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(KR)  
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H01L 21/66

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(43)

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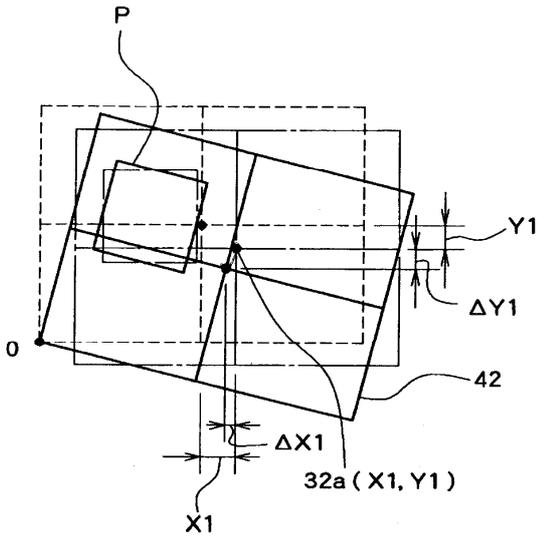
(72) 가 1-31-51

(74)

:

(54)

, ,  
 , ( ) , ( ) ,  
 ( X1, Y1) (X1, Y1) , ,  
 Y1) , , ( X1,



XY

- 1
- 2 1
- 3 1
- 4 1
- 5 1 ( )
- 6 1 ( )
- 7 1 ( )
- 8 1 ( )
- 9
- 10 1
- 11 2
- 12 2
- 13 2
- 14
- 15
- 16
- ( )
- 1:XY, 2: , 4: , 5: , 7:
- 14: , 14a: , 32:
- 32a: , 33: , 34:
- 36: , 36a:
- 37: , 38: , 39:
- 42: ,
- A0, A1, A2, Ac1, Ac2:
- Am:
- Am1, Am2:
- L: , P: , W:
- LUT1, LUT2:

14 (32a) , XY  
 가 1 (14a)  
 (7) (7) XY (1) (39) (2) (6)  
 (7) (32) (32a) (14a) (39)  
 (33) (reticle mark)(42) (32a) (14a) (32a)  
 XY (1) (36) (templet)  
 (Pal x , Paly), (Pa2 x , Pa2y) 2 (14a) (Lal x , Laly), (La2 x , La2y) 2  
 (P) (L) (P) (L)  
 (32) (32a) (36)  
 (1) ( , ) (14) , XY  
 (15), (7) (14) (A0) (7)  
 (32a) (32a) XY (1) (1) (Pal x , Paly) (A0) XY (1) (32a) (Pal x + X, Pa1y + Y  
 ( X, Y) ( X, Y) 가 (Am) 「Am」  
 「m」 (A0) (Am)  
 (14)가, (P), (L)  
 (15 (P)) (Am)  
 (P) (A0)  
 16 (14)가 (14)가 (A0) (Am)  
 (16 (A0) (Am)  
 (14)가 (L) 가 가 가 (P)  
 (L) (P) (L) 가 가 가 (P)



(14a) (2) (6) (14) , (6) (7)가 (7) ,  
 XY (1) , (34) (30) XY (38)  
 (34) (7) (37) (37) , (38)  
 가 XY (34) , (33) (35) (39)가 (33)  
 , XY 가 (39) , CRT (34) , (7)  
 , 4 , (34) , (32) , (32)  
 32) 가 (32a) . (42)가 (36)  
 (36) , 가 (36a)가 (36a) , (36)  
 , (LUT1, LUT2) 가 (default) ,  
 가 (34)  
 , (14)  
 Y 2 , (14) (34) X  
 (1) , (7)가 1 (S102).  
 (7) 4 (32) (32a) (Xp1, Yp1)가, (34)  
 (36) (S104). , 1 (P)  
 (32a) (14)가 (7) (P) (A1) , (P)  
 8) (42) , (36) (36a) (S106). , (3)  
 (5) 8 , (正立) 4  
 , 5 (37) , +Q° ( ) 가 (S108).  
 5 (42) (O) 6, 7 8 ,  
 , (S110). , 1 , (R)  
 , (R)

$$R = \frac{\{N \sum IM - \{\sum I \sum M\}\}^2}{\sqrt{\{N \sum I^2 - \{\sum I\}^2\}} \sqrt{\{N \sum M^2 - \{\sum M\}^2\}}}$$

