(D_R),(D_G),

(

D_B)(D_V)

(3)

3

1

(differential absolute value) 가

가

가, 2 (gradient method)
가 (difference in time)
가

, 3

가

()9 - 212650

()9 - 93585

1 3

(3) , ASIC(Application Specific Integrated Circuit) (3)
(S_H) (S_V) (7),
(8) (9) (3) (2) (5) (11)
(D_V) (BC) (BC) 1
, 2 (BC) (BC) (D_V)
, (3) (2) (GC) (GC) (BL)
(BC), (GC), (6) (GC)
(4) RAM (D_R), (D_G), (D_B) (4)
(D_V)가 , 3 a ,
, 3 a (D_V)가 3 b
(D_V)가

(5) (3) (BC) LCD(1)
1 (S_{TM})
(6) (3) (GC) (4)
(D_R), (D_G), (D_B)
(D_{RG}), (D_{GG}), (D_{BG})

가

(logarithmic value)

θ $\tan \theta$ (y) 가

() 1 () 1 (θ) 45°

$\tan 45^\circ = 1$ 1

1 CRT CCD CRT 1 가 . CCD

1 CRT 2.2 가 1

CRT

4 CRT LCD(1) () () ()

. 4 , a CRT b LCD(1) 1

. , 4 , c LCD(1) LCD(1) 1 50% (BL) 127/255 0/255

50% (BL) 255/255

(BL) 0/255

가 (BL) 0/255 가 (BL) 0/255

(BC) 가 (BB) 가

가 (BL) 0/255 (BB) 가 (BB) 가

(BB) 가 가

1 (BB) (BC), LC

(BL), (BB) (GC) 가 .

D(1) , (GC) , (BC), (BL), (BB)

(GC) (GC)

, 1 , (3) (2) (D_v) (6)

(GC) 1

4 , 1

4 , LCD(1) .

(6) (3) (GC) (G

(D_R), (D_G), (D_B)

C) (3) , (D_R), (D_R), (D_R)가

" 0" (D_R), (D_G), (D_B)가

" 1" LCD(1)

가 (V) (T) (V - T) 가 , 가

(V) (T) 가 , LCD(1) V - T , ,

LCD(1) , , (6)

(D_R), (D_G), (D_B) 가 (V) , ,

(T) .

(7) (3) (5) (S_{TM})

(6) (D_{RG}), (D_{GG}), (D_{BG}) , (D_R

G), (D_{GG}), (D_{BG}) ((BL)) .

(8) (3) (7)

(D_{RG}), (D_{GG}), (D_{BG}) LCD(1) 가 .

(9) (3) ,

LCD(1) 가 .

(10) , LCD(1) LCD(1) (10)

, , (EL : electro luminescence) ,

5 8 (12₁ 12₈) (10)

(12₁ 12₈) 5 , LCD(1) (L)

, (12₁ 12₈) (on) (10) 6

. (11) (3) (BC) (10)

.

, 1 1/4

(D_R), (D_G), (D_B)가 (D_{RG}),

(D_{GG}), (D_{BR}) (8) .

1 (2)

(D_R), (D_G), (D_B)

(4) (D_R),

(D_G), (D_B) (2)

(D_V) (3)

(3) (D_V) (BC) (GC)

(3) (D_V)가 a (D_V)가 b

(3) (3) (BC)

(5) (11) (GC) (6)

(3) (S_H) (S_V) (7),

(8) (9) (S_{TM}) (5) (3)

(6) (BC) (7)

(3) (GC) (4)

(D_R), (D_G), (D_B)

(D_{RG}), (D_{GG}), (D_{BG})

(7) (3) (S_{TM})

(6) (D_{RG}), (D_{GG}), (D_{BG})

(8) (3)

(7) (D_{RG}), (D_{GG}), (D_{BG})

LCD(1)

가 (9) (3) LCD(1)

(3) (BC) (10) 8 (11) (12₁ 12₈)

LCD(1)

(10)

A B A B 5 8 (10)

(12₁ 12₈) LCD(1) B, 5 8 (1

2₁ 12₈)

(1) A

7 11 A LCD(1) 768 가 (Y₁ Y₇₆₈)

768) (S_L) TFT 7 11 (Y₁ Y₇₆₈)

, P_D TFT가

"H" 가 7 11 (Y₁

Y₇₆₈) , P_B TFT TFT가

"H"

7 (BC)가 "0" 0% 7 0%

(Y₁ Y₇₆₈) (P_D)

(7) (S_L) "H" 1 8

(12₁ 12₈)가 , 7(1) (6) (Y₁ Y₇₆₈)

가

8 9 (BC)가 " 10" , 25% 8(1) (6)
 (Y_1 Y_{768}) 가 , 9(1) (6) (Y_1 Y_{768})
 가 . 8 (1) (2) (5) (6) ,
 (Y_{2n-1}) (Y_{2n})(n) (Y_{2n}) , 9 (2)
 (3) (4) (5) , (Y_{2n}) (Y_{2n-1})
 (Y_{2n+1})(n) , (Y_{2n}) TFT ,
 (Y_{2n}) (Y_{2n+1})
 TFT . 1
 . NTSC
 . NTSC LCD
 1 2 480 1 2
 가 768 1 NTSC 2 , LCD(1) LCD
 가 480 NTSC 1
 NTSC 2
 LCD
 TFT (Y_{2n-1}) 2 (Y_{2n})
 ,
 2 LCD(1), (8)
 (9) 8 9 25% (P_D)
 (Y_1 Y_{768}) 3/4 (P_B)가 2 (P_D)
 8(7) 9(7) (S_L) " H" , 1
 8 (12₁ 12₈)가 .
 10 (BC)가 " 20" , 50% 10(1) (6) (P_D)
 (Y_1 Y_{768}) 가 . 10 (1) (2) (5) (6) (Y_{2n})(n) ,
 , (Y_{2n-1}) 9 (Y_{2n})
 (Y_{2n+1})(n) 10 50%
 (Y_1 Y_{768}) (P_D)가 2
 (P_D) 1 1/2 (P_B)가
 , 10(1) (6) , 1 3/4 (Y₁ Y₇₆₈)
 768) (P_B) (S_L) 1 3/4 " L" , 1 3/4 10(7) 8
 , (12₁ 12₈)가 .

