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630-8101 3-19-102

518-0032 214

(74)

:

(54) ,

SL , m(<n) , m SL , n SL .

1	,	1	,	
2	,			
3	,	1		
4	,	1		
5	,			
6	,			
7	,	6		
8	,	1,	5,	6
9	,			
10	,			
11	,			1
12	,			
13	,			
14	,		DA	
15	,	DA		
16	,	DA		
17a	,			가 ON
17b	,			가 OFF
18	,			ON/OFF 가
19	,			
20	,			
21	,			
22a		22k	,	21
23	,			
24	,			
25	,			
26	,			
27	,			

가 , 가 , , 가 , 23
(CTL)(104), (ARY)(101), (SIG)(105) (GD)(102), (SD)(103),
(101) , GL SL G
SL (PIX)(106)가 2 GL 2
SL , (106)가 ,
(102) , (104) GCK
GL (106) SL
() (106) , (106)
(103) , (104)
(105) DAT SCK
SL , ,

23 (CL, (106) , 24 가 , CST) . 24 SW, , SW
, GL SW ,
, CL 가 ,
가 . , (101) (102,10
3) ,
, , 600 가 . 가 가 가
25 , (101), (102), (103)가 (SUB)(10
7) (107) , (PC)(108)가 , SL ,
(103) ,
, R-DAC , C-DAC
, R-DAC , C-DAC
가 가 .
, R-DAC , C-DAC
, 가 가 , 가 가 .
, SL
, 가
, 8 16 가 , 가
, R-DAC , C-DAC
가
(FF) , 26 , DAT , SL . DAT
AS ,
가 , 가 가
가 , 가 , 가
가 D/A(digital/analog) , 가 가
, 가 가
, 27 DAT가, DEC
(FF) , 27 LAT ,
가 , 가

1 (8), (10), (11), (12), (13) .
 (10), m(m<n) (14...) 가 (11) m
 (15...) (12) m (16...) (13) m (17...)
 (8), (14), (15), (16), (17)가
 m
 1 (8), DAT가, (10) (14...)
 (11) (15...) (12)
 (13), , ,
 1, 3
 1 1 SST1 (10), 1 SCK (10), 1 SST1 SCK
 m (10), 1 SST1 ON, 1 SCK1
 , m (14) (14) , 1 SST1 , O
 N
 (10) (14), 1 SCK1 1 ON
 (11) (15), 3 LAT1-1 LAT1-4 , DAT1 DAT16 ,
 DAT , 3
 16 (12), (10) 1 SST1 , DAT가
 (12), 3 PRL1 PRL4 (15...) (16...)
 (13) (17...) , 3 BDE1 BDE4 , (16
 ...) DAT가 , DAT 가 , 1
 (2), 3 (17)
 SCK1 4 (17...) , (2)
 , 2 (9), (18), (19), DA (digital/ analog) (20), (21)
 (23...) , DA (18), n/m (22...) (19) n
 , 2 (9), n/m (20) n DA (24...) (21) n (25...)
), DA (24), (25)가 (14) (14) , (23)
 2 (9) , 4 , 2 (9)
 1 (8) 가 DAT , 4 , 1 (8)
 2 (9) (17...) BDE1 BDE4 , 3 1 SCK1, 1 SST1,
 (18), 2 SCK2 2 SST2가 , 2 SC
 K2 , 2 SST2 SCK2 (18), 2 SS
 T2 ON , 2 SST2 , n/m (22) (22)
 , 2 SST2 , (22) (22)
 , (18) (22), 2 SCK2 1 ON
 (22), m (23)가 (1) ,
 (23...) , 1 (8) (13)
 DAT가
 , m=4, n=16 , (22)가 ON , 4
 (23) 가 , 2 (22)가 ON DAT1 4가 (4 LAT2-1 2-4
 5 8 (23) DAT5 8 , 5 8 (23)
 , 9 12 (22)가 ON (22)가 ON D
 AT9 12가 (22)가 ON , 13 16 (23)
 13 16 (19) DAT , DA (20), (21) , m
 , DA (20) DA (24) SL , (21)
 21) (25) SCK1 , 2 SCK2 가 , 1 SCK1 2
 SCK2 , 1 , 1 (8) , 2 (9)

가 , 1 (8) 1 , 2 (9)

4 , 2 SCK2 , 1 SST1 , 2 SCK2 , 1 SCK1

(10) 2 SCK2 SCK2 가 , 1 SCK1

5 , 1 SCK2 , 5 (2') 가 , 1 (2)

(2') , 1 (8') , 2 (9') , 1 (8') , 2 (9)

(10), (11), (12), (13), DA (26) , 2 (9)

') , 5 , 1 (18) (27) DA 가 , (2')

(12) DAT가, (10) (11) ,

(13) , (13) , DAT ,

(13) , (18) DAT , DA (26) , (27) SL

1 (2), 5 (2') ,

DAT , (19) , (21) (13) D/A

SL 가 ,

(2') , (13) DAT ,

D/A (2)

2 , DA (24) , (n) (2)

(2,2') , DA (24) 가 m , , NAND

24) , DA (24) ,

6 6

(2') , 1 (2)

(2') , 1 (28) , 2 (29) , 1 (28) , (30),

(10), (11), (13) , 2 (29) ,

(19), DA (20) (21) ,

1 (28) , (10), (11) , (2) 1 (8)

(17...) , 1 (28) , (12)가 , (13) SCK1 1

DAT , 7

(7 BDE1 BDE4).

2 (28) , (30) , (2) (10)

2 (31) 가 n/m , n (30)

2 SCK2 , 1 SCK1

2 (28) , (19) (23) , 2 SCK2 1

DA DAT가 (7 LAT2-1 LAT2-16). , 7

(20), (21) 2 SCK2 1

6 (2') , DA (20) 1 가 (19)

(, 5 DA (26) (13) m) n

1 5 (1) , (18) (22)

SL(m) (22) 가 ,

(n) 1/m (18) SCK2 가 (10) SCK1

1/m , (19)((27)) SL

6 (2) , (30)

(19) 2 SL SCK2 , (10) 1 SCK1

가 , 가 . , SL ()

가 , 가 . (13) 가 , ,

8 (rounding-off) , ,

가 , 가 1 . ,

8 (MCTL)(33) DATI (ROM)(32) ND

가 (OFFP)(35) , 가 (ADDER)(34) 가 DATI ND

가 , (QNT)(36)

가 DATO가 .

9 () ,

(13) , ROM32 ,

() , (12) DAT

(13) , m ,

10 , 16 (8) ()

4 (33) (13) (17) 가 (34) , (32)

11 (ROM1 4)(32-1 32-4)가 , (13) 4 가 (34-1 34-4) ,

(32-1 32-4) 가 (34-1 34-4)가 (32)

가 (34) 10, 11 ,

()가 , 가 .

12 , ,

1/k(k 2) : 13 k=2) , 13 ,

() , (13)

가

가 ,

1 , 1 가 , 가

2 , 가 , DC , 가 ,

1/k(k 2) : 13 k=2) ,

(13) ,

가 .

가 , 가 ,

가 , 1 ,

가 , 2 ,

가 ,

가 ,

, DA . DA , 가

DA , 14 , 4 DAT (37) (38)

...), (, 16) VREF (DA SL) (38)

DA , , 가 , 가 ,

VREF , , 15 , VCC , 5

VEE 2 , 16 , 16 , 16 , 5

VO V4 , 16 , 1

()

가 , 가 ,

ON/OFF ,

17a 17b , ,

18 , ON/OFF 가 (36) (39,40) , (34) (35)

BC (39,40) , 가 (34) (39,40) (39,40) , 19 , BC , (39,40)

0) , 20 , DAT DAT ,

BDT(41) , DAT ((41)가)

가 , (41)가

21 , (42) (43) (21)

(MOS) ,

가 ,

600 , 22a

22k (44)(22a) (45) (22b) , (45)

(46) (22c) . (46)

(22d) , (46)

(22e) . , (48)

(22f) , (n , p

(22g) 22h) .

