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 (22) 1999 08 27 (43) 2001 03 15

(73)

20

(72) 4가 101 807

(74)

:

(54)

, ,
 1 ; , 2 ; 1
 , 3 ; ,
 4 ; , 5 ,
 , , 가
 , , 가

6a

, , , ,

1 2 ,

3a~ 3c (Focusing Error Signal) ,

4 ,

5 ,

6a~ 6c ,

7 5 .

1 : 10 :

11 : 12 :

20 : 30 :

40 : (FZC) 50 : A/D

60,61 : 70,71 :

80 :

,

o Disc, ' , (CD: Compact Disc, ' ') (DVD: Digital Vide
Single Layer) , , (DVD Dual Layer) (DVD
1.2mm 12cm

, 1.2mm ,
0.6mm

, () .

1 , (1)
 (P/U)(2); (10) (PD: Photo Diode) (F
 focusing Error Signal : FE)
 (40); (10) (FZC: Focus Zero Crossing)
 (1) (Sled) (11); (20)
 (Driver)(30); (Spindle) (12); (11) (12)
 (1) (60); A/D (50); (70)

2 (40), (10) (PD)
 (A+C,B+D) (FE= ((A+C) - (B+D))) (Subtractor),
 (Ref) (Comparitor)

(1) 가 (1) (30)
 (Tray)(12) (11), (60) (20)
 (10) . , (1) (20)
 , (40) (FE) (PD)

3a~ 3c , 3a (Data)
 (Coating) 0.6mm , (DVD Single Layer)(1)
 / , (40) (10),
 가 (L1) (Sc) ,
 (Sd1) , (Ref)
 , (Sc,Sd1) (50)
 (60) . (tc,td1)

, 3b (Data) (Coating) 0.6mm
 , (DVD Dual Layer)(1) ,
 (40) (10) , 가 (L2; L2L1)
 (Sc) , (Sd1,Sd2)
 (Sc,Sd1,Sd2) (Ref) ,
 (60) (tc,td1,td2) ,
 가 ,

3c , (Data) (Coating) 1.2mm
 , (CD Single Layer)(1) ,
 (40) (10) , 가 (L3; L3L2L1)
 60) , (Sc,Sd3) , (tc,td3) , (

, (60) (tc td1, tc, td1 td2 tc td3) (差) (tc
- td1, tc - td2, tc - td3) (1)

, (Sc), 3a~3c 4
가 , ,
가 , ,
가 , ,
, (CD - RW) 가

,
1 ; 2 ; 1
3 ;
4 ;
5

5
, 1 , (10) (PD: Photo Diode)
(Focusing Error Signal : FE) 가 / (80) 가
, (71) , (71)
(1) (61) 1

6
5 6 , (71)
가 (1 (Level3), 2 (Level4), 3 (Le
vel2), 4 (Level1))
가 , , 2 (Level4)
1 (Level3) 3 (Level2) 4 (Level1)

, 3 (Hexa Code) , 1 (Level3) 0x4500 , 2 (Level4) 0x6400
 , 3 (Level2) 0x2200 , 4 (Level1) 0x1500 .

가 , (71) (S1) , (20) (1) (30) , (61) (12)
 , (1) (No Disk), (S2), (1) 가 (12) 가
 (1) , .

가 (61) , (10) , (80) (Gain)
 , (1) , (10) , (10)

(10) , (1) (80)
 (80) 8 ,

가 , (61) A/D (50) (1) (61)
 , (61) 가 () (S4)

el3 (61) (S10), (1) (71) 가 1 1 Level3
 , (61) (61) (1) (S11),

RF , (61) (CD mode) 가 1 Level3
 , (61) (DVD mode) (S20), ()

80) (10) (1)
 , (80)

(40) , 가
 , (61) 가 (S21).

, (80) A/D (50)
 (61) 가 , (61) 가 2 Level4 (S22),
 (71) (S30).

$$(1) \quad , \quad 2 \quad \text{Level4} \quad , \quad (61)$$

(S31),

(61) , 3 , Level2 2 (S40). Level4 (71)

, , 3 Level2
(61) (71)
(FZC) (=2) (S50),
가 2 (61) (1)
(S51), 가 2
(61) (1) (S31),
· · , 3
Level2 , (61)
(71) (1) (=2)
(S60), 가 2 ,
(61) (71) 4 Level1
(1) 가 (CD - RW) (S71),
(S70),

,
 Level1
 (S81).
 (S80),
 (61)
 (1)
 ↗ 2
 (S60),
 4

, 가 4 Level1 ,
(61) (S90), (61)
, (10) 가 , (10)
. (61) 가 ,
, (61) (Tray)() 가
91), (S

$$(1) \quad , \quad (61) \quad (80) \quad (\text{Gain})$$

(57)

1.

1 ;

2 ;

1

3 ;

4 ;

5

2.

1 ,

2 ,

가
(CD)

1

3.

1 ,

5 ,

2 (1
(DVD)

4.

1 ,

5 ,

) ,
3 (< 1 ,)

가

2 (1
(DVD)

3

5.

4

,

,

가 3

,

가

(

DVD)

6.

4

,

,

가 3

,

가

가
(CD - RW)

7.

4

,

,

가 3

,

(

가
DVD)

8.

