

(74)

:

(54)

가

가

2a

가 (photorefractive keratectomy, " PRK"), (radial keratotomy technique) (anterior lamellar k
erectomy, " ALK"), 가 (laser in situ keratomileusis, " LASIK"),
(laser thermal keratoplasty, " LTK")

가 가
+ 1 - 1
가

가
" " 1999 4 6 " "
(Distributed Eximer Laser Surgery System)" 5,891,132

(intraocular)

, Journal of Optical Society of America, Vol. 11, No.7, July, 1994, pp.1 - 9 "
(Objective measurement of wave aberration of the human eye with the user of a Hartmann - Shack wave - front sensor)" (Liang et al.)
Journal of Optical Society of America, Vol. 4, No.11, November, 1997, pp.2873 - 2883 "
(Aberration and retinal image quality of the normal human eye)" (J. Liang and D.R. William) , (" ")
5,777,719

WO99/27334 (PCT/US97/21688)(" (Frey) ")

6

, 20/20

가 가 가 가

가

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가 가 가 가
가 " "

가

가

가

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가

가

(topographer),

PRK,

1

가 (fitting)

가

가

1 ;

2A, 2B, 2C ;

3 (topography) (profile)

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5a 5 ;

6

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8A 8B 7

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9A 9B

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11A 11B

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13 12

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, 1996 4 25

(profile)

(dithering algorithms)

(Eximer Lase System for Corrcrection of Vision with Reduced Thermal

Effects)" PCT/EP95/04028

, 1996 4 6

"

"

5,891,132

가

14

16

,

가

2A, 2B 2C

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,

(100) 가, (102)

(104) PCT/EP97/02821

(functionlaity) 2A, 2B 2C (104) / (104)

(104) (106) 2

C (106) (106) (104)

2A (110) (100) (E) (Placido disk - type hardware) (108)

(EySys) 2000 (Salt Lake City) / (Bausch & Lomb/Orbtek, Inc.) (O

RBSCAN) 2000 ;

(100) (112)

(112) (120) (100) (E) 가 " " (114) (110)

가 (114) (114)

(110) 가 (120) (108)가

(112) (112) (114) (116) (118) (120)

106) (120) (114) (102) (E) (102) (122) " " (124) (E) (126)가 (1

24) (E) (124) (defocus) (E) (102) (128)

(E)
ophthalmic wavefront aberrations)

(refractive o

(100) (102) (122) (13) (136) (132) (134) - (Willi (130) (132) 2A (114) (138) (130) 가 ,

가 , (X) (microkeratom (stroma) (100) (E) (112) (132) 가 , (112) (E) (102) (130) (112) , (E) (E)

(112) (114) (130) (132) (136) 2 (140) (120) (142) () () 5

2B (134) () (160) (Zernike (130) (132)(2A) (162) 가 , (114) (130) (142) (132)) (120) (136) 2A () (164)

		(118)		
		(160)	(160)	
		(160)	(118)	(164)
	가			(118)
	(160))			
(()
	가			
2C		2A	2B	가
	(144)			(104),
	(106)			(100), (102)
5,891,132				
	(140,	164)		(142)
				(1
02)	(130)			(100)
	(112)가		가	
			(100)	
가		(102)		(
(102)				2B
			(100)	(164)
			(102)	(112)가
		(130)	(102)	(130)
			(112)	(126,136)
				1
3	3		(162)	가
	(160)			
(164)		(160)		(160)
(164)		(160)		(164)
	(166)	2		
				가
		5,159,361	4,995,716	

(power)

(Richard K. Snook)

5,512,965

5,512,966

" "

가

가

" "

4 (450) (456) (458) (E) 가 (4
 50) (452) (454) (450)
 (456) (E) () 가 (4
 50) (456) (450) (456) (458) ()
) ()

(E)
 4 (E)
 (460) (450) (452) (454)
 1994 3 15
 "(System for Ultrasonically Determining Corneal Layer Thickness and Shape)"
 5,293,871