(22j) , (51) (22k) . (50)

600 , (44)

1737

) , (,) .
 , 22a 22k , 600
 , 가 , 가 .
 , , , EL 가 ,
 , , , 가 가 .
 , , , 가 150 200 mm (300 m
 m) .

[illegible]

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가
1
1
R-DAC, C-DAC
가
가
1
가
(가)
()
()
()
가,
가
R-DAC, C-DAC
가
600
600
가
가
가

(57)

1.

가
n
n
n
m
n
m

2.

- 1
m 1 , , , 1 ,
- 1 가 m , 2 ,
- n 2 , ,
- , ,
- 가 2 , 2 , 1 , m
3. , 1 ,
- 1 m 1 , ,
- n 2 , 1 , 1
- , 가 , 2 , 1 , 1
- 2 , 2 , 1
4. , 1 , 2
5. , 2 , 1
6. , 가 ,
- / / , 가, 2 .
7. , 가 ,
- / / , 가, 2 .
8. , 가 ,
- / / , 가, , 2
9. , 가 ,
- / / , 가, , 2
10. , , 가
11. , , 가
12. , , 가
13. , , m
- 14.

11	,	,	,	m
15.				
12	,	,	,	m
16.				
13	,	,	,	
17.				
14	,	,	,	
18.				
15	,	,	,	
19.				
10	,	,	,	
20.				
11	,	,	,	
21.				
12	,	,	,	
22.				
10	,	,	,	
23.				
11	,	,	,	
24.				
12	,	,	,	
25.				
19	,	,	$1/k(k^2)$,
26.				
22	,	,	$1/k(k^2)$,
27.				
10	,	,	,	
28.				
11	,	,	,	
29.				
12	,	,	,	
30.				
27	,	,	,	
31.				
28	,	,	,	

[illegible]

1 , 가,

51.

2 , 가,

52.

3 , 가,

53.

50 , , 600 ,

54.

51 , , 600 ,

55.

52 , , 600 ,

56.

, , ,

, , ,

가 n 가, m ,

n ,

m , n , m

57.

56 , , 1 ,

m 1 ,

1 m , 2 ,

n 2 , ,

, ,

가 , 1 ,

가 2 , 2 , m

58.

56 , , 1 ,

m 1 ,

n 2 , ,

가 , 2 ,

, 1 ,

가 , 1 ,

2 , 2 , 1 ,

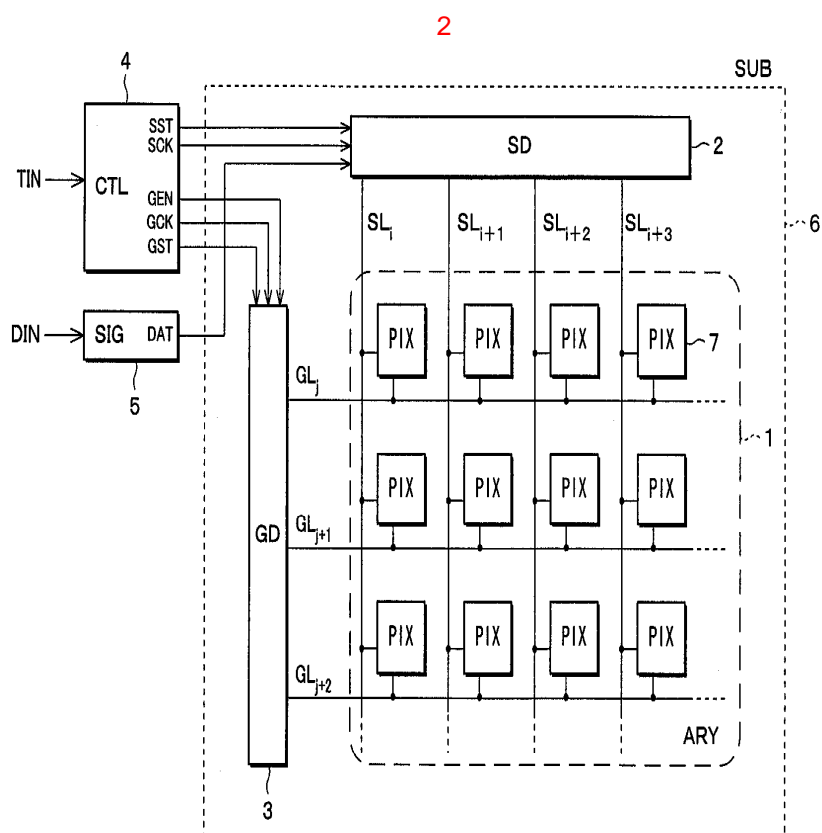
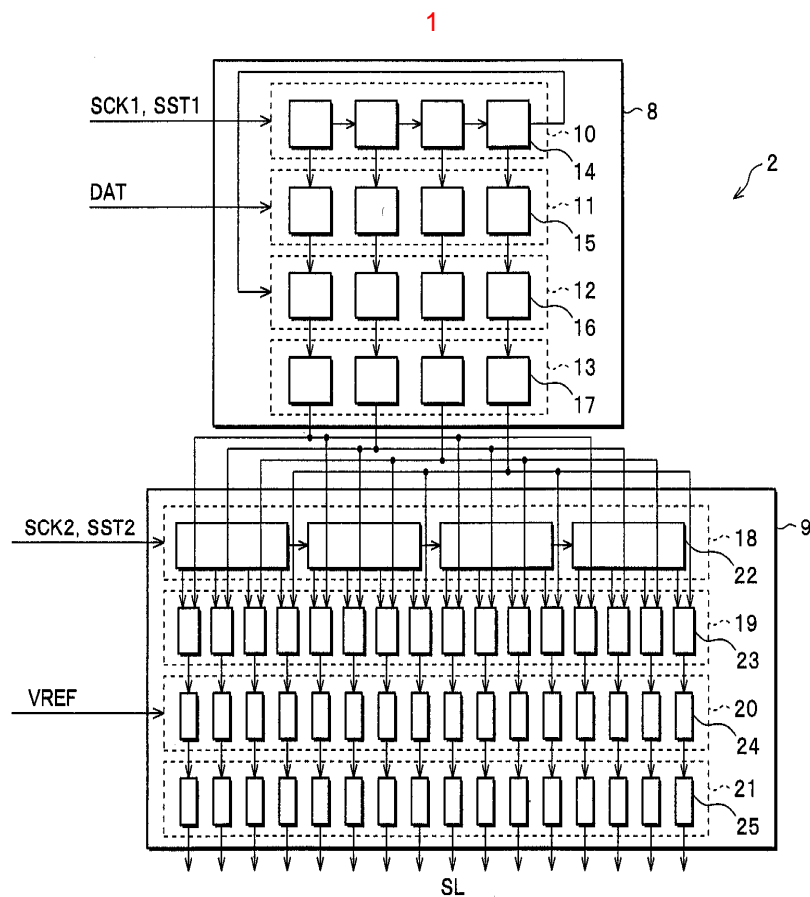
59.