6

7

,

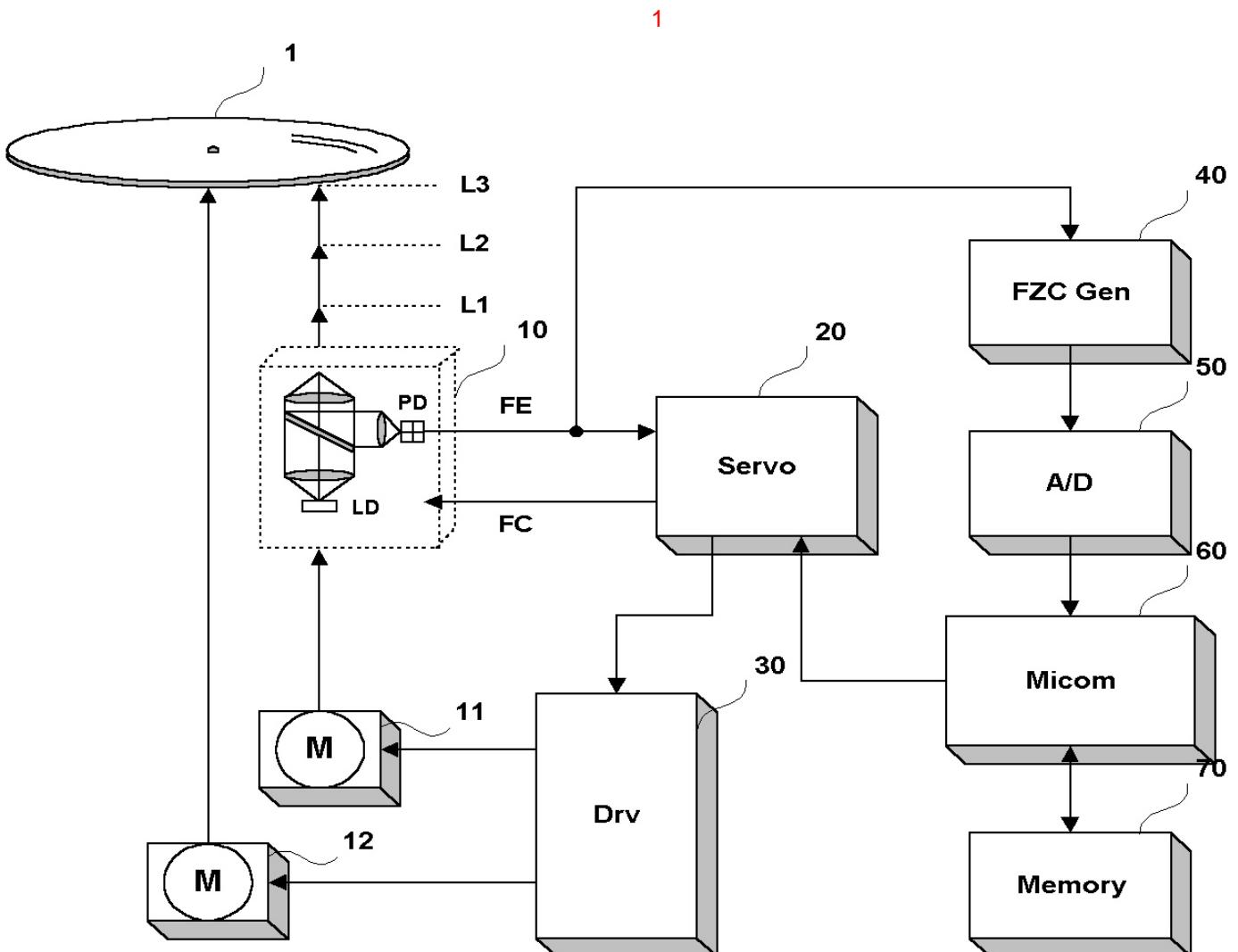
9.