TM) (462) (ORBSHOT
 2000 (450)
 (452)
 (456) (450) (450) (464) (456)
 (458)
 , 4 (102) , 466
 () (468)
 - (E) (458)

(144) 2C , (Shot) , (106)
 , 가 (148)
 (146) (148)
 (148) , , (14)
 8) (E) (106) (146)가 (E)

(106) (146) (148)
 2C , (106) 193 ,
 (150) , (152)(, (150) (E)
) , (154) , (156) . ()
 (150) , (154)
 , 1997 4 15 [1995 10 19 PCT/E
 P95/01287] " (Method and Apparatus for Prov
 iding Precise Location of Points on the Eye)" 5,620,436 (150)

(154) (E) (2C) (156)
 (152) (106)
 (146) (148) (150) ()
 148)가 (154)
 (148) (146) , 가 , (14
 4)

(146) , (106)
 (148) (146)가

가 . PRK가 , ,

가 , 가 가 ,
 가 가

(David Sarnoff Research Center. Inc.) (New Jersey), (Princeton)
 1996 9 5
 (Automated, Non - Invasive Iris Recognition System and Method)"
 (Wildes, et al.) 5,572,596 , 1987 2 3
 (Iris Recognition System)" (Flom, et al.) 4,641,349

(Mount Laurel) (Iri Scan. Inc.) 1994 3 1
 (Biometric Personal Identification System Based on
 Iris Analysis)" (Daugman) 5,291,560 가

(106) (514)
 (148) (healthcare worker)가
 (106) (106)

5 가 (E) 가 (collarattes)
 가 (E) 가 (200) (202) (204)
 (discriptor) 4,641,349
 (pigment spot), (cripts),
 가 가 가 (E)
 가 (E)
 , 3 (E) (Holm
 ium laser) 가 5A (201)
 가 (203) (scleral)
 (Sensomotoric Instruments), (Teltow)()
 (201') (201') (201) (E)
 (203) (201") 가 (201)가
 가 가 가 가

가 / 가
 ,가 / 가
 15 가 1
 가
 , (E) 가 (E) 가

6 (106)
 가 (106)
 (106) (154)
 (146)
 (146)
 (210)

2C (144)
 (206)
 (156) (148)
 (206)
 (100 102) (106)
 (208) (210)
 (212)
 (210) (214)
 (106)

(156) 가 (,)
 가 (E)
 (206)가 , 6 (208,212)
 (146) 가 (E)
 - (shot - by - shot) PCT/EP95/01287
 (206) 가 가

(imager)
 가 ()
 가

1
 가 /
 15 ,가 /
 가 1

, 2 1 , , 가 , 가 .

2 , 2 1 , 가 , 1 ,

가 , 2 , 1 , 1 가 2 가 ,

7 8A - 8B , 8A 2C (106)
(154) (252) , 가 (E)
(250) (250)가 (252) , (254) ,
(106) (154) (254)
(250) 8B (256) (E) , 가
가 , 가

7 8A 8B , (2
50)가 (260) .

, (254)가 (262) . (106)
 217(Keracor 217) , (254) (264)
 . 217 . ,
 .
 (266) , (250) (254) .
 2 (E)
 (256)가 (250)
 (E) " 가 " . ,
 (254) , (25)
 (256) .
 0) .
 9A 9B , 8A 8B , (272) X , 가 ,
 9 , (270) . , X , 가 ,
 8A , (254) . , X ,
 .
 9B , (274) , 가
 (276) , X ,
 (276) X (276) ,
 (276) , X X , X
 . X - Y .
 10 , 가 가 10 ,
 (500) , (502) , (504) 가 가 .
 (502) 가 , 가 .
 , (506) . 가 , ,
 . (508) (506) (508) .
 , (500) , (500) (510)
 . (512) (506)

(514) 2 (516)
 (500) (510) , (512) , (514) ,
 (502) (512) (514) (500) (502) (5
 10)가 , 가 (512) , (514) (500) (502)
 , 가 (512,508) (514,506) (500) (502)

(510)가 가 , (510)
 (510) (504) (504)
 (518) . (504)
 , (504) (518) , (500) (502)
 (506) (508) , (500) , 가 ,
 (504) (500) (502) .