, n

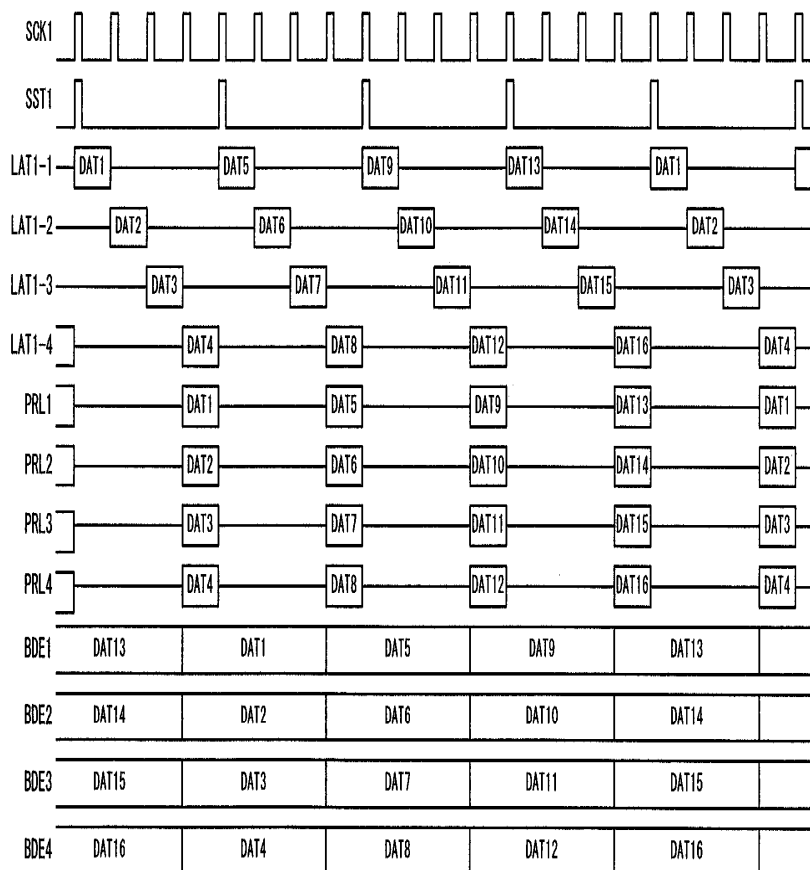
, ,

, m

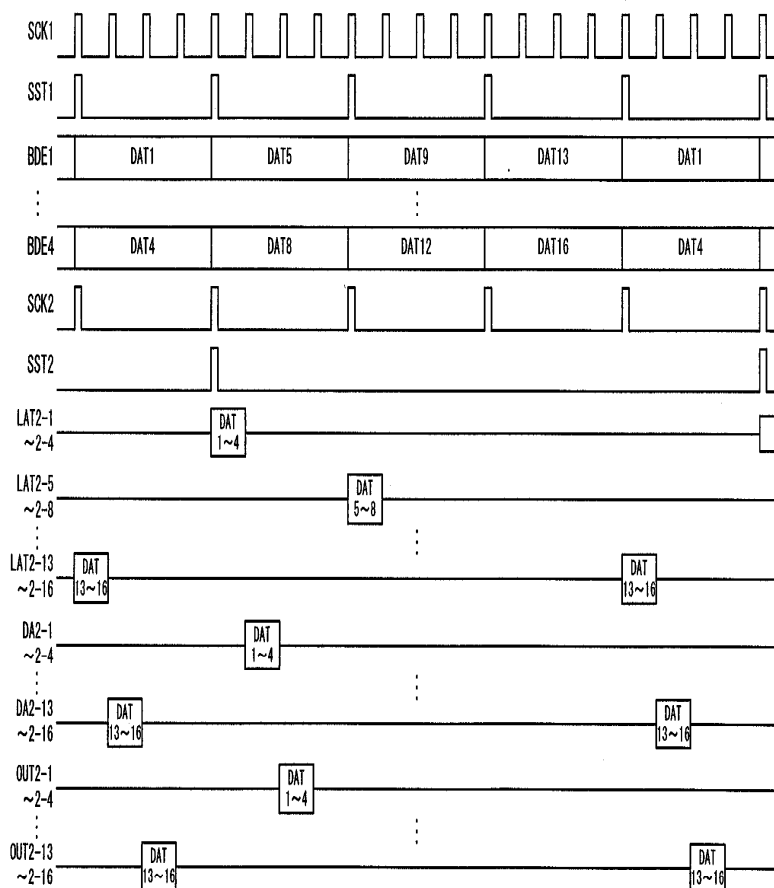
가 , m ,



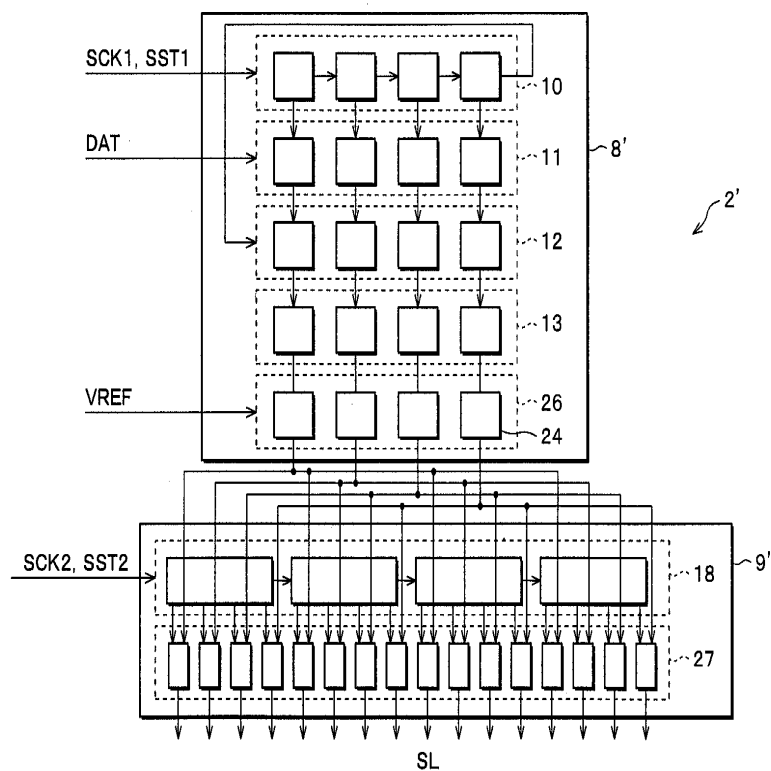
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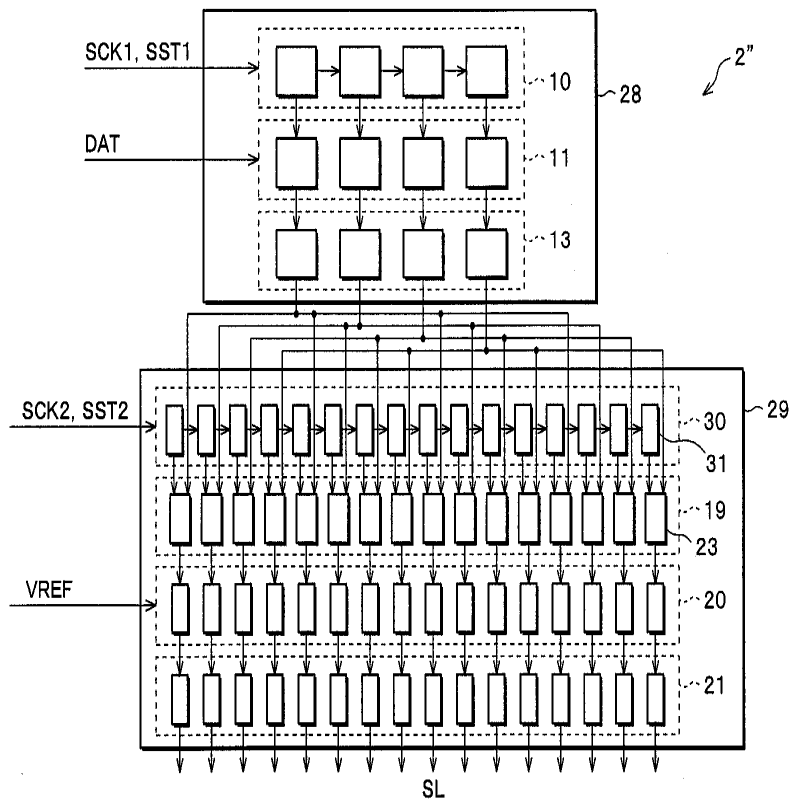
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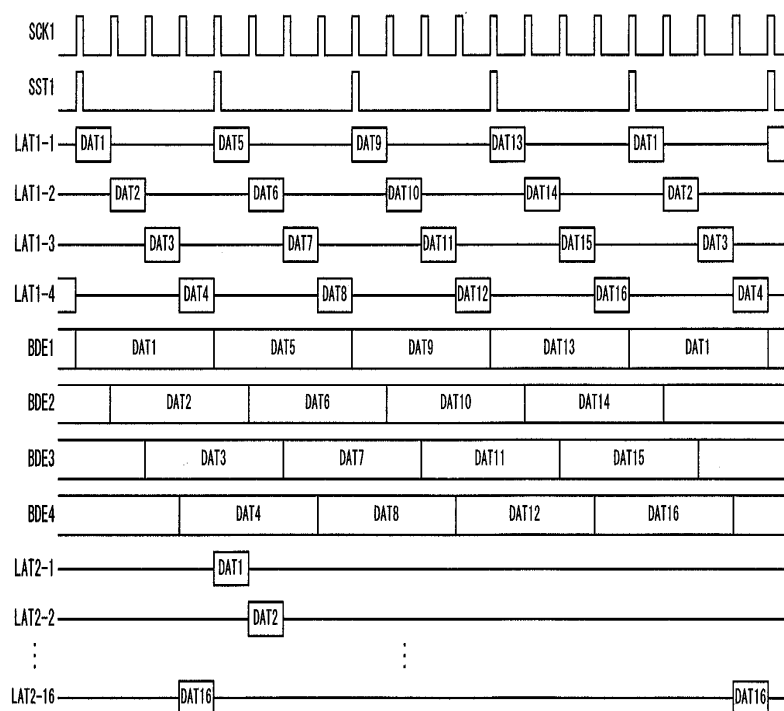