1

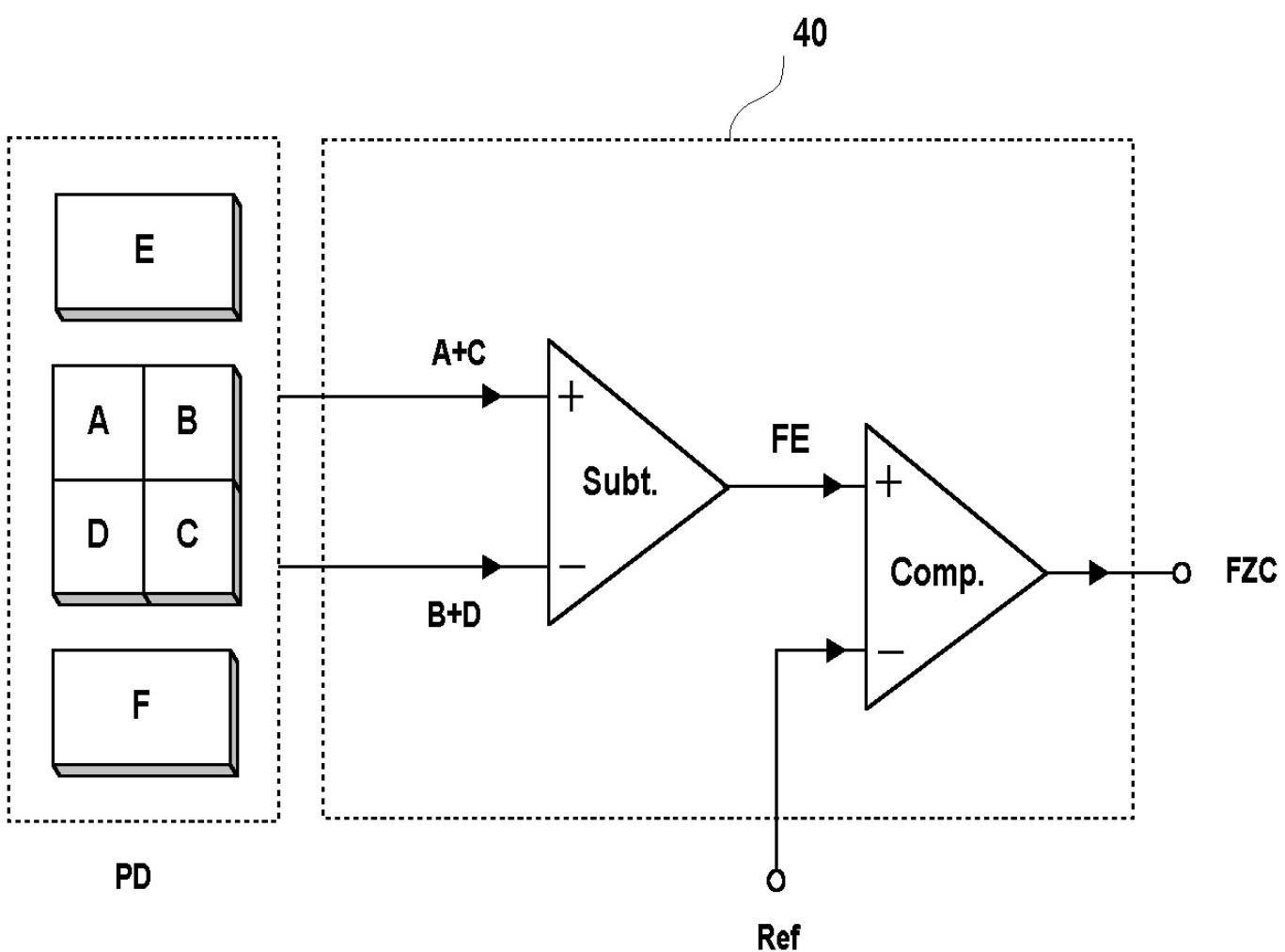
,

(CD) , 3

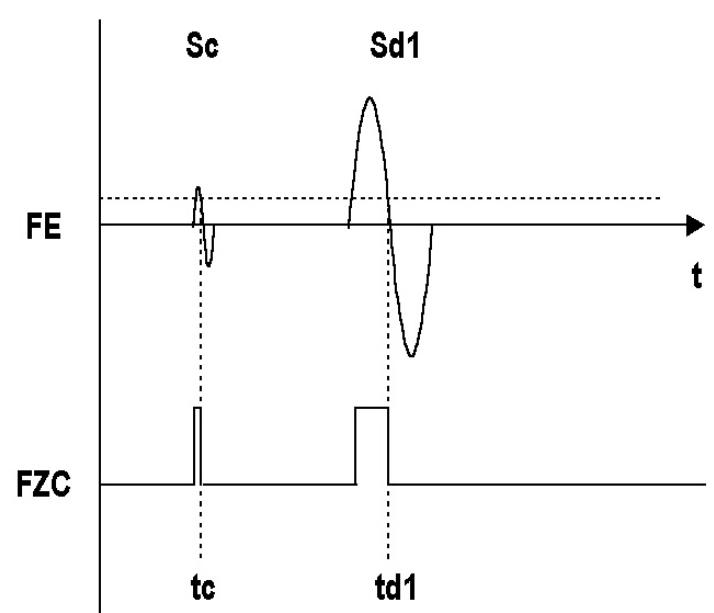
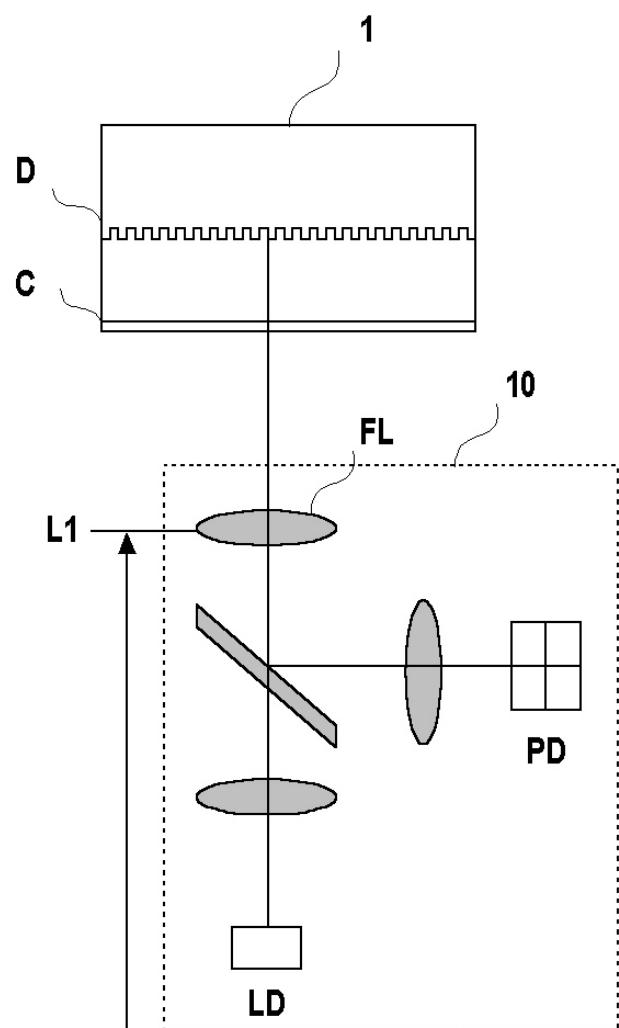
4 (< 3)
(DVD)