11 (BC)가 " 30" , 75% 11(1) (6) (
 Y_1 Y_{768}) 가 . 11 (1) (2) (5) (6) (
 , (Y_{2n-1}) (Y_{2n})(n) ,
 9 (Y_{2n+1})(n) (Y_{2n})
 (Y_1 Y_{768}) (P_D)가 11 75%
 (P_D) 1 1/4 (P_B)가 2
 , 11(1) (6) , 1 1/2 (Y_1
 Y_{768}) (P_B) (S_L) 1 1/2 " L" , 1 1/2 11(7) 8
 (12₁ 12₈)가 (off) .
 , 2 , 0%, 25%, 50%, 75%
 (Y_1 Y_{384}) 12 15 . 12 15 (Y_1
 Y_{384}) , P_D P_B ,
 2 TFT . 12 15 (Y_1)
 (Y_{193}) , (Y_2) (Y_{194})
 (Y_{193}) (Y_{384}) 1 . ,
 2 가 . ,
 .
 12 (BC)가 " 0" , 0% (Y_1 Y_{768}) 1
 1/4 (P_D) . 13 (BC)가 " 10"
 , 25% 13 25% (Y_1 Y_{768})
 Y_{768}) 1 1/4 (P_D)가 2
 (P_D) 1 3/4 (P_B)가
 .
 14 (BC)가 " 20" , 50% 14 50%
 (Y_1 Y_{768}) 1 1/4 (P_D)가 (P_B)가
 2 (P_D) 1 1/2 (P_B)가
 15 (BC)가 " 30" , 75%
 15 (Y_1 Y_{768}) 1 1/4 (P_B)가
 (P_D)가 , A 2 .
 (2) B
 16 19 B (S_{L1} S_{L8}) , LCD(1) 768
 가 (Y_1 Y_{768}) P_B . 16 19 (Y_1
 Y_{768}) , P_D 0% 16 0% (9) (11)
 , (Y_1 Y_{768}) (P_D) " H" , 1
 16(1) (8) , (S_{L1} S_{L8}) , 1
 8 (12₁ 12₈)가 .

- 17 (BC)가 " 10" , 25% 11 25%
 (9) (11) 2 (Y₁ Y₇₆₈) (P_D)가
 (P_B)가 (S_{L1} S_{L8}) " L" (8) 3/4
 , 8 (12₁ 12₈) 1 1 가 .
- 18 (BC)가 " 20" , 50% 18 50%
 (9) (11) 2 (Y₁ Y₇₆₈) (P_D)가
 (P_B)가 (S_{L1} S_{L8}) 1 18(1) (8) 1/2
 1 1/4 " L" .
- 19 (BC)가 " 30" , 75% 19 75%
 . (9) (11) 2 (Y₁ Y₇₆₈) (P_D)가
 (P_B)가 (S_{L8}) 1 19(1) - (8) 1/4 (S_{L1}
 1/2 " L" .
 , A B , 2 (BC) (10)
- 20 A B (10) 20 ,
 A 8 (12₁ 12₈)
 B 8 (12₁ 12₈)
 , A B
- 21 가 A B
 2 (10) 21 , 0% {1
 100% 2 a%
 00/(100 - a)}%가 (a > 0). 21 , 2 가
 A 2 A 0%
 . , (10) 가
 A , (P_B)가 가 (10)
 (10) B (12₁ 12₈)
 (10) 8
 , 21 , (10)
 100% .
- 22 0% 100% , (10)
 0% 133% , 133% 2
 , A B , 23 (BC)가 "
 0 " 100%
 23 21 , 23 , a 2 A
 , b A B .

24 (BC)가 " 0" 100% 24 , a 2
 A b A B 2
 5 (BC)가 " 0" 100% , 133% 25 2
 2 25 , a 2 A A B
 , b 2 A , c
 A B .
 , (D_V)
 (5), (6) (11) .
 (10) (10)
 , (10) LCD(1)가 WXGA
 500[cd/m²] , LCD(1)
 (10) 12W , (checker flag)
 , A , B 12W 21
 1/2 .
 2
 26 2
 , LCD(21) , (22) , (23) , (24)
 , (25) , (26) , (27) , (28) ,
 (22), (23), (24), (25), (26)
 (27) (28) , (on) .
 LCD(21) 27 , 1080 1920 , 810 1440
 (31) , 850 1400 (32)가 , LCD(21)
 (30) .
 (22) (D_P)
 , (22)
 (MP₁) (28) (27)
 (MP₁) 0 75% , 0
 % , ()9193585
 ()91212650 (22)
 (D_P) (28) (25) .

(23) (D_{CP}) (23) (27)

(MP₂) 0 75% (28) (D_{CP}) (DEP) (23)

0% (23) (D_{EP}) (28) (25) (28) (23)

(D_{CP}) (25) (D_{EP}) (28) (23)

EP) (D_{SP}) (24) (D_{SP}) (28) (CMD) (D_{PP}) (25) (25) (D_E)

RAM (D_{SP}) (28) (D_P), (25)

(P)" (α), (X) (30) (26) (23) (25) (T)" "

" 2" (P)" LCD(21) (T)" " 1" ,

가 " 2" , " 3" 가 (P)" LCD(21) 가 " 1" 가

(26)가 , 28 28 29

29 (T), (P) 가

(27) (26) (D_P), (D_{EP}) (D_P),

(D_{SP}) (25) (D_{EP}) (D_{SP}) (D_{EP}) (interpolation processing)

(thinning - out processing) ; (D_{EP})가 1/2

(25) (27) (D_{EP}) (27) (22)

(23) (MP₁ MP₂) (PM) (

() .