(500) (502)
 (504) . (514,506)
 (510)가 (500) 가 (504)
 (504) (514) , ,
 (518) .

가 . (502) (500)
 , 가 , (500)
 (512) (502) (508) 가 (500)
 2 . , 13
 500) (502) (

가 11A , (520) (522) ,
 (524) , (526) 가 (530)
 , (528) (520) (526)
 . , 11B , (532) (50
 2) (534) (502)
 (534) (532)
 (536) (520) (524) 가 ,
 (520) (526) (526)

2 가

가 .

, , 가 , " ' "

가 (206) , 가 (2C 5)가 , (E)
가
(E) 2 , 2 가 가
가 2 , 2 가 1
가 2 , 3 .

(106) , (154) (148)

12 , (300) 가 (300)
(300) (

(aerial image)가

(E) , 12 , 2 660 (302)가 (E)
(302) (E) (300)(102)
(E) (300)(102) ()
(E) (E) (300) (E)
(E) (302) (304)
(328)

(E) , (E) (, 780)
(306) (306)

(, 2) ,
 (,) (312)
 가 . , 0.5μW 30μW . (30
 6)가 가 .

(306) (310) (308) (, 80% , 20%) .
 (312) (310) (306) ()

(306) (E) (314) ,
 0% , 80%) , /4 (314) (316) (318)(, 2
 0) (waveplate)(320) /4 (32
 (310) (" ") (E)

/4 (320) , (E)
 , (E)
 (320)
 (320)
 (318) , (316) , (314) , (310)

(310) (312) (322) ,
 (323) , (320) / ()
 , 5) , (323) (323)
 320) 가 (323) (300, 102) (322)
 가 가 , 가 가
 (308) 가 가

(CCD) 가 (312) TM - 9701 (charged couple device)
) (324) CCD (324) ,(
 , ICX039DLA (312) (328) 가 .
 (324) (322) (312) ()
 , CCD) (320) (324) (E)
 (E) 가 , /
 (E) (, (E) , /
)

(E)

(E)

40 - S , 600 (324) Adaptive Optics Associates, Incorporated, 0600 -
 5,777,719 , 25 x 25 , (300)

(312) 가 . 12
 (300) (326)(, 4) , , 가
 (()) (327) , , 가
 (314) (326)

(324)
 가
 (306) (300)(102) 가
 (306) (326) 가
 (306) (326)(
 (300)(
 , -5)
 102)

가 - 12 +3 , 가 - 8 +8
) / (314)(

(326) , (338)가 (312)
 (312) 가 가 (300)
 가 (326, 338) , " "
 (throw)" 가 (306) " "
 가 (E) , (300)
 가 " 가 "
 (312) (300) 가 가

(328) (318) (20%) .
 (328) (156) ()
) (136) (132) ,
 (312) 가 .

(328) (E) (314)
 , (328)가 (E)
 (328) (E) (E)

(300)(102) 10 (334)
 (334) (336) , (323)가 (314)

가 (334) (334) (324)
 가 (334) (312)
 10 (334) (E)
 (E) (E)
 가 가 (E)

(E) " "
 (334) (E) (E)
 10 (334)
 (E) (334)
 가 (E) (E)

가 (300)(102)
 가 가 가
 (306) (323) (322) 가
 (312) (324) 가
 가

가

(57)

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9.

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17.

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17 ,

19.

18 ,

(Holmium)

20.

13 ,

21.

20 ,

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22.

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24.

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1 2 .

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28.

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30.

29 ,

(interpolate)

31.

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3 3 2 가 , 2
3 , 3 가 가 가

40.

39 ,

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2 , , 가

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56.

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66.

61

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가

67.

66

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(collarete)

가

68.

67

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69.

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71.

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72.

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73.

72 ,

74.