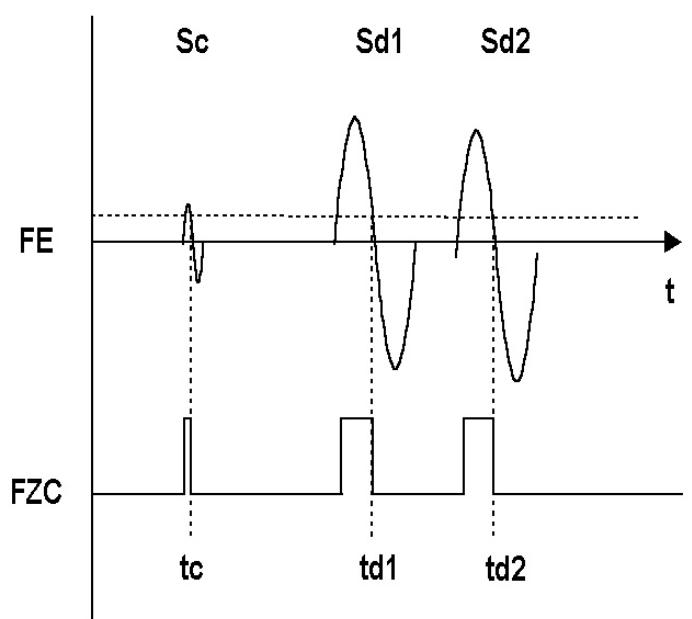
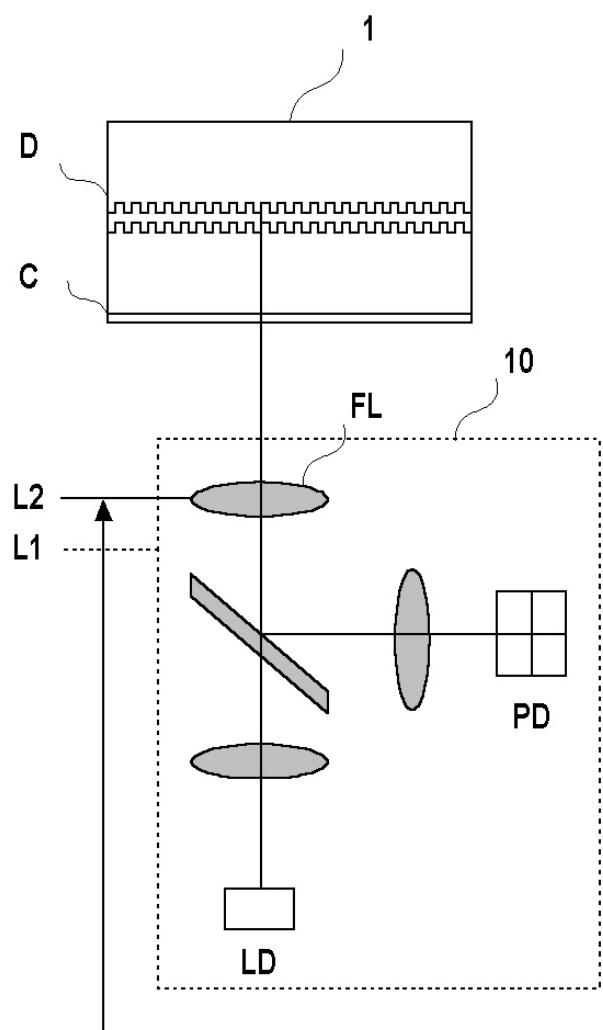
2