(23) (23) (41) , (42) , (43)

(41) (D_{CP}) (41) (27)

(MP₂) (28)

, (41) (D_{CP}) (D_{EP}) (28) (25) (41) (43)
 " (D_{CP}) " (D_{EP}) (41) (43) , " k = 1/2"
 k (41) " 1/2"
 (D_{CP})
 (k) 29(1) (2) (41)
 29(1) (2) ,
 29(1) 8 × 8 4 × 8
 (k) (= 1/2) , 1 (41) (43)
 4 × 4 29(2) 8 × 8 (41)
 (43) (k) (= 1/4) 1 1

(42) (43) 1
 (43) (26), (24) (44) 가
 1)가 " " (43) (P) (4) (43)
 (T) (P)가 " 2" (32) 가
 27 (31)가

, (27) 31 (27)
 53) , (54) , (55) , (56) (52) , (

(MP₁ MP₂) (51) (22) (23) (PM)
 32 (MP₁ MP₂) (PM) 32 ,
 a가 (MP₁ MP₂) , b가 (PM) 32
 (MP₁ MP₂) (MP₁ MP₂) (PM) (

MP₁ MP₂) (PM) 4
 (52) (51) (PM)
 (25) (D_P), (D_{EP}) (D_{SP})
 (D_{GP}) (53) RAM (D_{GP})
 (54) (52)

(54) , ASIC (SSYC) (51)
 53) (D_{GP}) (53) (D_{GP}) (51)
 (PM) (54) (SSYC) (PM)
 (55) (55) (56) (54) 33
 1 4 가 , 1 (P_D)
 (Y₁ Y₇₆₈) 가 1
 0%, 25%, 50% 75% 4
 32 (PM)
 34 가 (54) 35
 1 4 (P_D) (Y₁ Y₇₆₈) 33 가
 0%, 25%, 50% 75% 4 (multiplication)
 , 100%, 75%, 50% 25% 4 (54)
 (D_{GP}) , 35 (D_{GP})
 가 34 (D_{GP})가
 (D_{SP}) (54) (54) LCD(21) (55)
 (54) (D_{GP})가 LCD
 (56) (54) 가
 (21) 가
 , 2 LCD(21)
 (T)가 (PM)
 0% , 25%, 50%, 75%
 (PM) 27 LCD(21)
 LCD(21) 37 LCD(21) 27
 1080 1920 37 27
 480 640 (61) , 360 480 (62) , LCD(21)
 (60) . 3 가 (61)
 (62) , 37 (61) (62)
 (60) (60)
 1 (61 62) A B
 , 1
 LCD(1) 36
 LCD(1) a b
 1 (D_V)
 (D_V)
 1 (D_V) (10)

1 8 (12₁ 12₈)

4 가 MPEG(Moving Picture Expert Group)1, MPEG2, MPEG
가 LCD

가 (D_V)

2 35 (PM) 5%

2 (MP₁ MP₂) (PM)
(MP₁ MP₂) 가

(PM)

1 2 (PM) (PM)

1 2 (D_{SP}) (D_P) (D_{EP}) 2 가 1 가

가 ()

가
가
CRT

(57)

1.

,

가 ,

2.

1 ,

1

3.

1 ,

4.

1 ,

(black signal)

5.

1 ,

가 1

6.

1 ,

7.

1 ,

가

8.

2 ,

9.

6 ,

가

가

가

가

10.

2 ,

가

가 1

가

가 1

가

11.

2 ,

가

12.

1 ,

(main)

가

,

.

13.

1

,

2

2

,

2

2

2

.

14.

1

,

가

.

15.

1

,

,

,

.

16.

15

,

1

.

17.

15

,

1

가

,

1

2

가

.

18.

16

,

가 1

, , .

19.

16 ,

가

.

20.

16 ,

(multiplication)
가

.

21.

20 ,

가 1

.

22.

20 ,

.

23.

18 ,

, 가 1

.

24.

18 ,

.

25.

, ,
,

가

26.

25 ,

1

27.

25 ,

28.

25 ,

(black signal)

29.

25 ,

가 1

30.

25 ,

31.

25 ,

가

32.

26 ,

,

.

33.

30

,

가

,

가

.

34.

26

,

가

가 1

,

가

가 1

.

35.

26

,

,

가

,

.

36.

25

,

가

,

.

37.

25

,

2

2

2

,

2

2

.

38.

25 ,

가

39.

25 ,

40.

39 ,

1

41.

39 ,

1

1

2

가

42.

39 ,

가 1

43.

40 ,

가 ,

44.

40 ,

· ,
·

45.

44 ,

가 1

·

46.

44 ,

·

47.