R : -1 R 1  
 , R : , N : , l : , M :  
 (36) (S112, 6). (X1, Y1) (( X1, Y1))  
 , X r · sin 2 , Y r · sin cos (32) (32a)  
 , ( ) r 가 rsin  
 S108 S112) 가 M , 가가 (S114), ( )  
 (( X1, Y1)) Q, 2Q, 3Q, 4Q, 5Q  
 124) , (M) 0° (S116), (S118 S  
 -Q° ( 7) 가 , (-Q, -2Q, -3Q, -4Q, -5

Q) , (( X1, Y1)) (36) .  
 (S126) , 1 (M) (S126) , (36)  
 (LUT1) , 9 (A1) (LUT1) , (( X1, Y1))  
 , 1 (A1) (S102 S126) , 2 (A2) (36)  
 ( X2, Y2) (LUT2) , (S128).  
 가 (S130). , 1 (A1) · 2  
 (A2) (P) , (P) (L) , (32) (32a) ,  
 (P) (L) (33) (36) (36)  
 (36) , (P) (L) (14) ,  
 , 3 10 (14)  
 , XY (1) (34) , (7) , 1 (A1) (14)  
 (Xp1, Yp1) , (7) (S202). , (7)  
 14) (7) , (Am1)(Xm1, Ym1) , (S204, 10). , 「 (Am1)」  
 「Am1」 , 「 (Am2)」 , 「Am2」 , 「m」  
 가 (R) , 1 , (R) ,  
 (S206 S208) , 2 가 , (A  
 m2) (Xm2, Ym2)가  
 , (Am1, Am2) (Xm1, Ym1), (Xm2, Ym2) , 1 (A1) 2  
 (A2) (Xp1, Yp1), (Xp2, Yp2) , (14) ( )  
 (S210). , (Am1, Am2) , 1 (A1) 2  
 (A2) ( ) , (LUT1, LUT2) , ( ) 1  
 (A1) 2 (A2) (S212). , (LUT1,  
 LUT2) (-5Q +5Q) , ( ) 가 가 (LUT1, LUT2)  
 ( X, Y1), ( X2, Y2) , (Am1, Am2) (Xm1, Ym1),  
 (Xm2, Ym2) 가 , (14) 1 (A1) 2  
 (A2) (S214). , 1 (Ac1) (X  
 m1+ X1, Ym1+ Y1), , 2 (Ac2) (Xm2+ X2, Ym2+ Y2)가 .  
 (S130) , 1 (A1) 2  
 (A2) (14) , 1 (Ac1) 2  
 (Ac2) (P), (L) ( ) , (S216).  
 (S218). , (34) XY (1  
 ) (4)  
 , 1 · 2 (A1, A2)  
 1 · 2 (A1, A2) (S112, S122),  
 (X1, Y1), (X2, Y2) (S110, S120). ,  
 (( X1, Y1)), ( X2, Y2) , (S126, S128).  
 , (Am1, Am2) (Xm1, Ym1), (Xm2, Ym2)  
 14) ( ) (S210). , (Am1, Am2) (Xm1, Ym1), (X  
 m2, Ym2), ( ) , (( X1, Y1)), ( X2, Y2)  
 1 (Ac1) (Xm1+ X1, Ym1+ Y1), , 2 (Ac2) (Xm2  
 + X2, Ym2+ Y2) (S212, S214).  
 14) , (( X1, Y1)), ( X2, Y2) ( ) ,

(Am1, Am2) , (14)가

(-5Q +5Q) ( X1, Y1), ( X2, Y2)

< 2 , 2 >

11 , 2 (D, E) (14) (14a) 가 (P) (D, E)

, 2 (Dc, Ec) , 1 (A1) 2 (A2) (P)

(42) (D, E) (Dc, Ec)( (A1, A2))

2 (7)가, 1 12 , 2 (34) XY (1)

(D, E) 가 (42) (Dc, Ec) (S3

02). (32) (32a) (Xp1, Yp1) (

34) (36) (S304). (14)가 (7) (36)

(S306).