73 ,

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75.

74 ,

76.

75 ,

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77.

61 ,

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78.

61 ,

79.

78 ,

1 2

80.

61 ,

81.

80 ,

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82.

61 ,

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83.

61 ,

84.

82 ,

가

85.

82 ,

86.

82

87.

77

88.

61 ,

89.

1 1 ;

1 , ;

2

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, 1 ;

90.

89 ,

1

91.

90 ,

92.

89 ,

1 2

93.

92 ,

1

94.

93 ,

15 가 .

95.

93 ,

96.

95 ,

97.

89 ,

3 , 2

98.

97 ,

99.

89 ,

가

100.

97 ,

가

101.

91 ,

가

102.

91 ,

103.

93 ,

가 ,

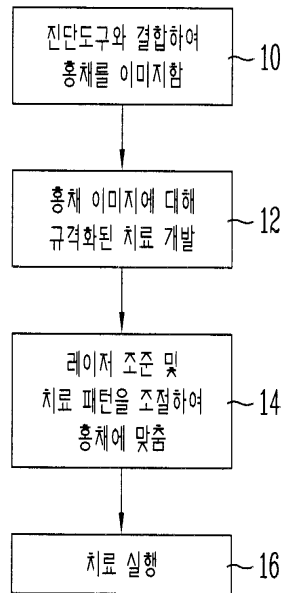
104.

103 ,

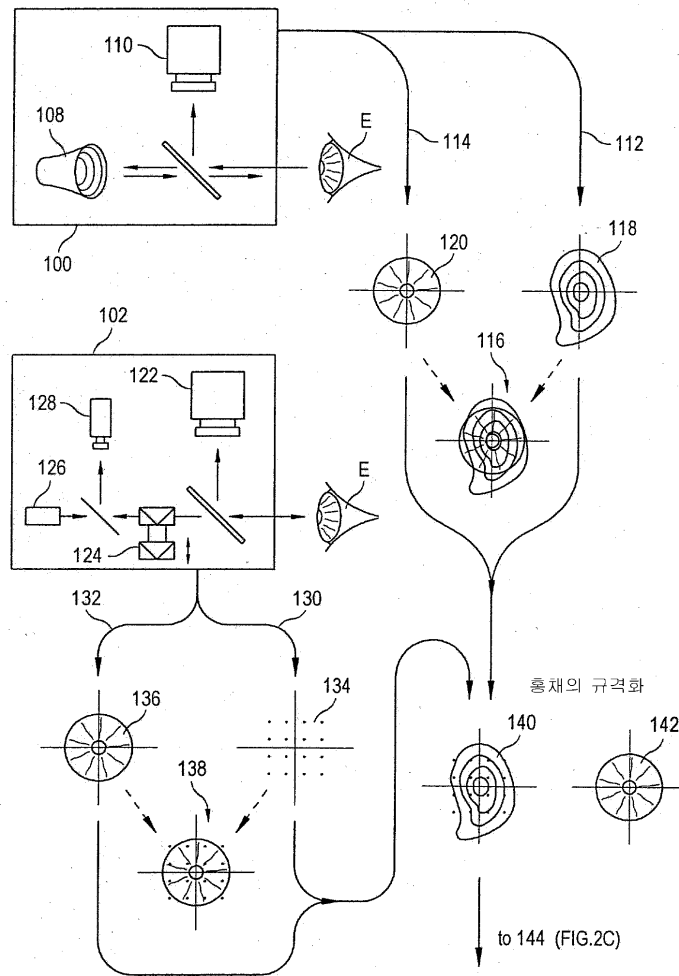
105.