42 ,

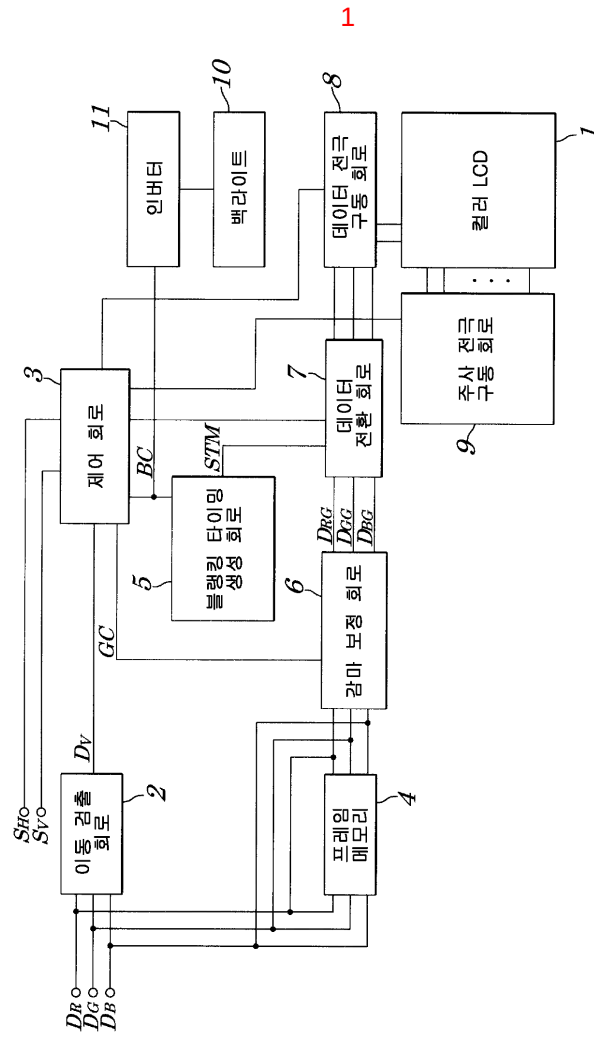
가 1

·

48.