(32) (42) (D, E) 2

(Td, Te) (S108 S130) (A1,

A2) 1 (Dc, Ec) ( X1, Y1), ( X2, Y2) (S308 S328).

(LUT1, LUT2) (36) (S306) (E) (14)

(Ec) (E) (S326) (D, E) (14)

( 13) , 1 (Am1, Am2) (Dc, Ec)

2, Ym2) , ( ) , (LUT1, LUT2) (Xm1, Ym1), (Xm

(Ec) (S404) (14) (D, E) , 2

(14) (14) (D, E) (A1, A2)

(Dc, Ec) (7) (42) (Dc, Ec)

(14) (D, E) (S404), (14)

2 (14) (42)

(Dc, Ec) (42) (A1, A2) (7)

(14) 2 (14)

(14) 가 (殘差)

, 2 가 1, 0

(P) (D, E) (D, E) 가 (14)

(P) (D, E) (14a) 가 (P)

가 (L) 2 , 3

가

가

가

(57)

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2.

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3.

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2

4.

1

3

가

5.

3

가

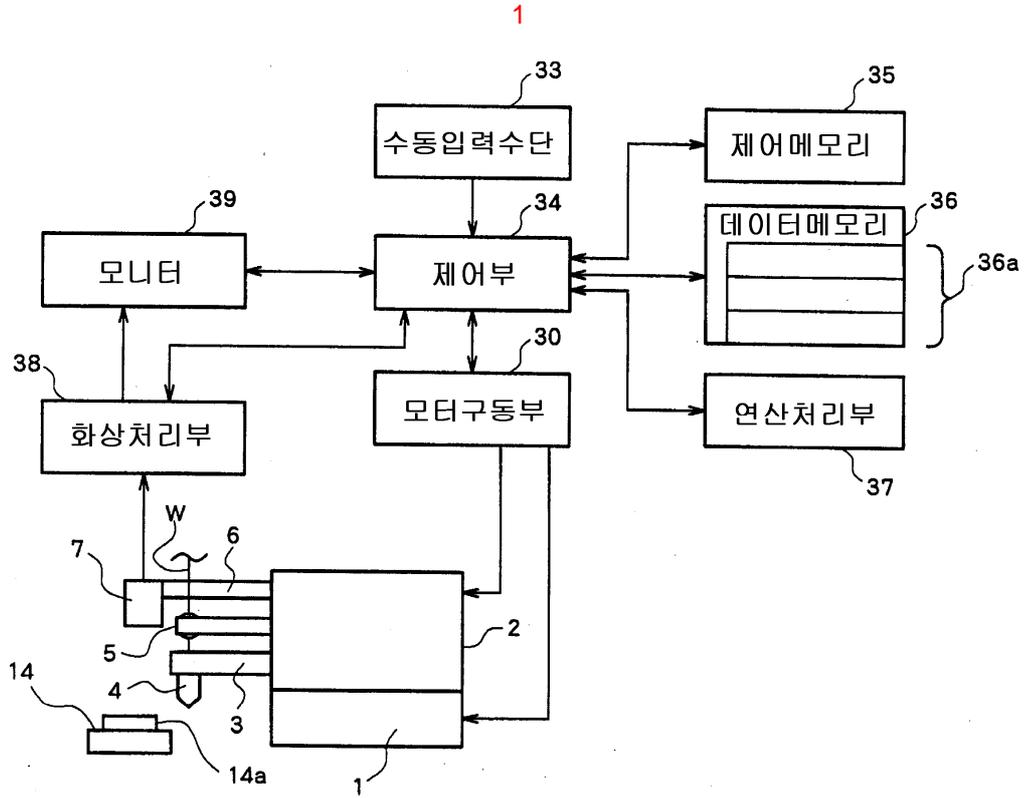
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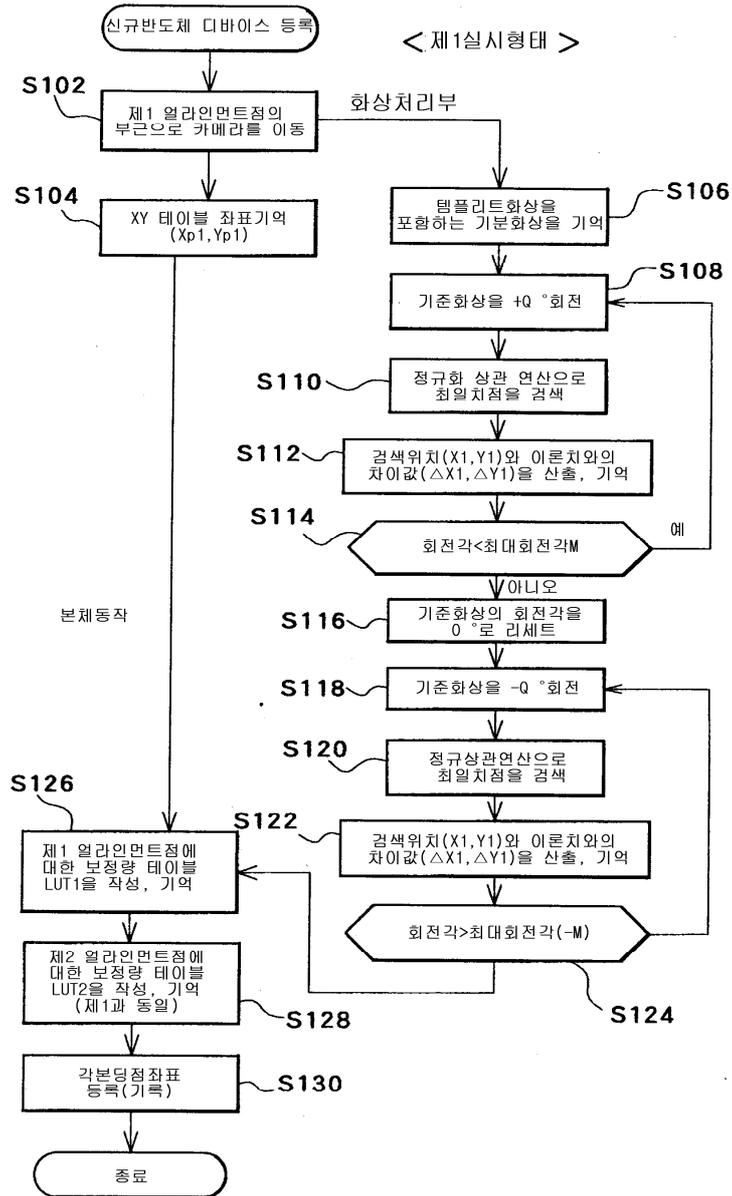
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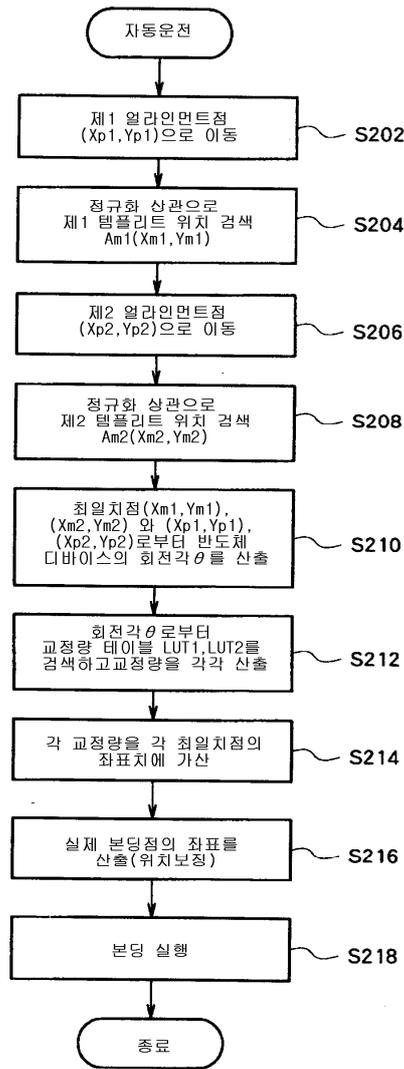
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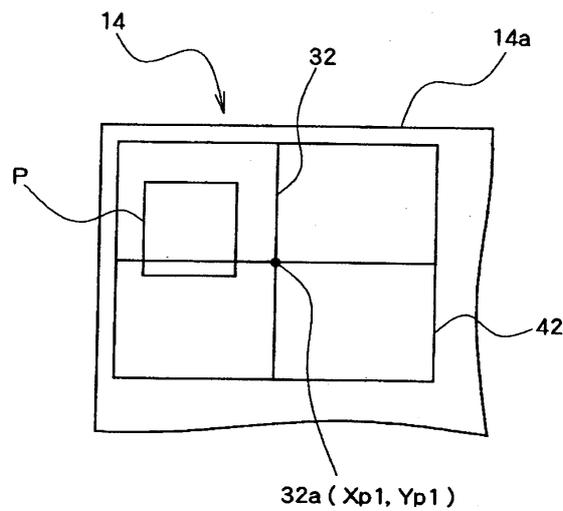