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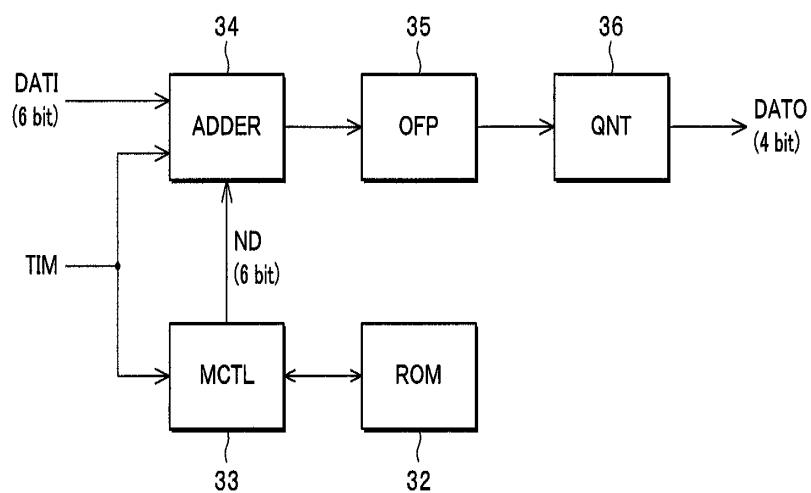
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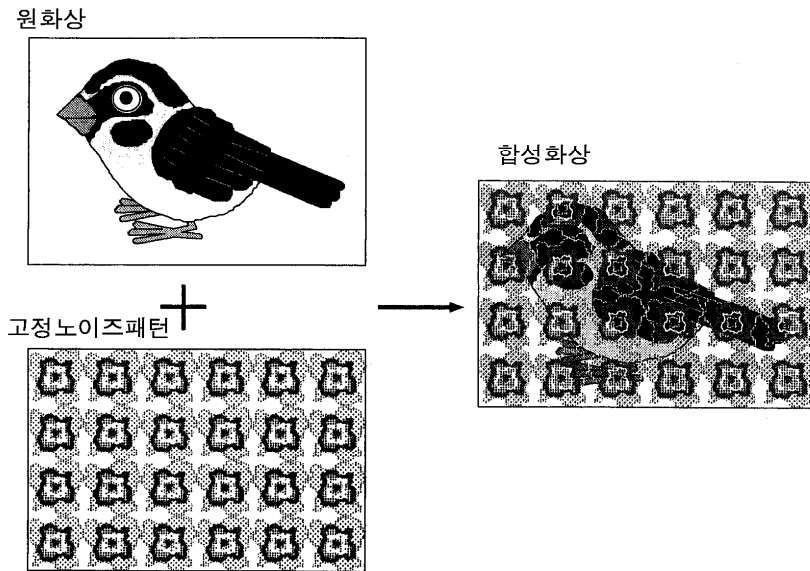
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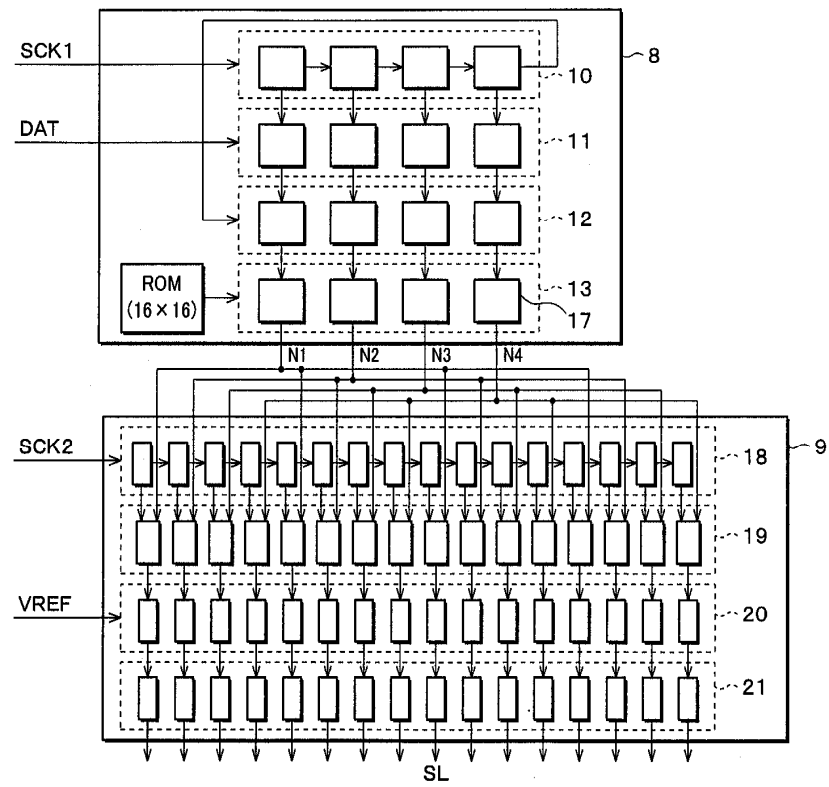
8