42 ,

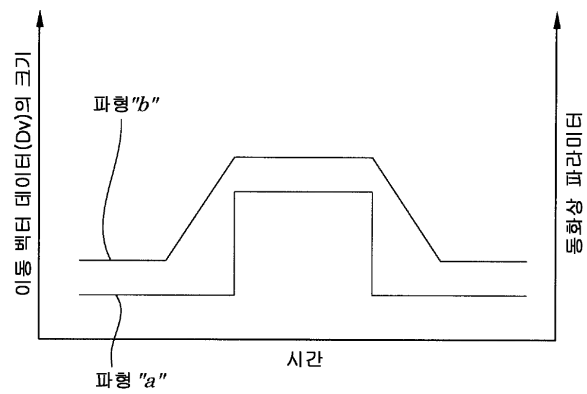
·



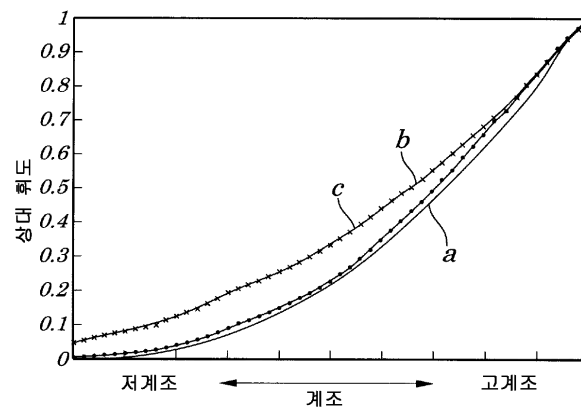
2

BC	블랭킹율 (%)
0	0.0
10	25.0
15	37.5
20	50.0
25	62.5
30	75.0

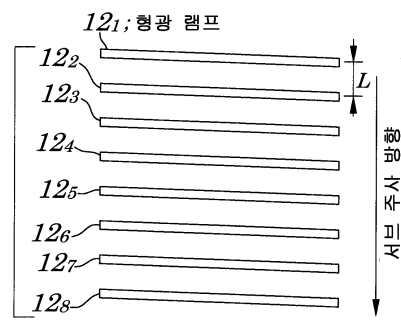
3



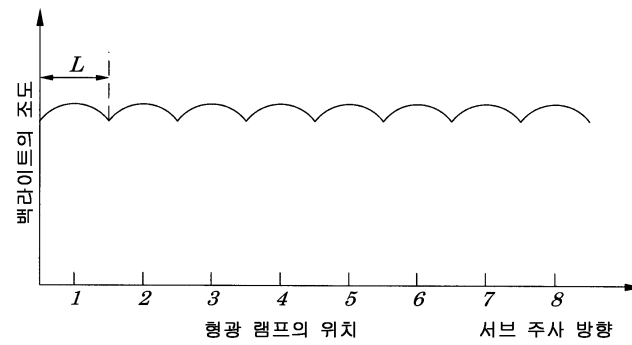
4



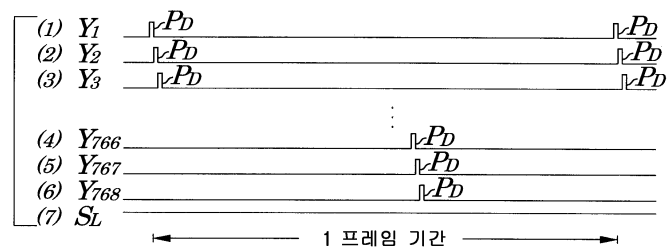
5



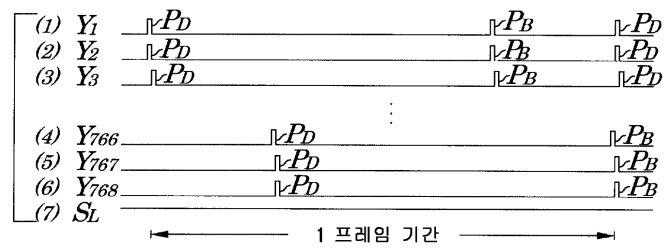
6



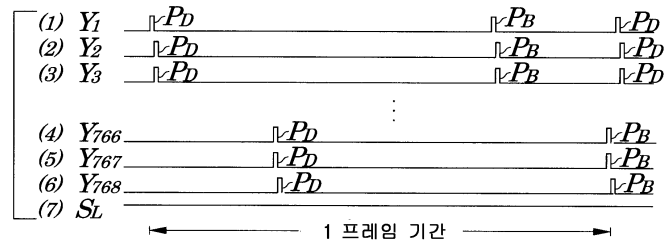
7



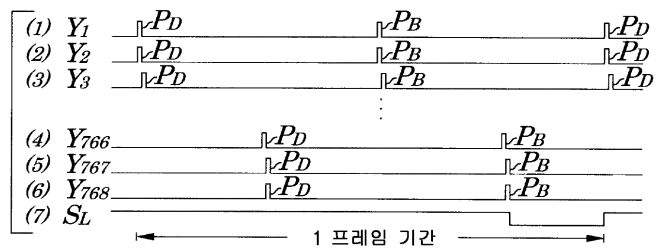
8



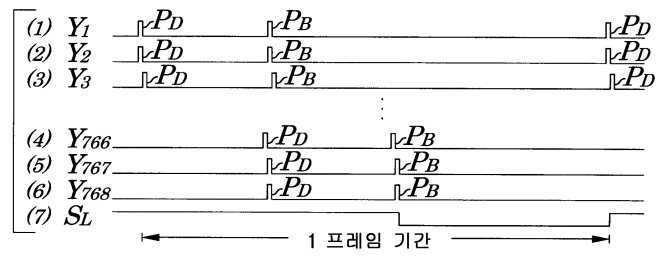
9



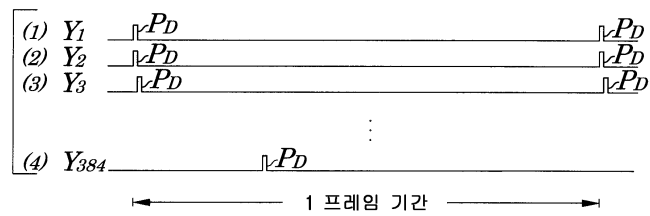
10



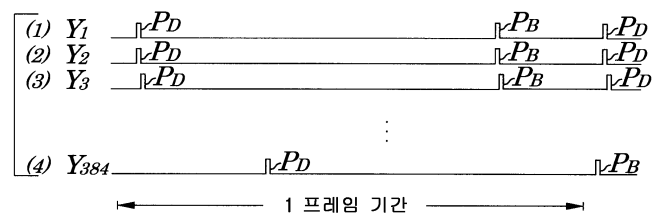
11



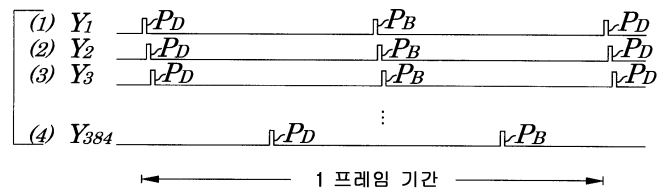
12



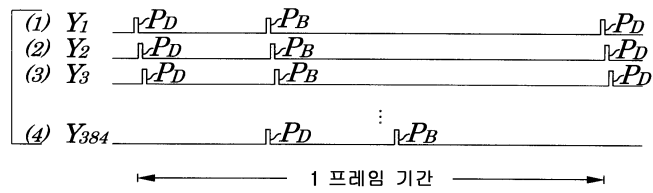
13



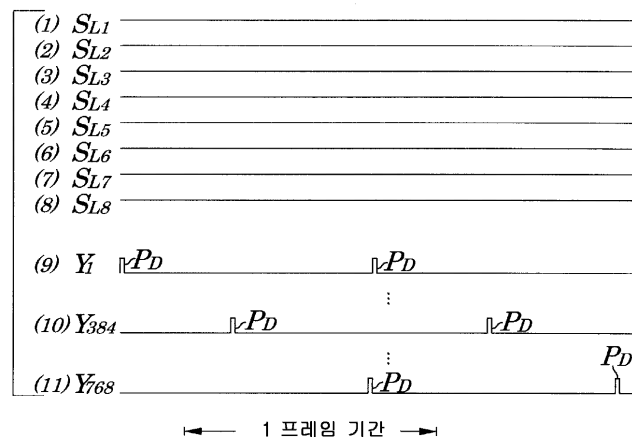
14



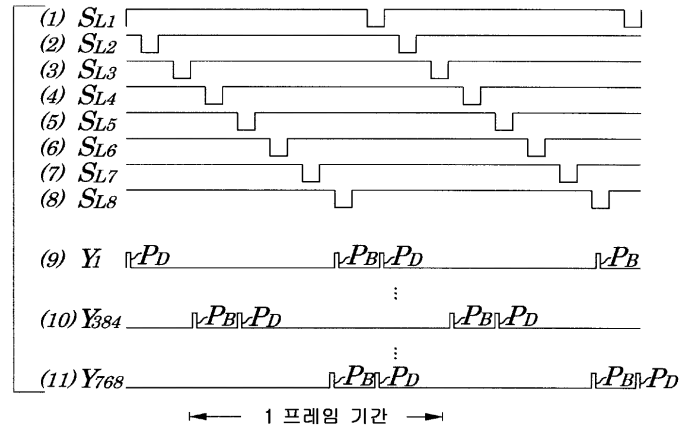
15



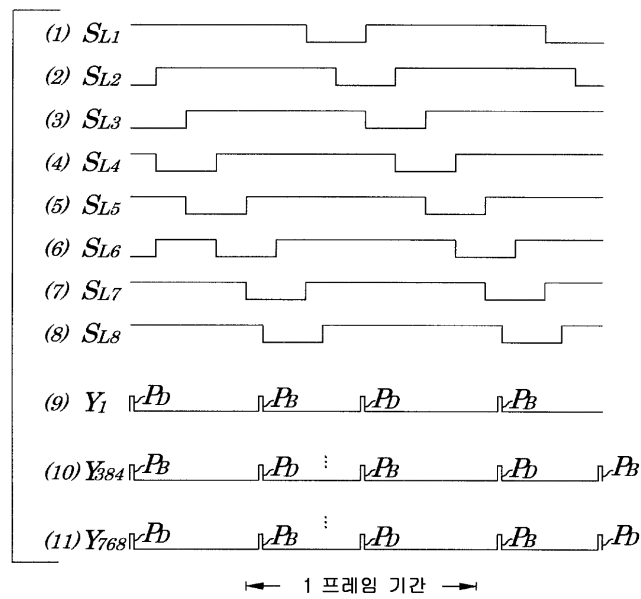
16



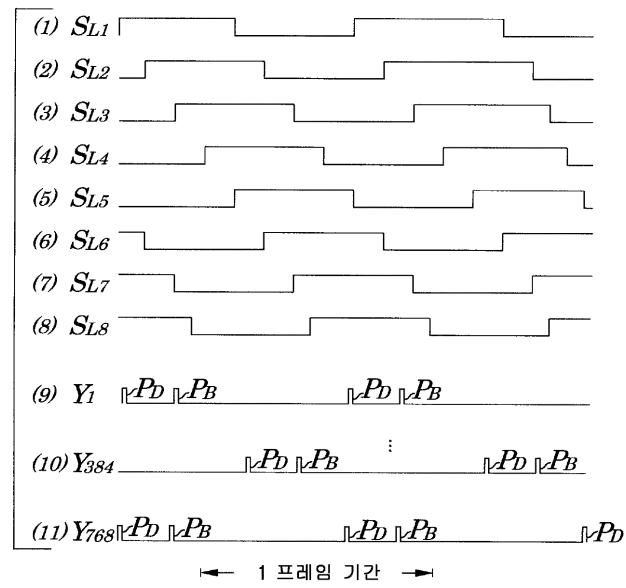