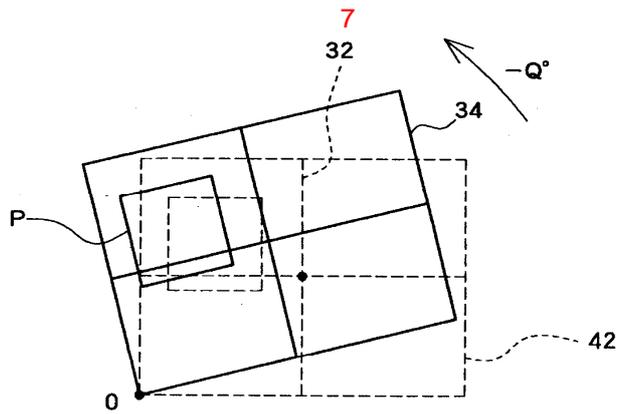
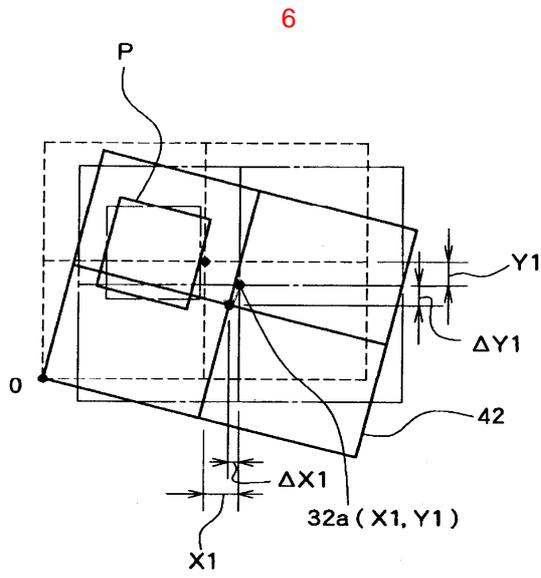
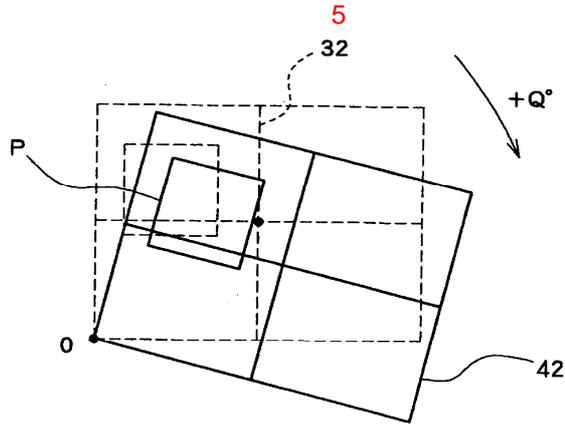