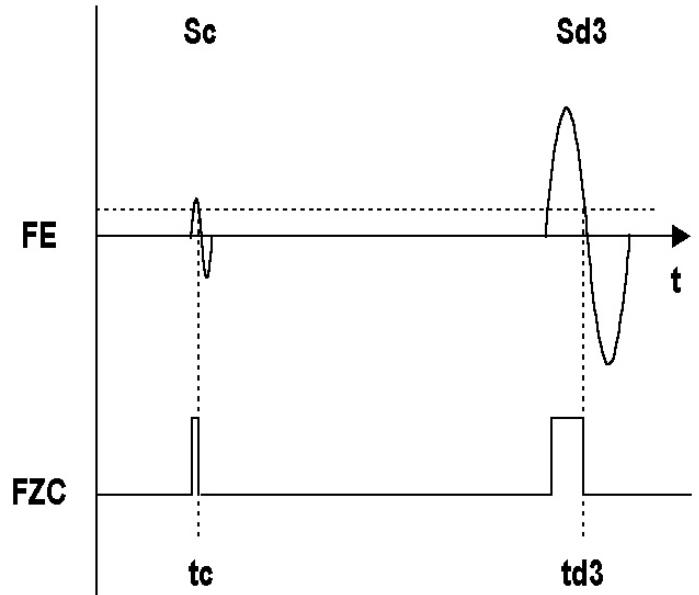
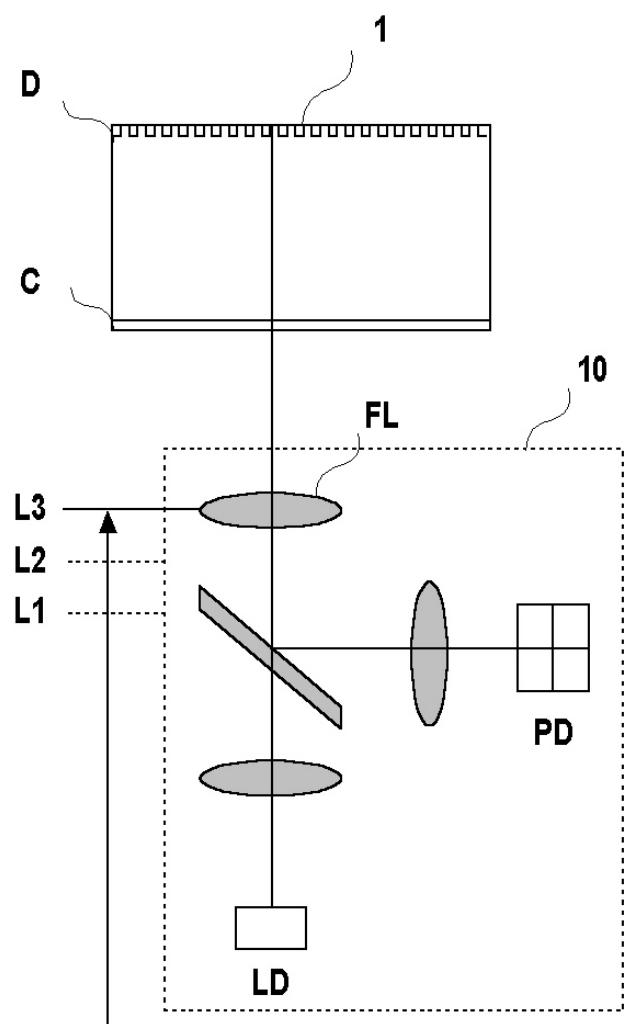
3a