17



18



19

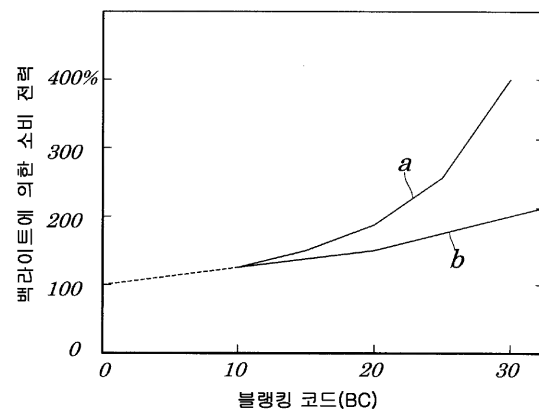


BC	블랭킹률 (%)	점등률			
		대책A		대책B	
		피크 (%)	평균 (%)	피크 (%)	평균 (%)
0	0.0	100	100	100	100
10	25.0	100	100	100	100
15	37.5	100	87.5	87.5	87.5
20	50.0	100	75.0	75.0	75.0
25	62.5	100	62.5	62.5	62.5
30	75.0	100	50.0	50.0	50.0

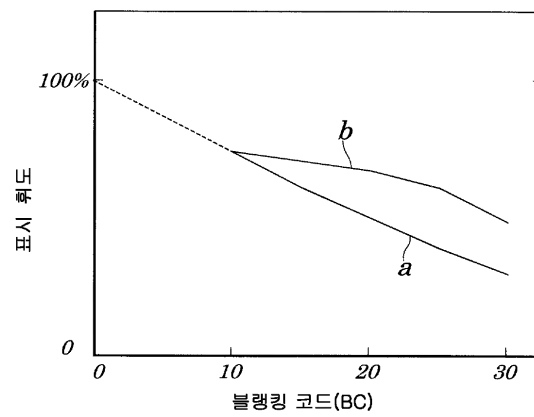
BC	블랭킹율 (%)	제2의 종래예 (%)	소비 전력			
			대책A		대책B	
			피크 (%)	평균 (%)	피크 (%)	평균 (%)
0	0.0	100	100	100	100	
10	25.0	133(75)	133	133	133	133
15	37.5	160(63)	160	140	140	140 (71)
20	50.0	200(50)	200	150	150	150 (67)
25	62.5	267(37)	267	167	167	167 (60)
30	75.0	400(25)	400	200	200	200 (50)

BC	불평량율 (%)	제2의 종례예/대책A(피크)		제2의 종례예/대책B(피크)	
		소비 전력 (%)	표시 휘도 (%)	소비 전력 (%)	표시 휘도 (%)
0	0.0	100	100	100	100
10	25.0	133	100	133	100
15	37.5	133	84	133	94
20	50.0	133	67	133	89
25	62.5	133	49	133	80
30	75.0	133	33	133	67