104 ,

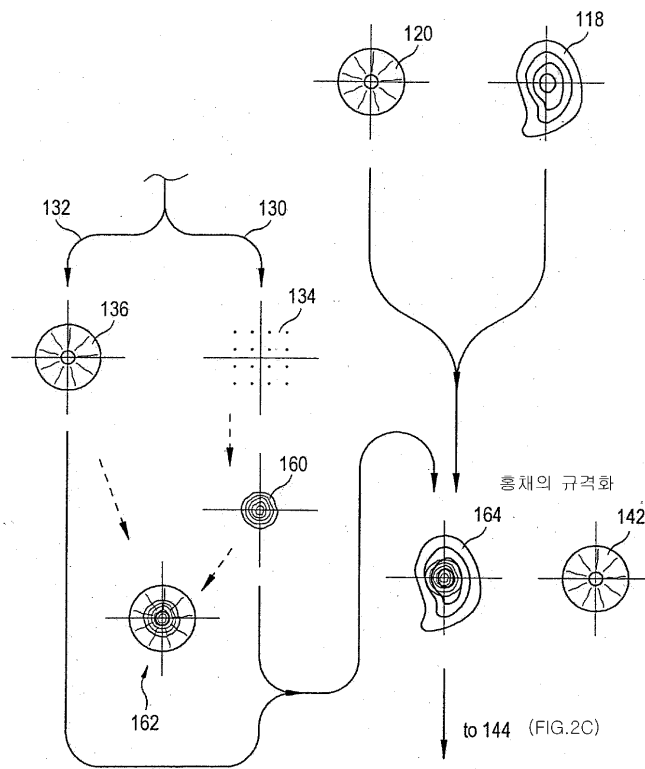
1



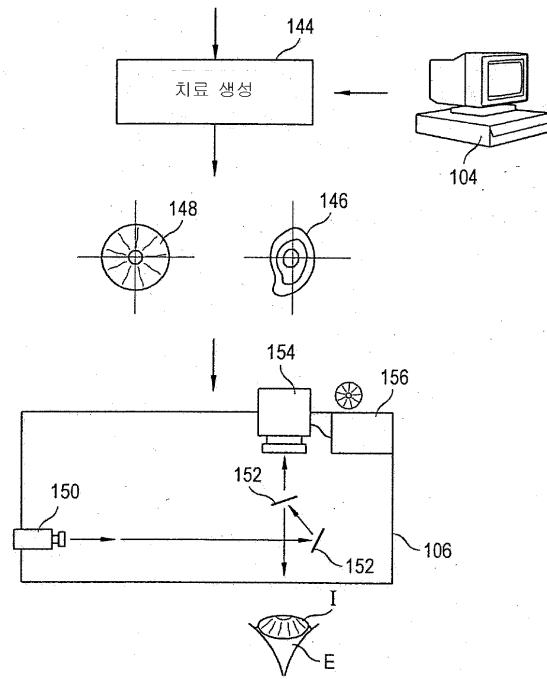
2a



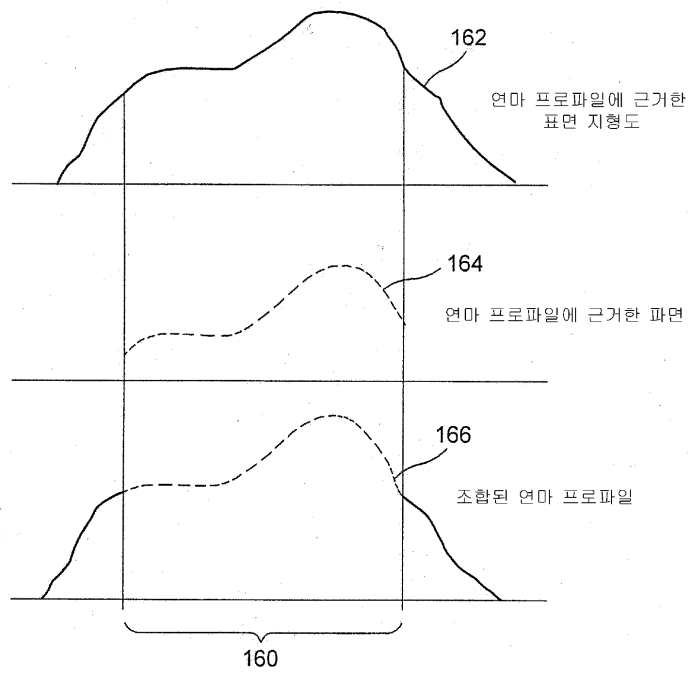