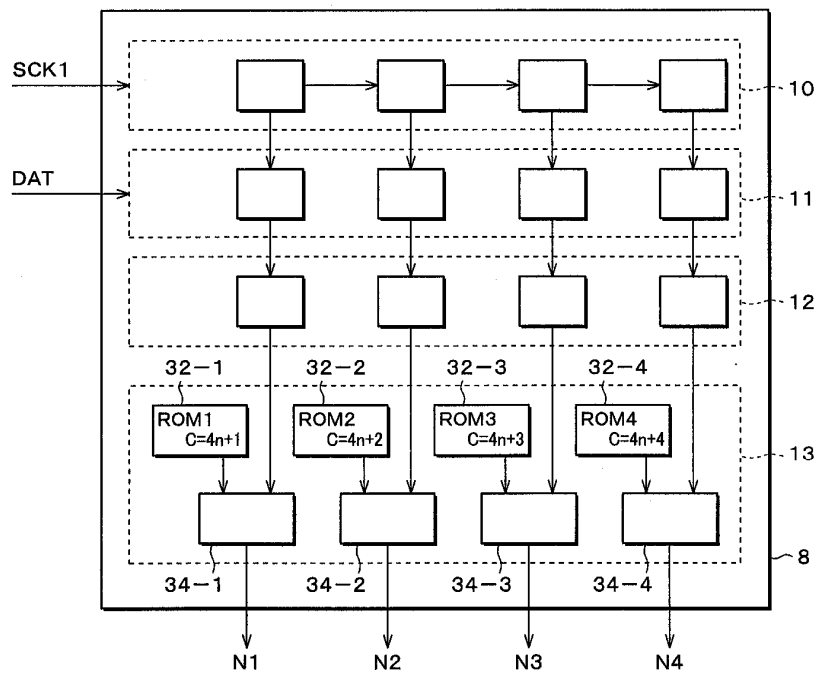
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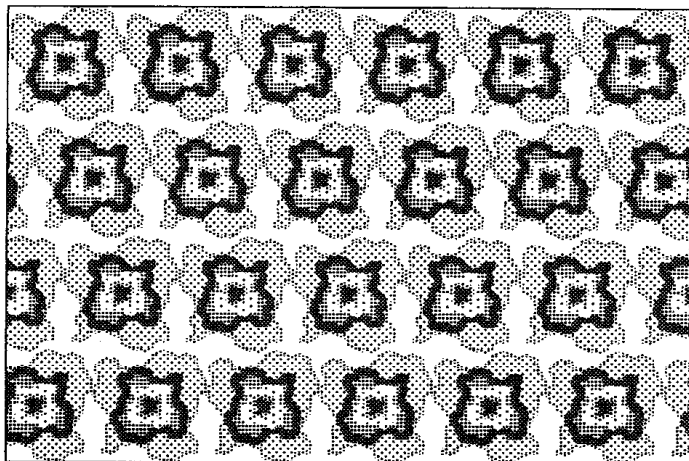
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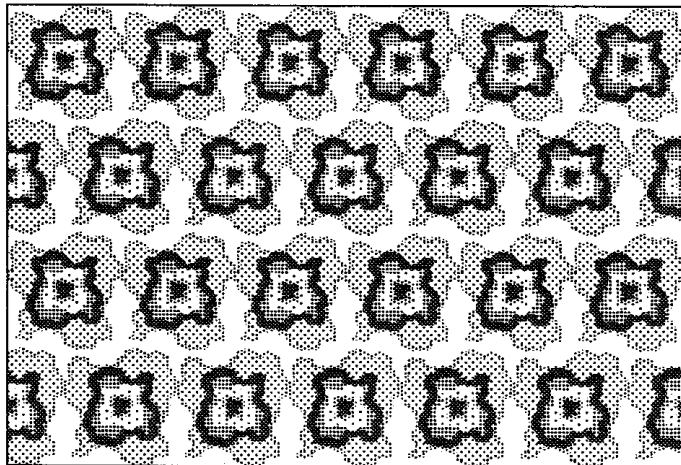
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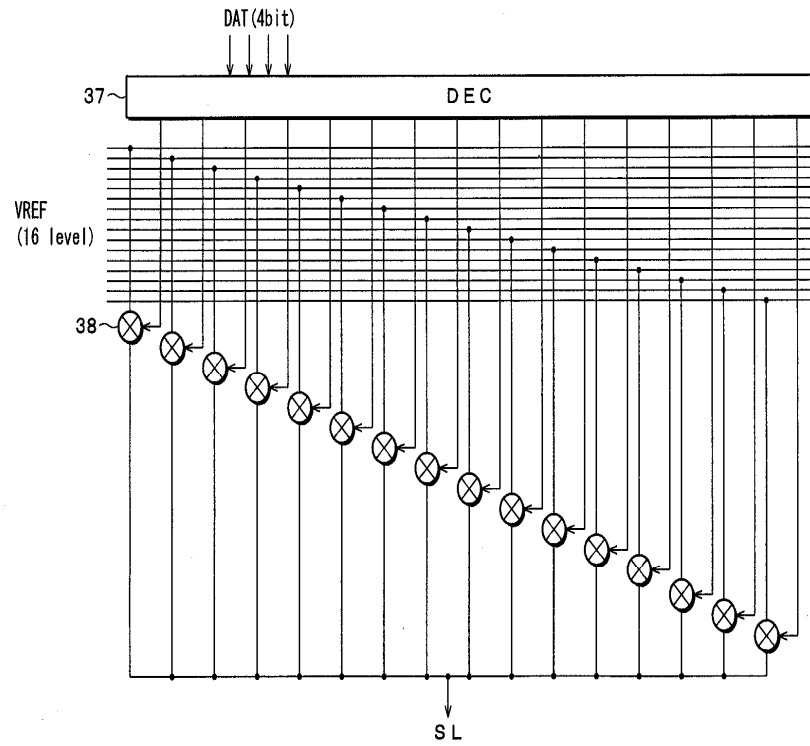
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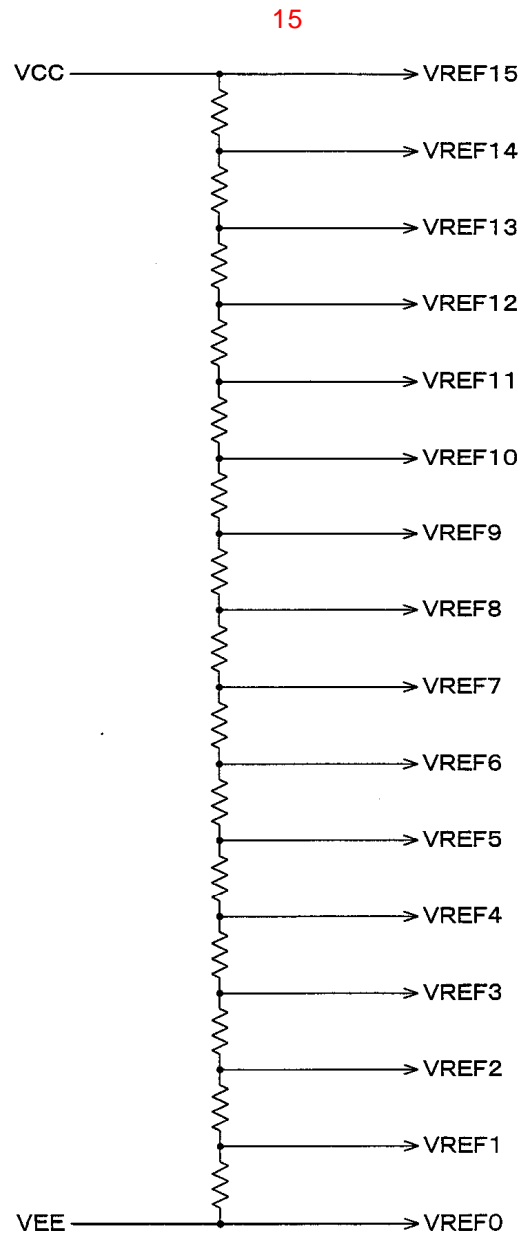