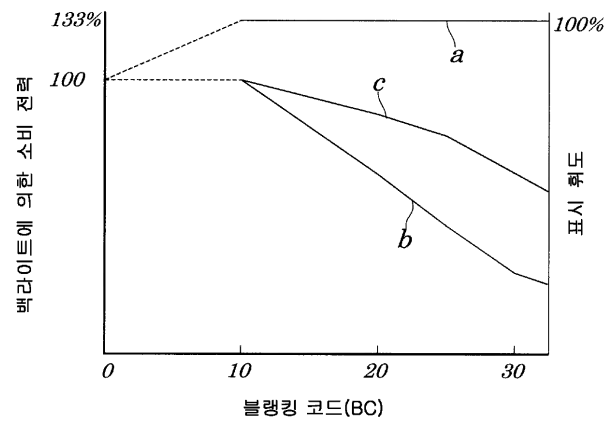
23



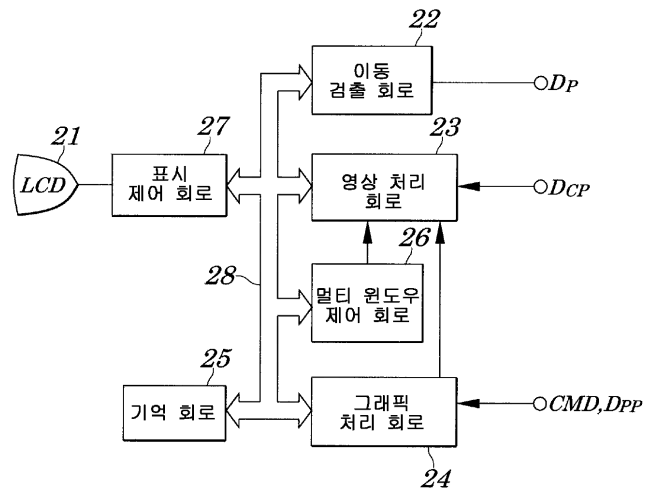
24



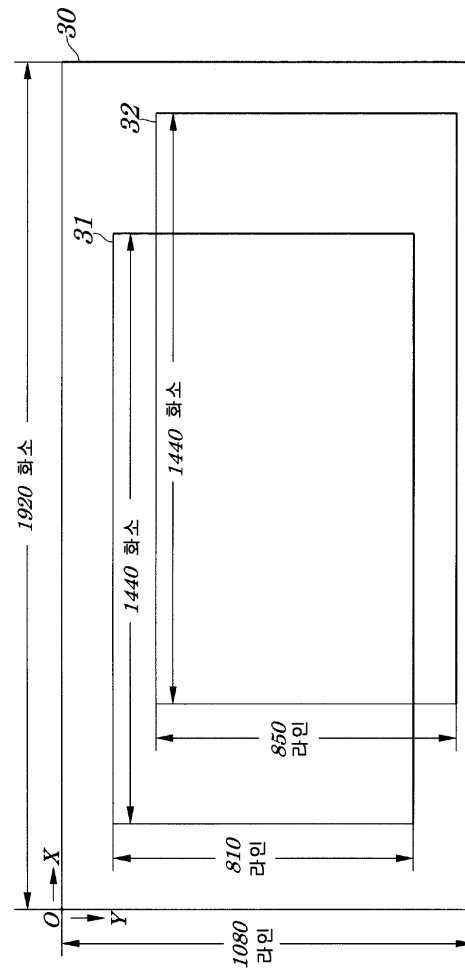
25



26



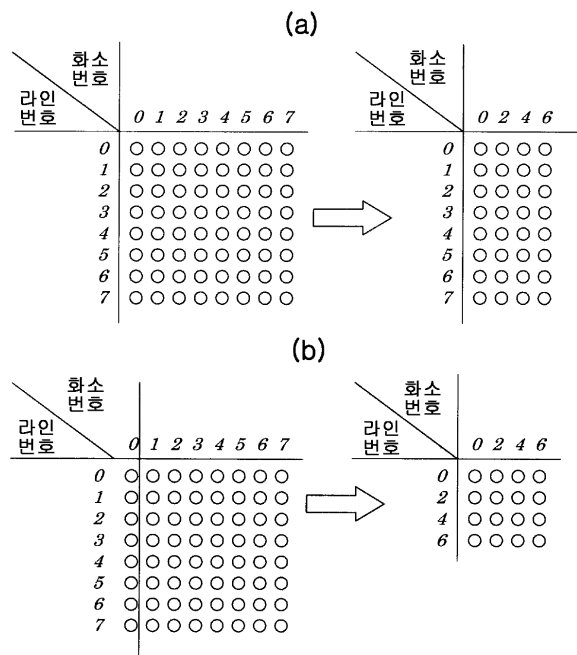
27



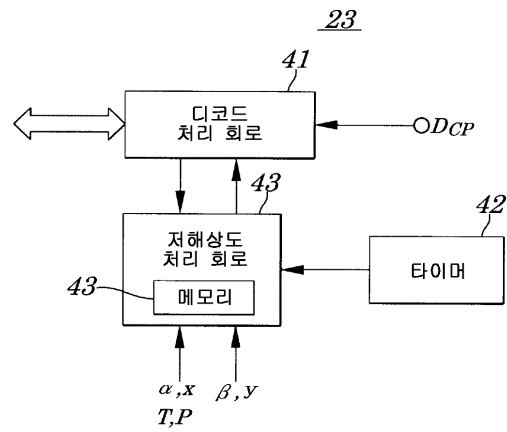
28

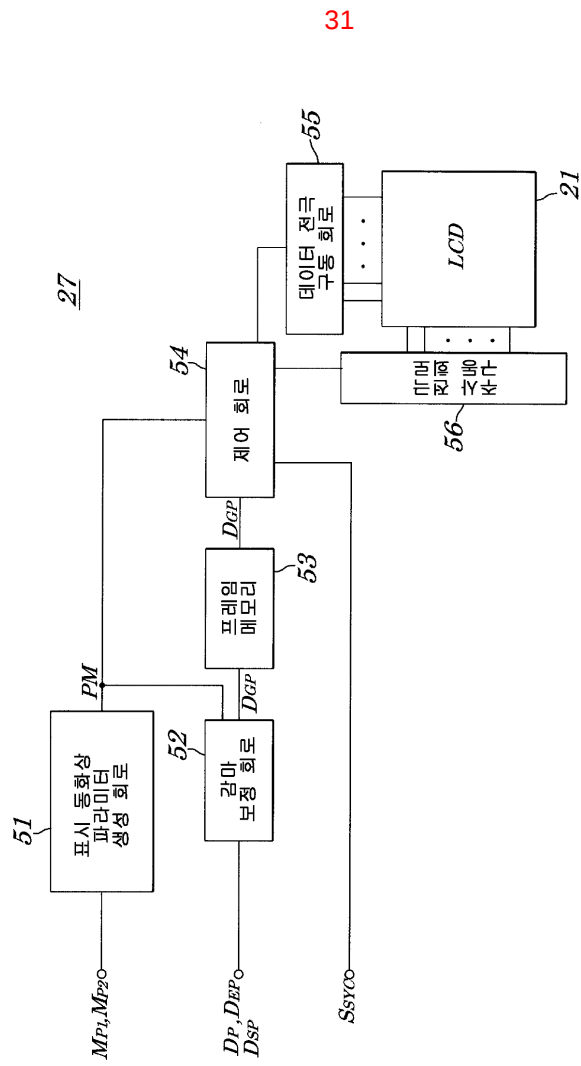
원도우 번호	원도우 사이즈 H,V(화소)	원도우 위치 X,Y	표시 내용의 종류T	우선도P	동화상 파라미터
30	1920, 1080				
31	1400, 850	400, 200	2	2	75
32	1280, 720	150, 100	1	1	0
.	.	.	.	.	.
.	.	.	.	.	.
.	.	.	.	.	.

