

(19)
(12)

(KR)
(B1)

(51) 。 Int. Cl.⁷
G11B 7/26

(45)
(11)
(24)

2004 09 30
10-0449993
2004 09 14

(21) 10-2001-0067810
(22) 2001 11 01

(65)
(43)

10-2002-0034954
2002 05 09

(30) JP-P-2000-00334119 2000 11 01 (JP)

(73) 1 4-1

(72) 가 6-1-1

(74)

:

(54)

， 가 가 ，
.

1

， ， ， ， ， ， ，

1 (shaping) (aperture)

2a 2b ，

2c 2d ， ， 3

4 - ，

5 (groove)/ (land) .

(master-disc) ,

(image)/ (audio) 가 12cm DVD(Digital Versatile Disc) 30GB

(mastering) (cutting) 가 (visible) (spot) (0.2 μ m

) (pit) (NA) ,

가 가 , 1 μ m 가 ROM ()

(prepit) ,

가 (groove) , 1

;

(aperture) 1 (opening) 가 1

2 가 ,

가 1 , x가 2

y가 1 , x < y 3x 가

(land) (groove) ;

(prepit) , 가

가 , h가 v가

, v < h 3v

100nm 300nm

가

(眞空) ,

(Si) 가

가 (凹凸) (latent image)

(convergence device)

가

(1)

(x) ,

(y)

(1)

(x)

(y)

(ellipse)

(oval),

(1)

(x)

(y)

x

가

(1)

100nm~900nm

(1) 가

2a

2b

가 100nm~300nm

가

(x) : 1

(y) = 1 : 1 ~ 1 : 3

x가

y가

1

2

1

x < y

3x

x < y

3x

x = y = z

()가 Tp=y+z=2x

30Gbytes

x=z

x<y

2x

2x<Tp=y+z

3x

20Gby

te <

< 30Gbyte 가

x=z

2x<y

3x

3x<Tp=y+z

4x

15Gbyte <

< 20Gbyte 가

(2c), ()

x=y=z

30Gbytes

()가 Tp=y=z=x

y=z

x<y

2x

x<Tp=y=z

2x

15Gbyte <

2x<y

3x

2x<Tp=y=z

3x

10Gbyte <

< 15Gbyte 가

(2d),

y

3x

x < y

x < y

3x 가

2a

2b

1

y,

2

x

가

y

2

x

2a

x : y = 1 : 3

2b

x : y = 1 : 1

2a

2b

x : y = 1 : 3

x : y = 1 : 1

2a

1 : 3

2b

1 : 1

(凹凸)

가 (stamper)

5

가

가

가

가

h가

v가

v < h

3v

100nm

300nm

(10)

(11)

(11)

(10)

(40)

(15)

(16)

(16)

(15)

(17)

(feed)

(18)

(18)

(17)

(16)

(16)

(15)

(11)

(20a)

(20c)가

(20b)

(chucking) 가

(11)

(15)

(22),

(23)

(24)가

(23)

, CCD(Charge Coupled Device)

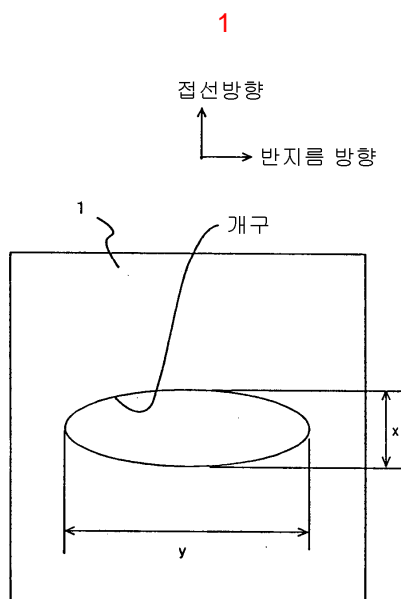
(22)

(15) , (24) . (24) ,
 (15)
 (11) , ()
 (11) , 가 (11) (28)
 (30) (17) (19) (30) ,
 (10) (CPU)(25)
 (40) , (41), (42), (43), (44),
 (45), (46) (47) , (40)
 (40) , (49) , (11)
 (40) , (11) , (49) (16) (15)
 (41) , (51) 가 () , 10KeV
 가 (42) , (44)
 (54) , (52)
 (43) , (54) , (43) 가
 (44) (iris)
 (44)
 (55) , CPU(25) (45) 가
 (45) , 1 (1)가 (15)
 (1) 가 (1)
 (1) , (46)가 (46) ,
 (56) (24) (15) (52), (55)
 (30), (51),
 (56) CPU(25)
 : (Faraday) ()
 가
 가
 가 60nm 120nm
 4
 4
 () 280 μ s(40nA) 60nm 120nm
 560 μ s(120nA)
 가,
 1
 (platter)
 가

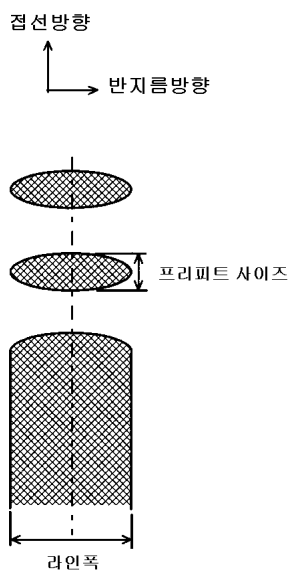
(57)

1.