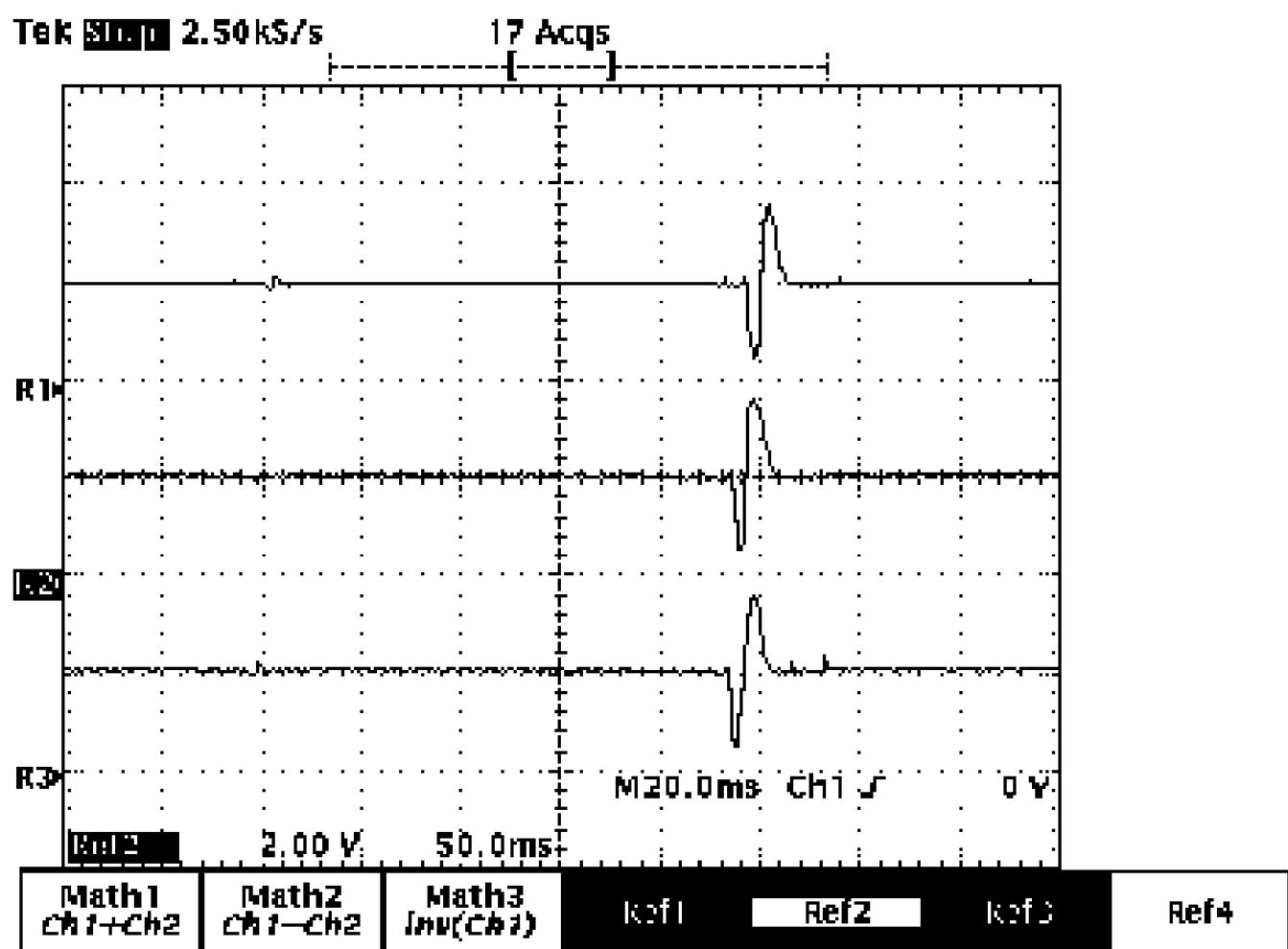
3b



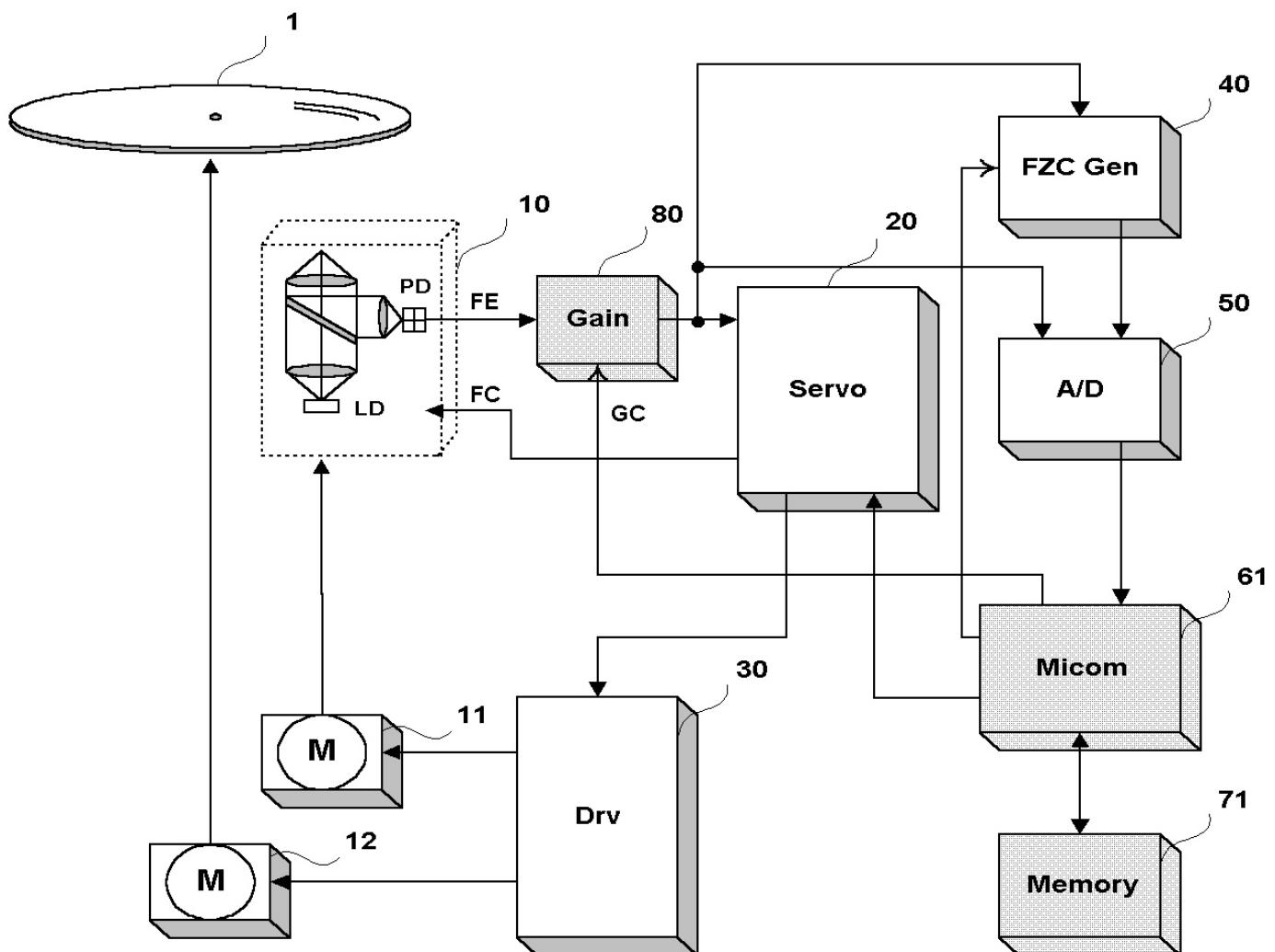
3c

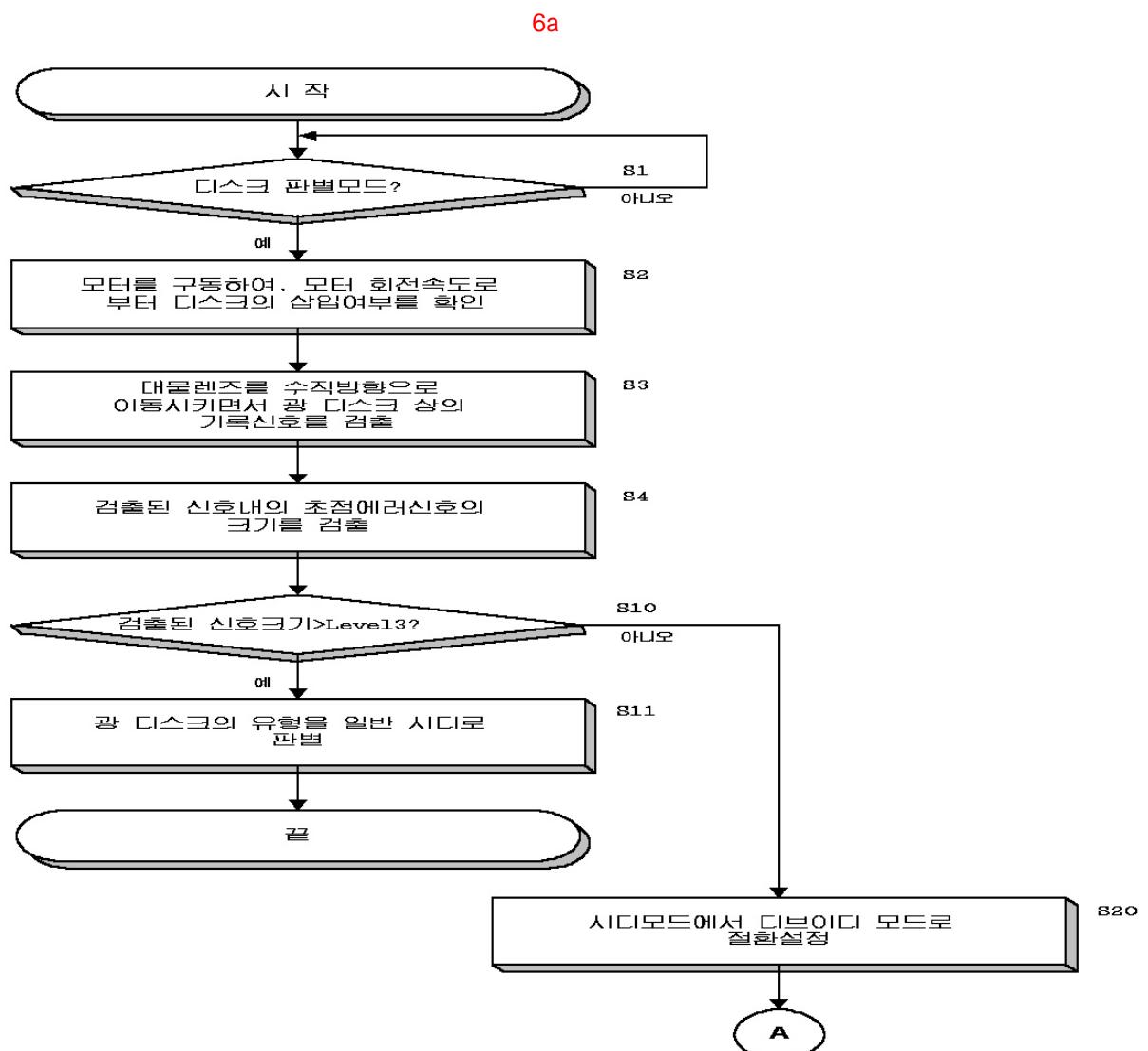