13

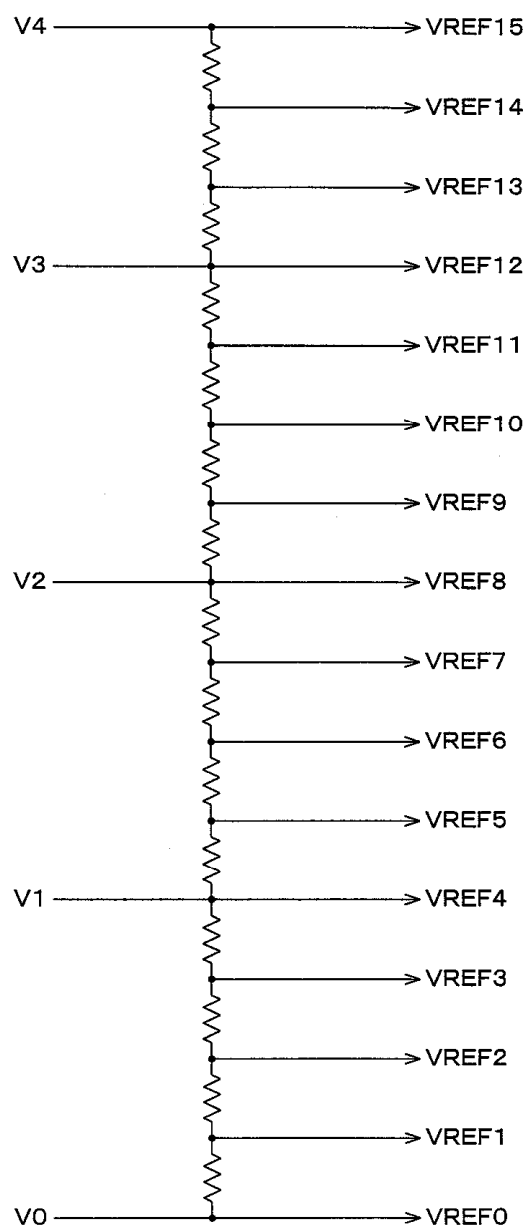


14

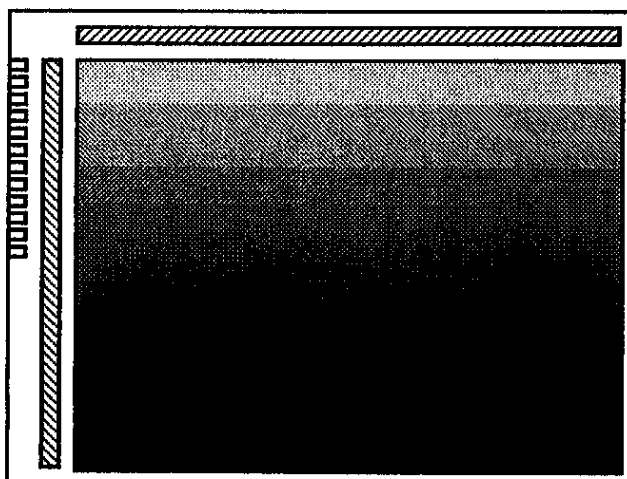




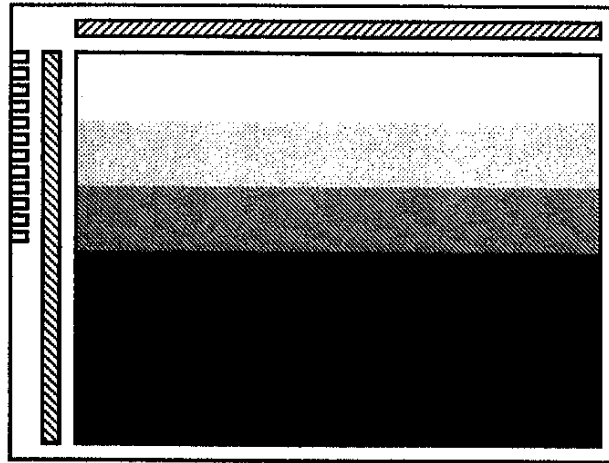
16



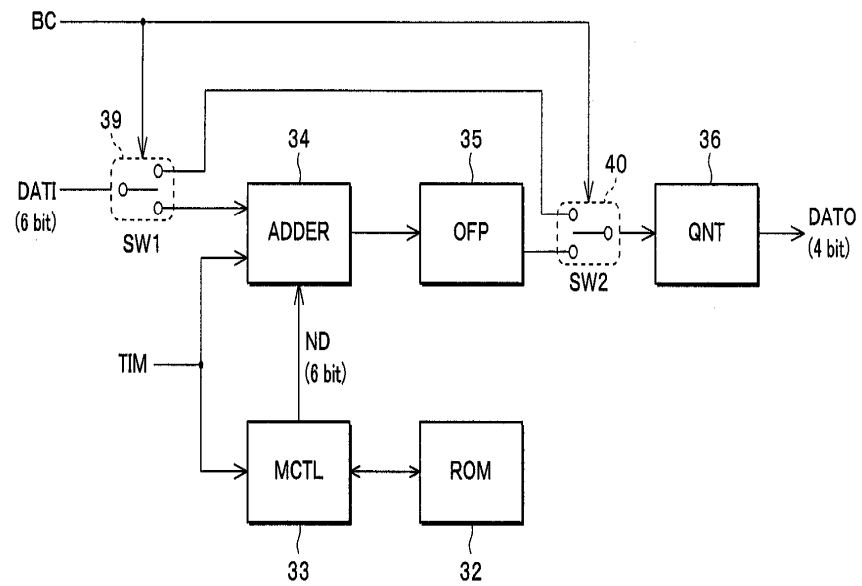