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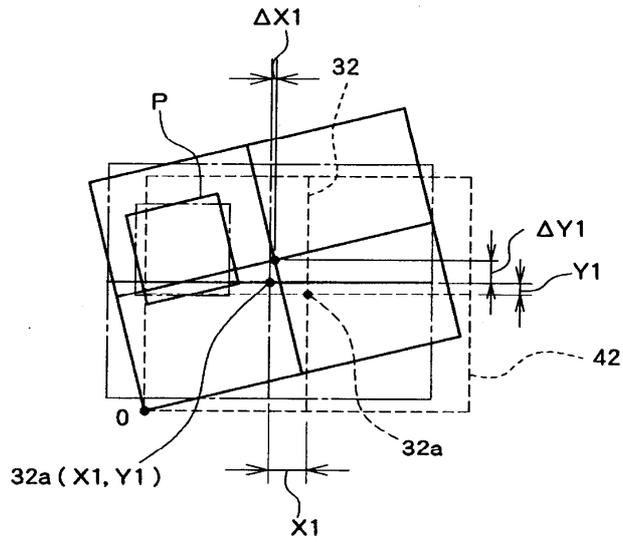


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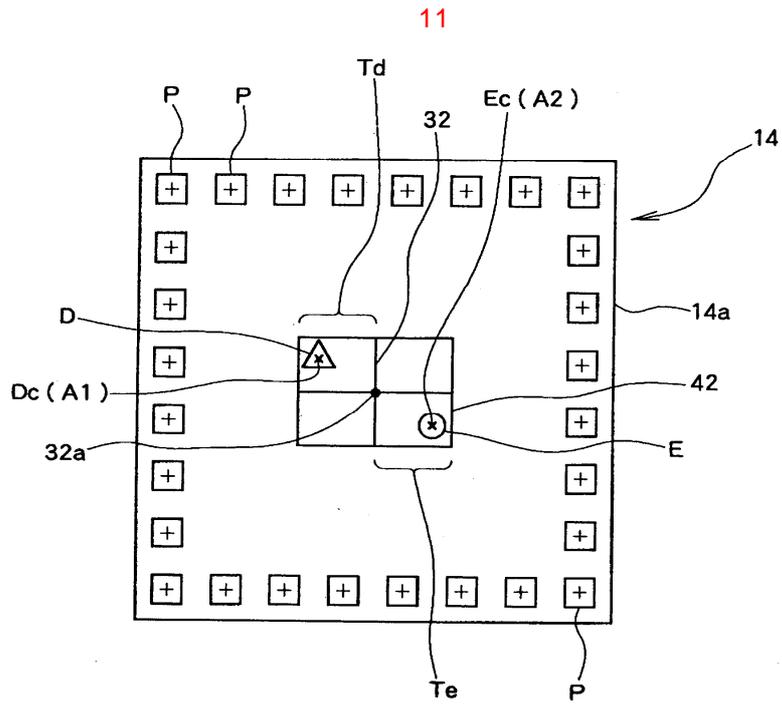
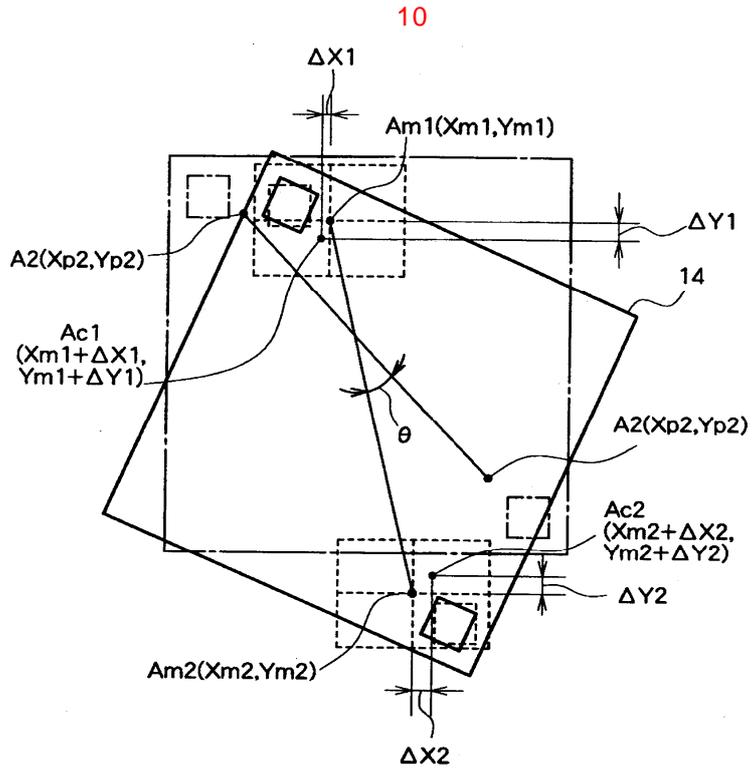