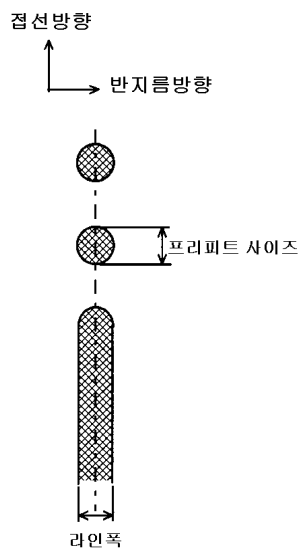
- (opening) 가 (aperture)
- 2 가 1 , 1 .
2. 1 , 1 , x가 2 y가 1 $x < y$ 3x
3. ; 가 (land) (groove) ; (prepit) 가 ,
4. 3 , h가 v가 $v < h$ 3v
5. 4 , 100nm 300nm



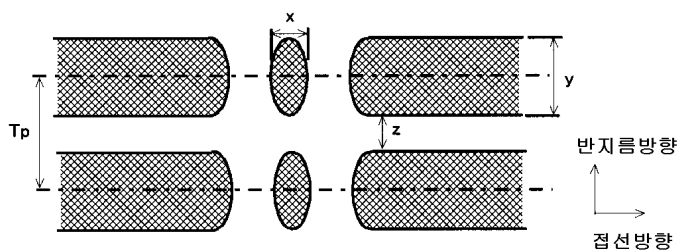
2a



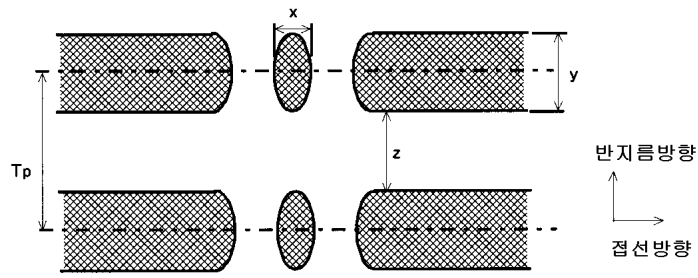
2b



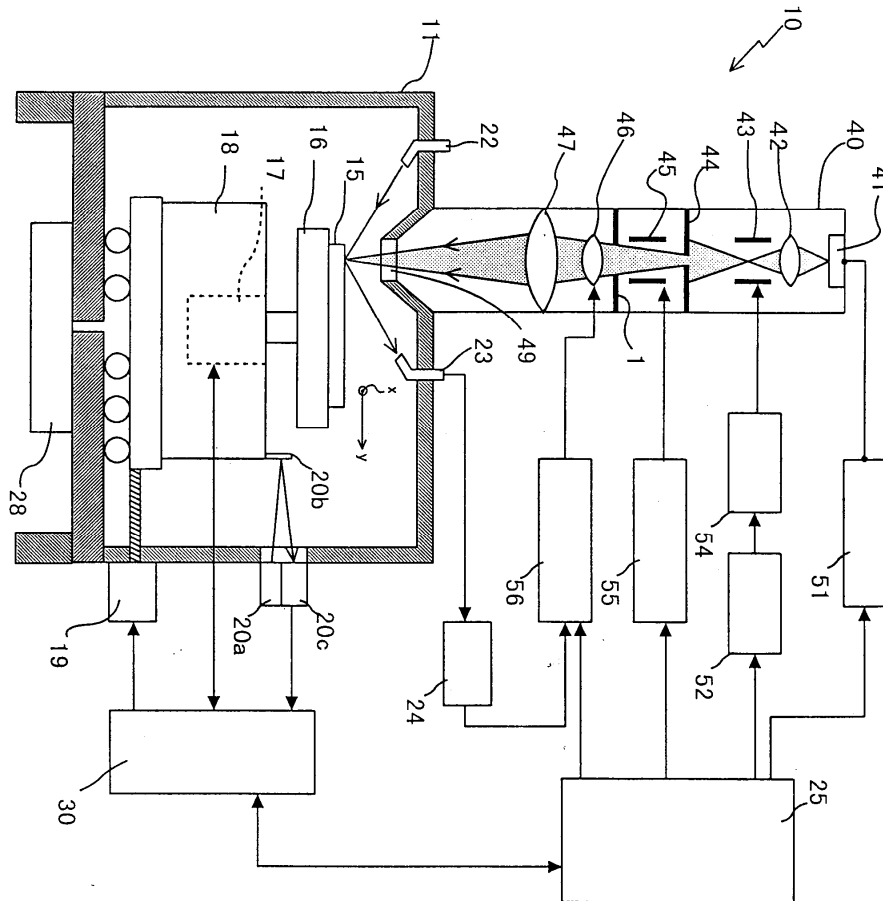
2c



2d



3



4