17a

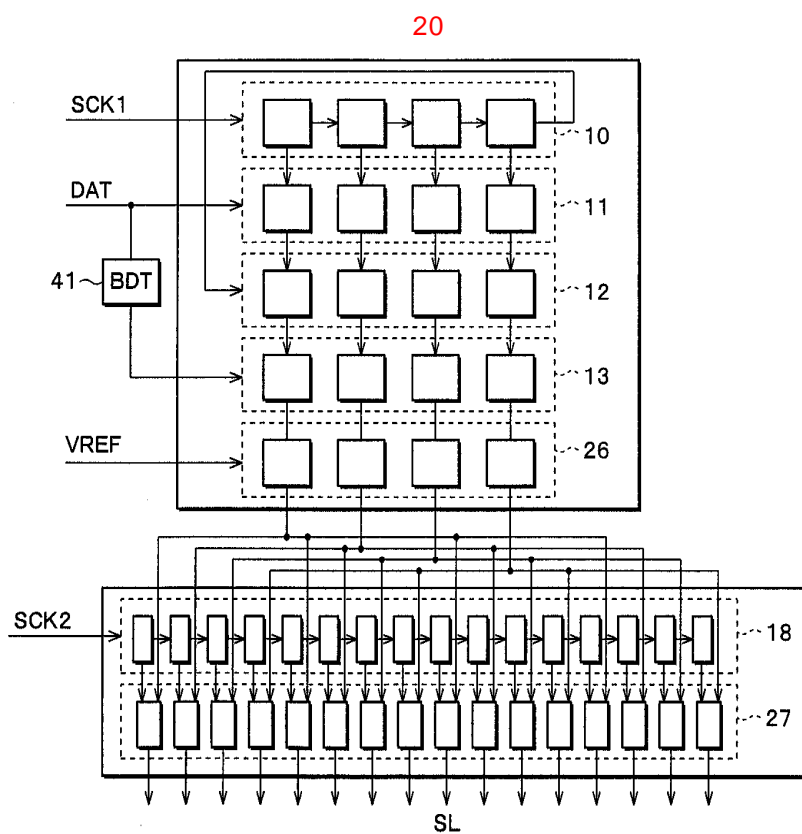
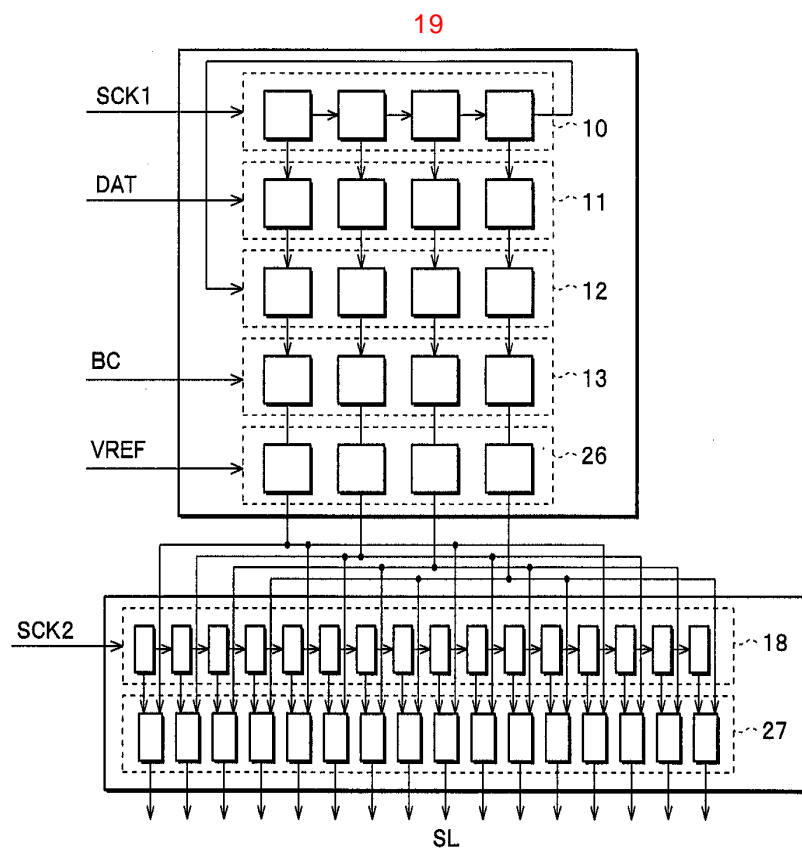


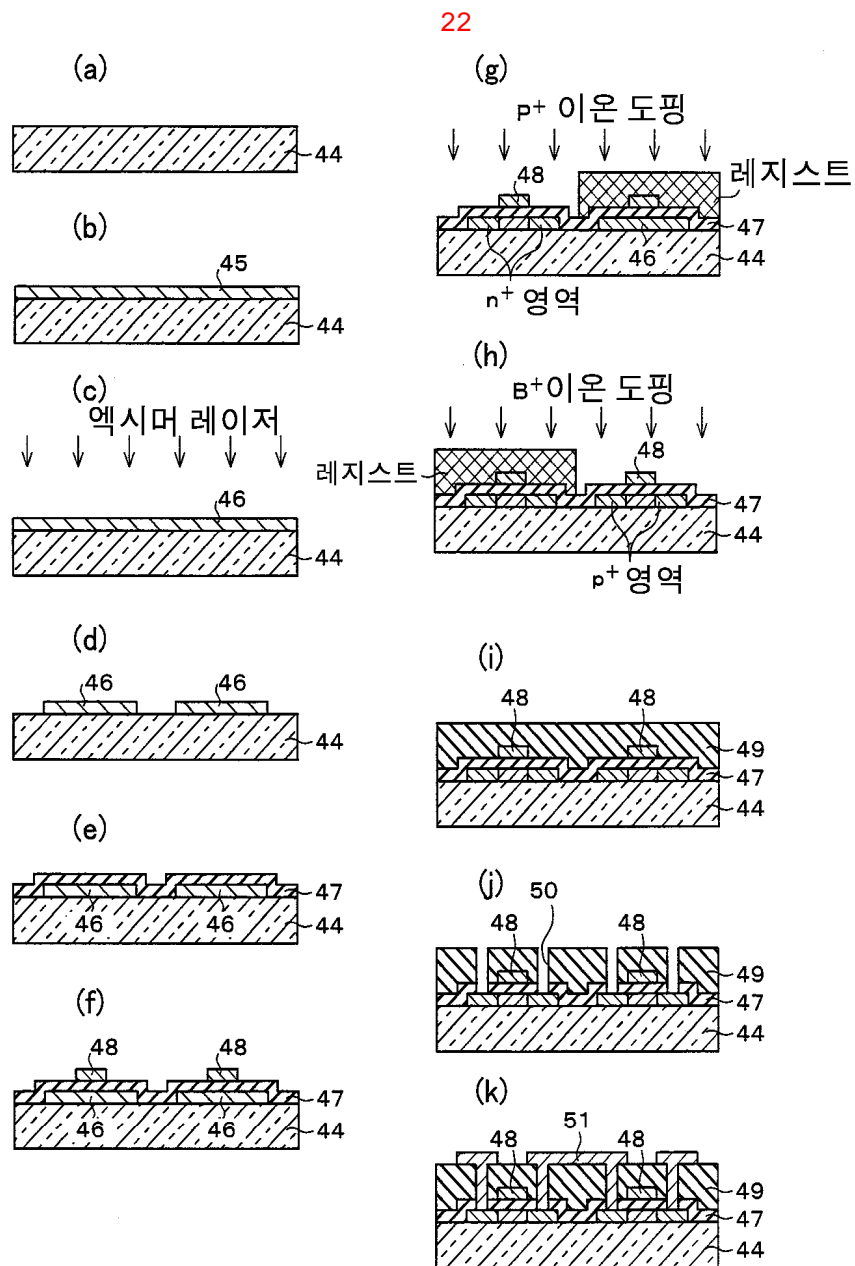
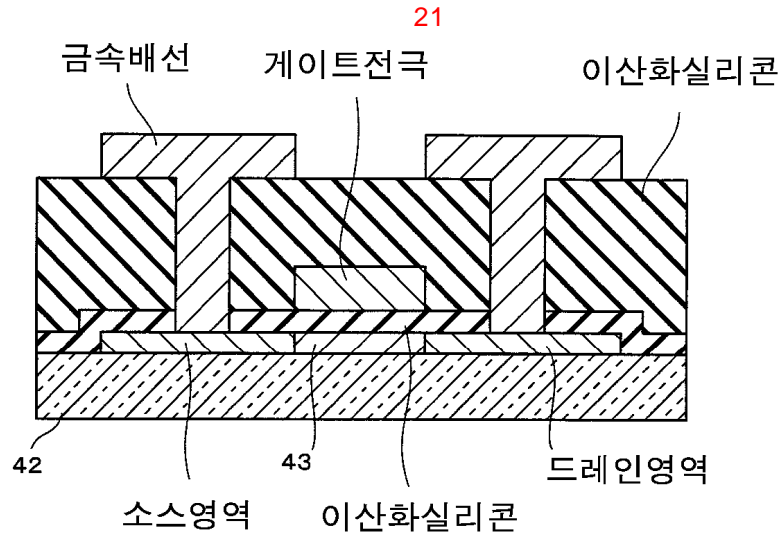
17b