9

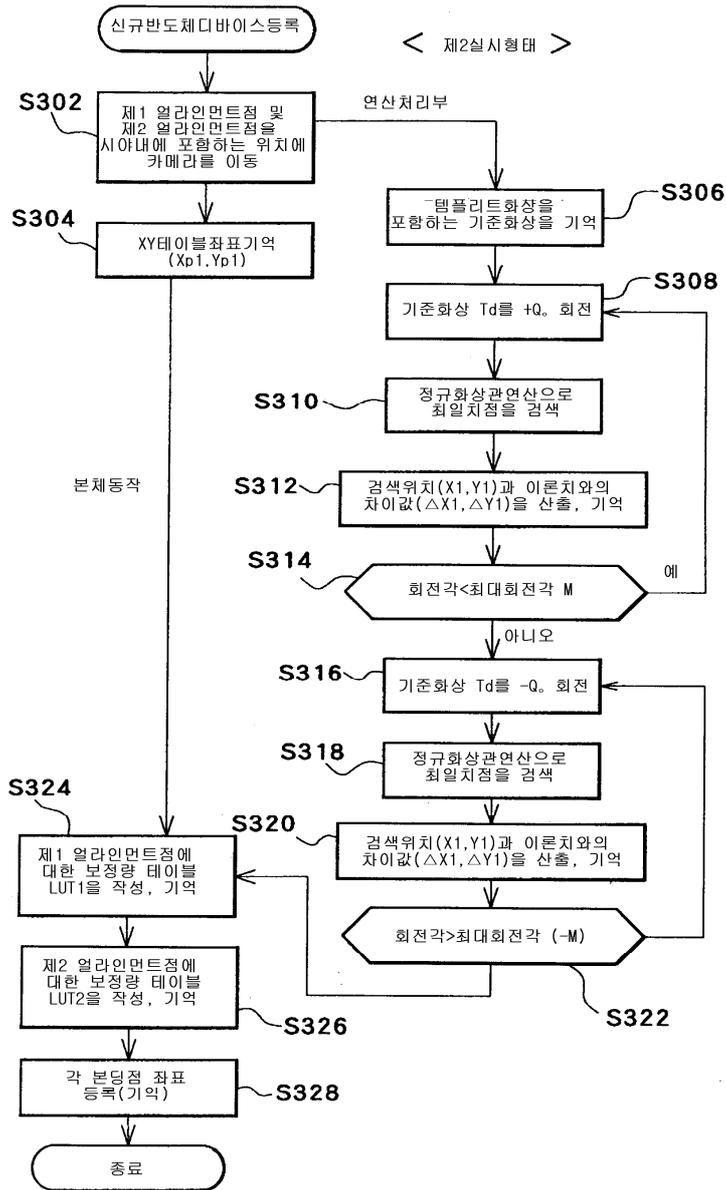
LUT 2

LUT 1

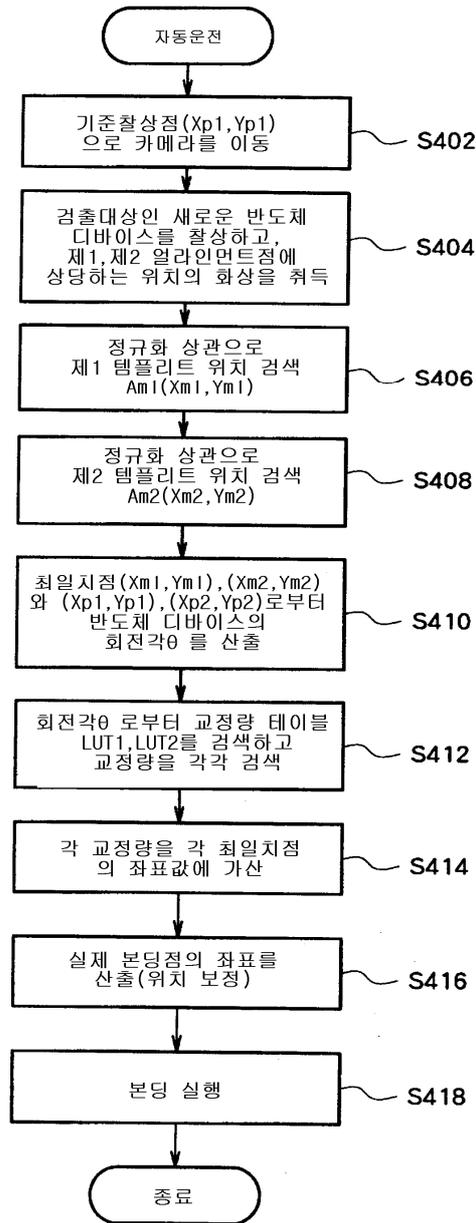
	회전각	차이값 ΔX 2	차이값 ΔY 2
	회전각	차이값 ΔX 1	차이값 ΔY 1
	+ 5 Q	...	...
	+ 4 Q	...	...
	+ 3 Q	...	...
	+ 2 Q	...	...