4

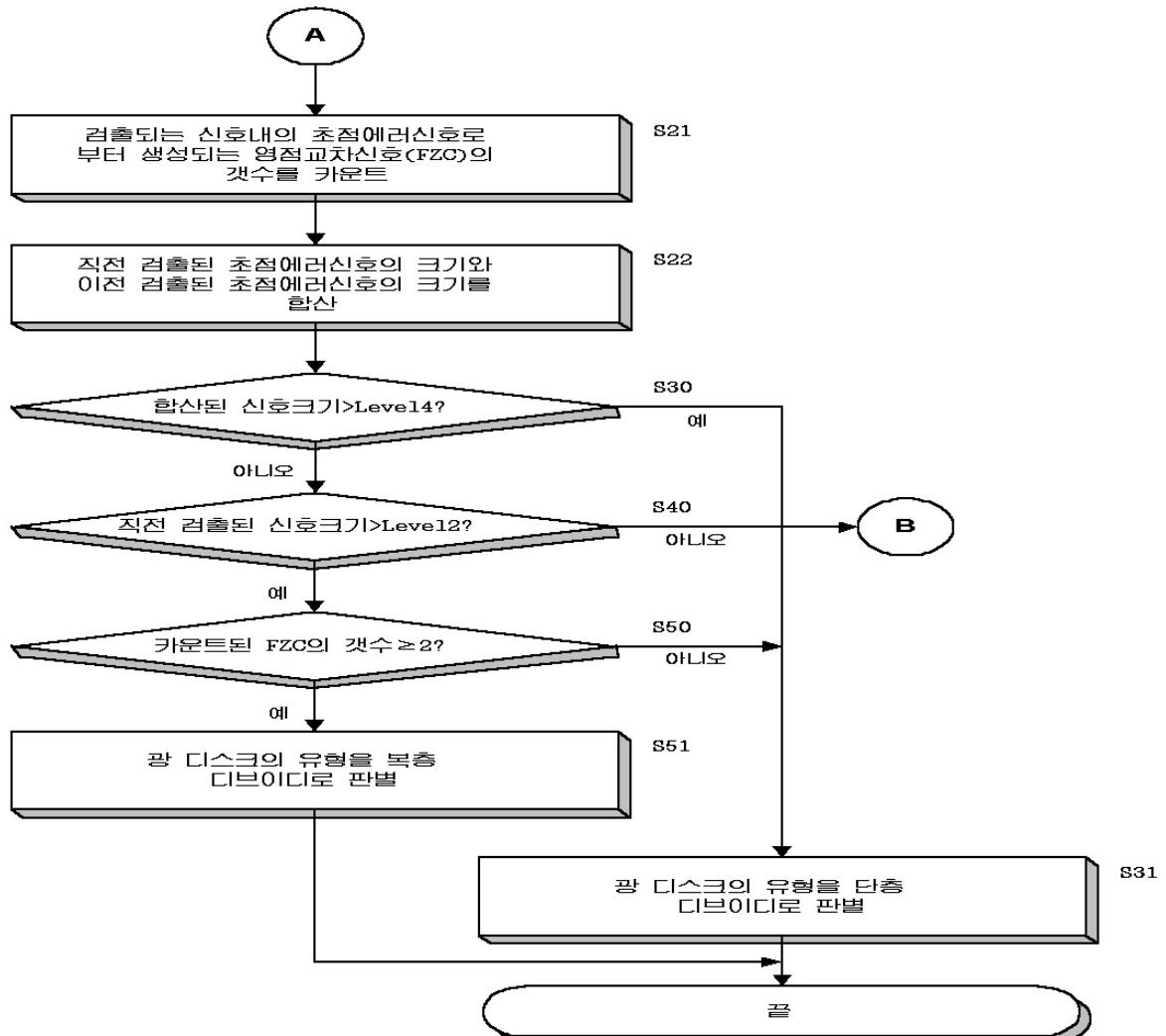


5

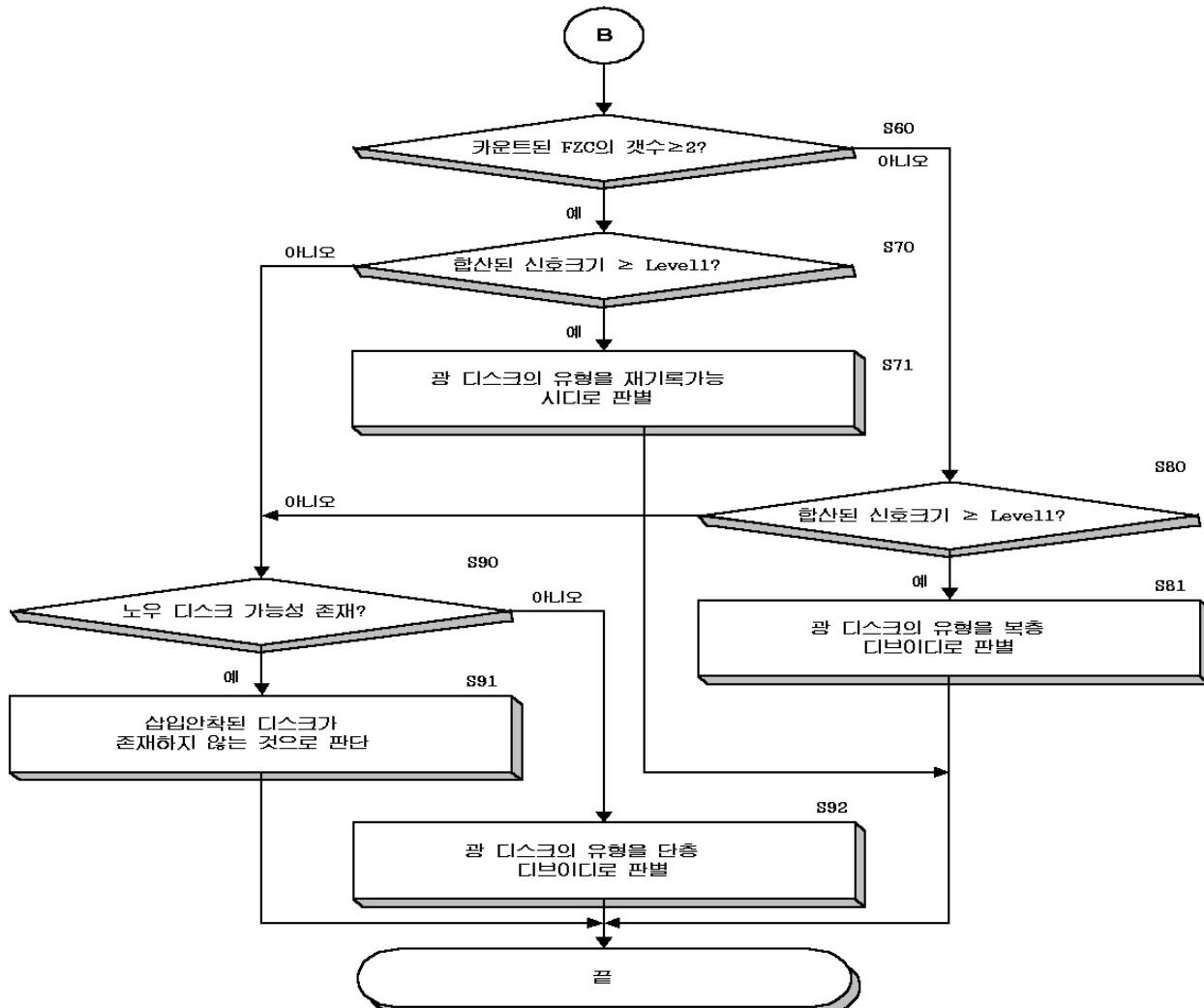




6b



6c



메모리(71)의 저장내용

FZC신호의 기준갯수 : 2개	
초점예러신호의 기준크기	
제1 기준크기	Level 3
제2 기준크기	Level 4
제3 기준크기	Level 2
제4 기준크기	Level 1

Level 1<Level 2<Level 3<Level 4