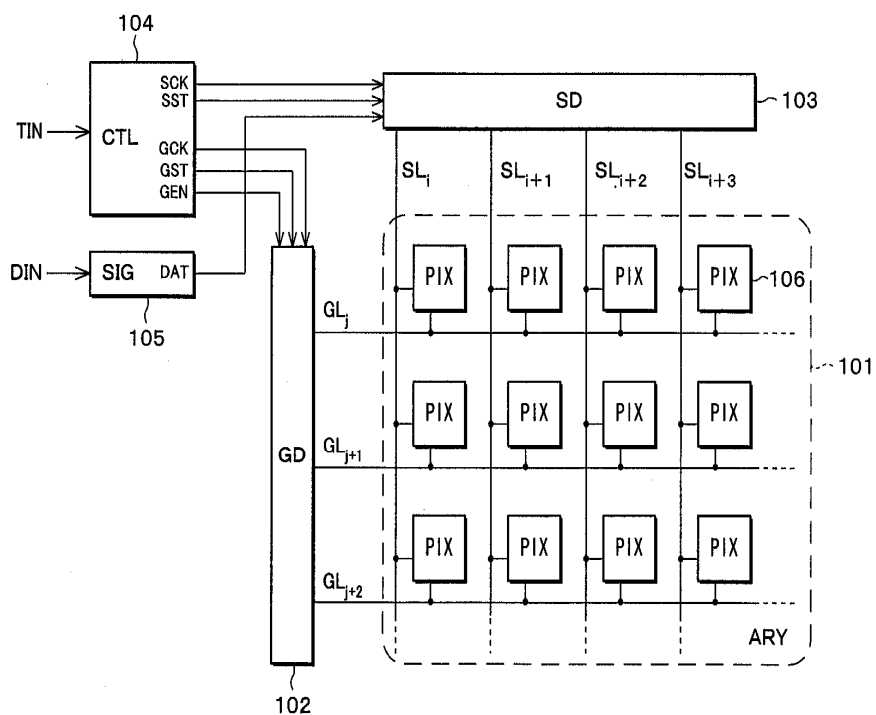
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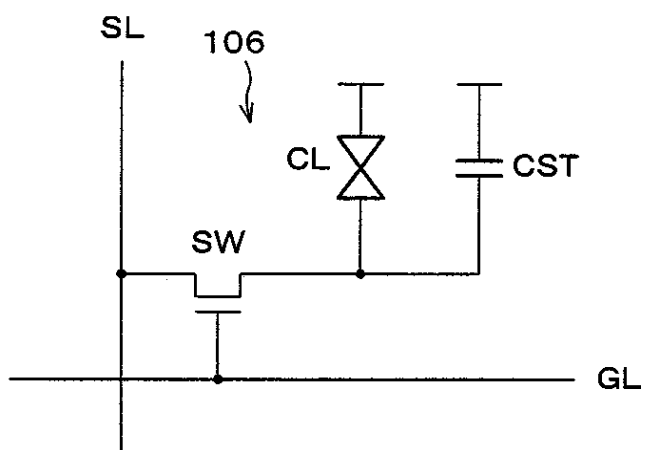




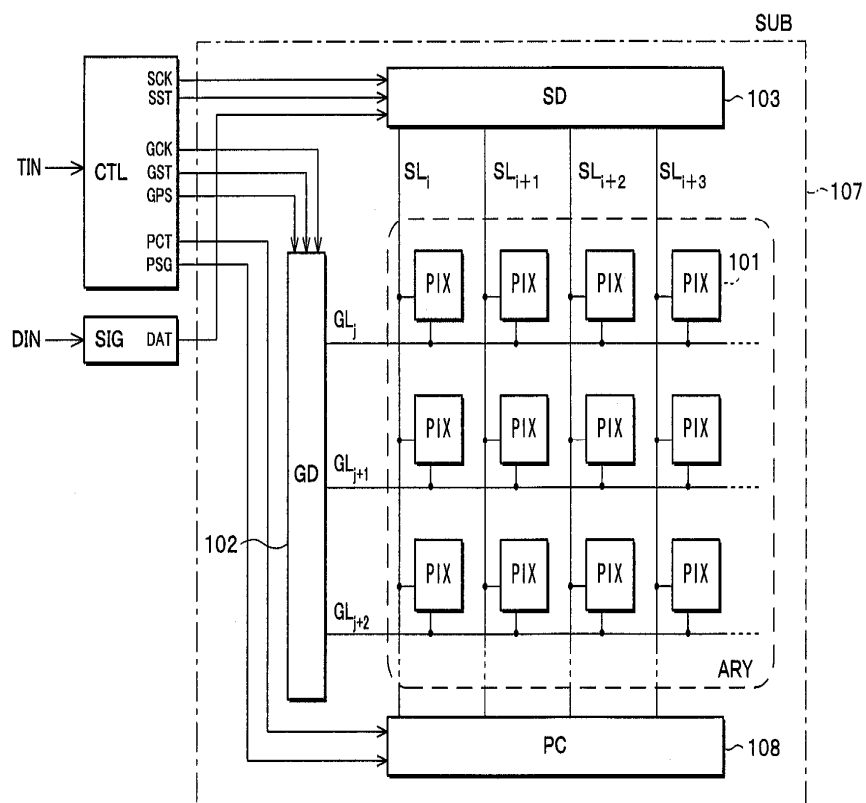
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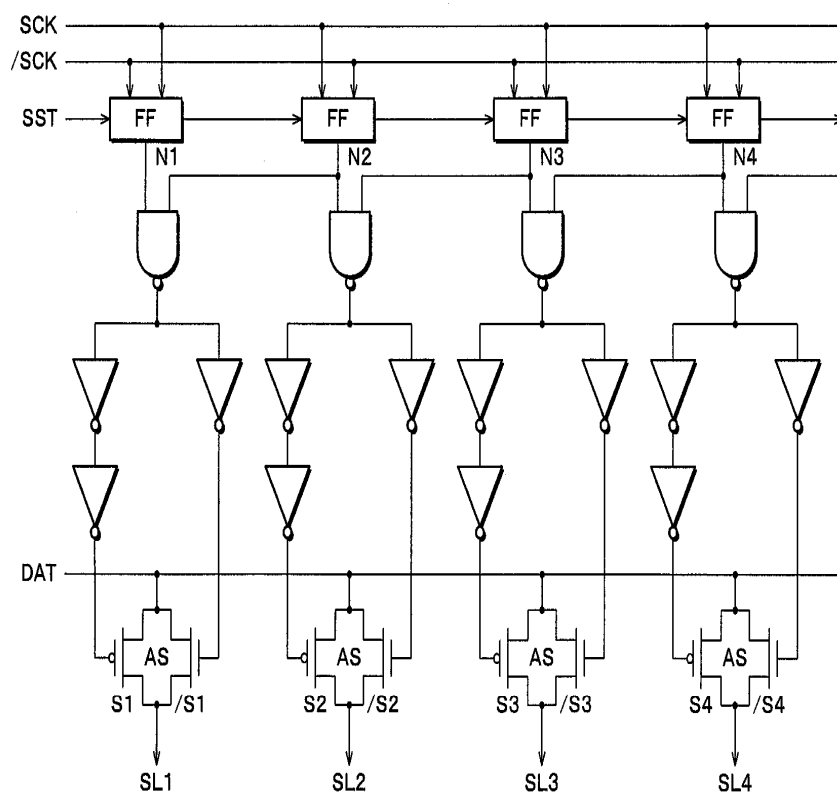
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25



26



27