29

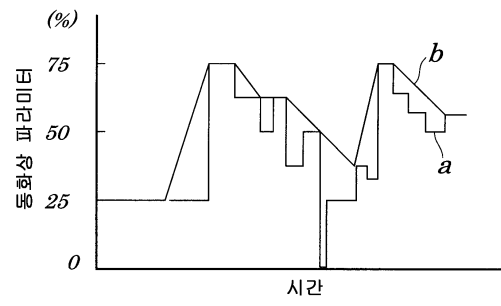


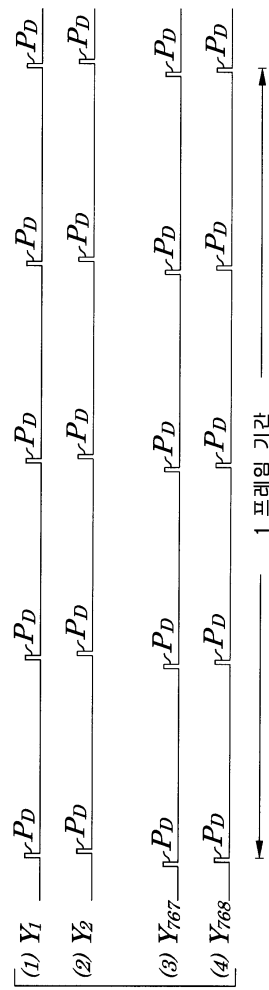
30



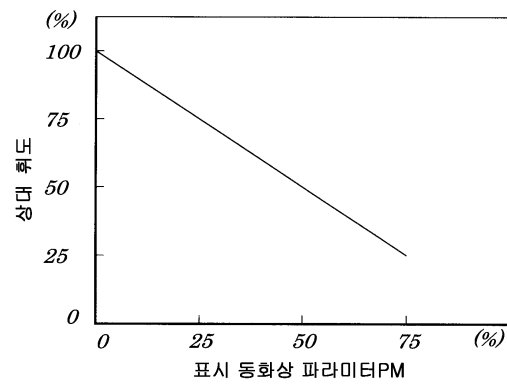


32





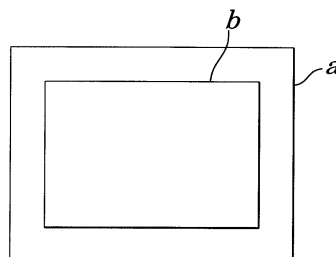
34



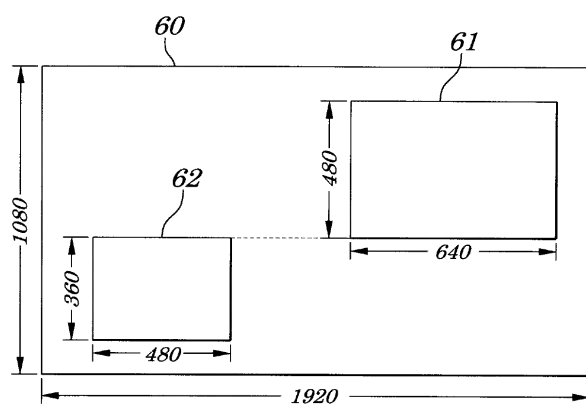
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표시 동화상 파라미터	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75
블랭킹률	0	0	0	0	0	25	25	25	25	25	50	50	50	50	50	55
승산전의 상대 휘도	100	100	100	100	100	75	75	75	75	75	50	50	50	50	50	25
승산 계수	1.00	0.95	0.90	0.85	0.80	1.00	0.93	0.87	0.80	0.73	1.00	0.90	0.80	0.70	0.60	1.00
승산후의 상대 휘도	100	95	90	85	80	75	70	65	60	55	50	45	40	35	30	25

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专利名称(译)	透射型液晶显示装置和透射型液晶显示装置的图像显示方法		
公开(公告)号	KR1020020082790A	公开(公告)日	2002-10-31
申请号	KR1020020022395	申请日	2002-04-24
[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	NISHIMURA MITSUHISA		
发明人	NISHIMURA,MITSUHISA		
IPC分类号	G09G3/34 G09G3/00 G09G3/20 G02F1/133 G09G3/36		
CPC分类号	G09G2310/061 G09G2320/062 G09G2330/021 G09G2320/0653 G09G2320/064 G09G2320/0673 G09G2320/106 G09G3/342 G09G2320/0276 G09G2320/0646 G09G2320/0261 G09G3/3611 G09G2310/024		
优先权	2001126686 2001-04-24 JP		
其他公开文献	KR100530403B1		
外部链接	Espacenet		

摘要(译)

本发明可以减小用于向背光供电的电源电路的尺寸，降低电源电路成本，降低背光的功耗，并提供拖尾现象和残留现象以及在液晶上显示可以减少的图像的方法。该方法包括基于检测图像的移动的检测结果切换图像信号和与图像信号不同的非图像信号，并且将图像信号和非图像信号施加到构成液晶显示器的多个数据电极。并显示图像信号或非图像信号。

1 指数方面 移动图像，静止图像，液晶，背光