	+ 1 Q	...	...
	0	0	0
	- 1 Q	...	...
	- 2 Q	...	...
	- 3 Q	...	...
	- 4 Q	...	...
	- 5 Q	...	...



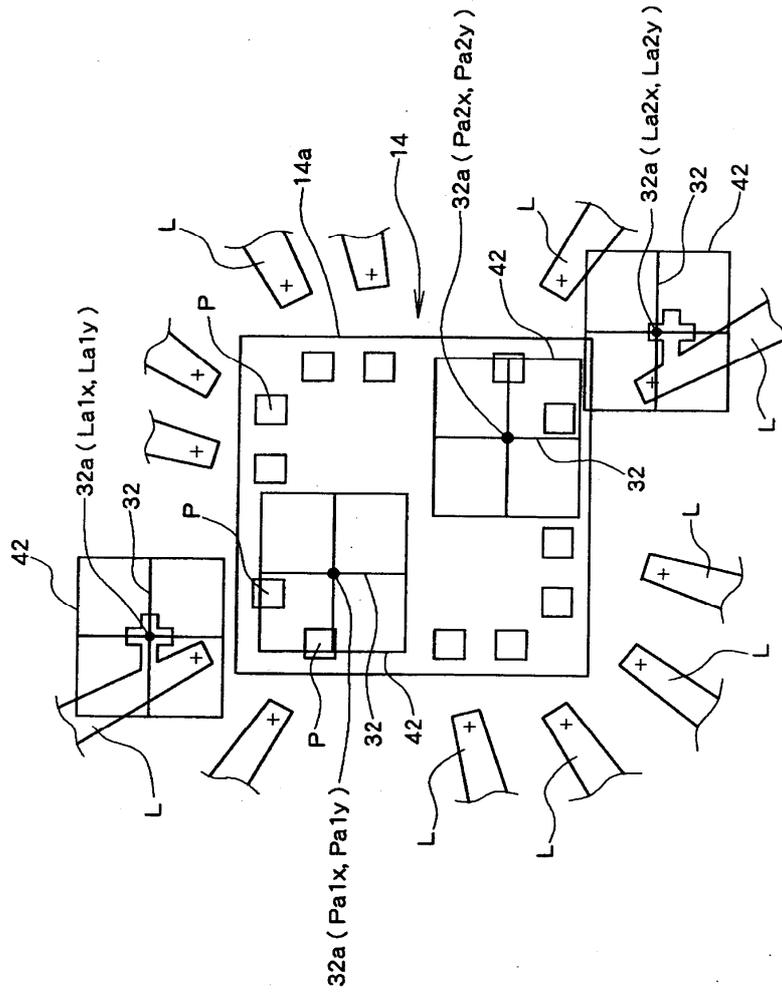
12



13



14



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