2b



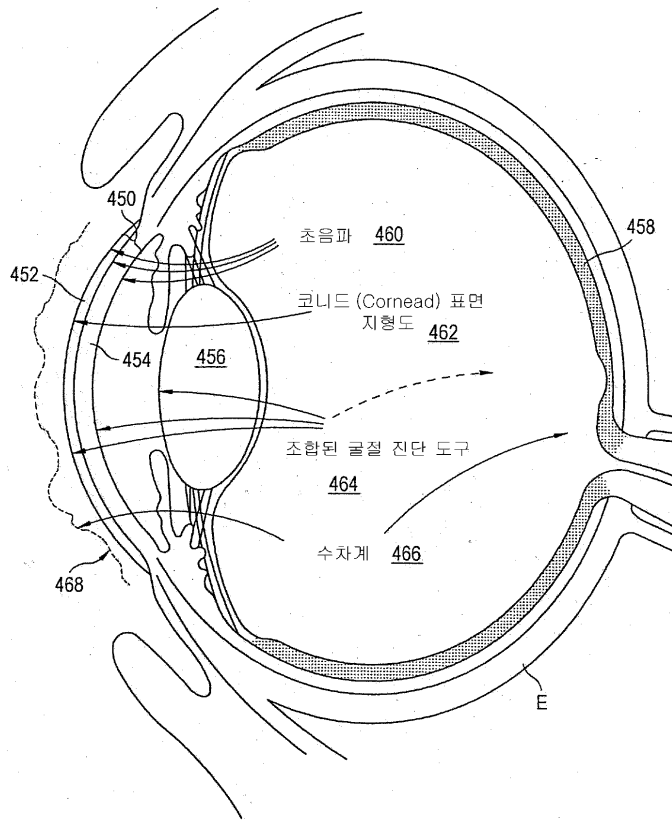
2c



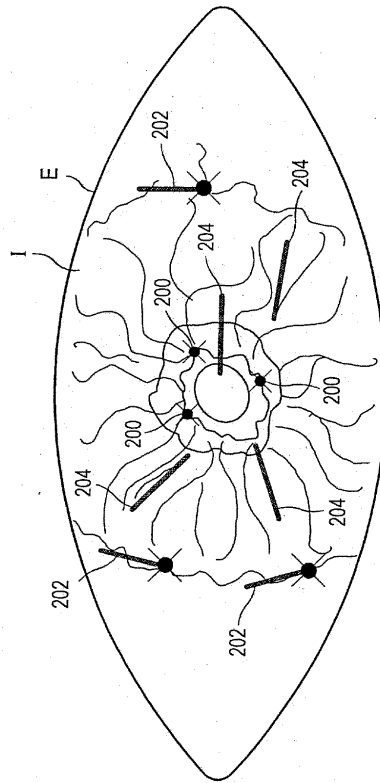
3



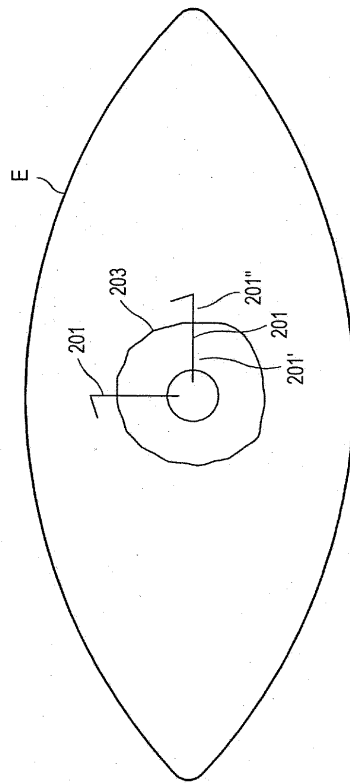
4



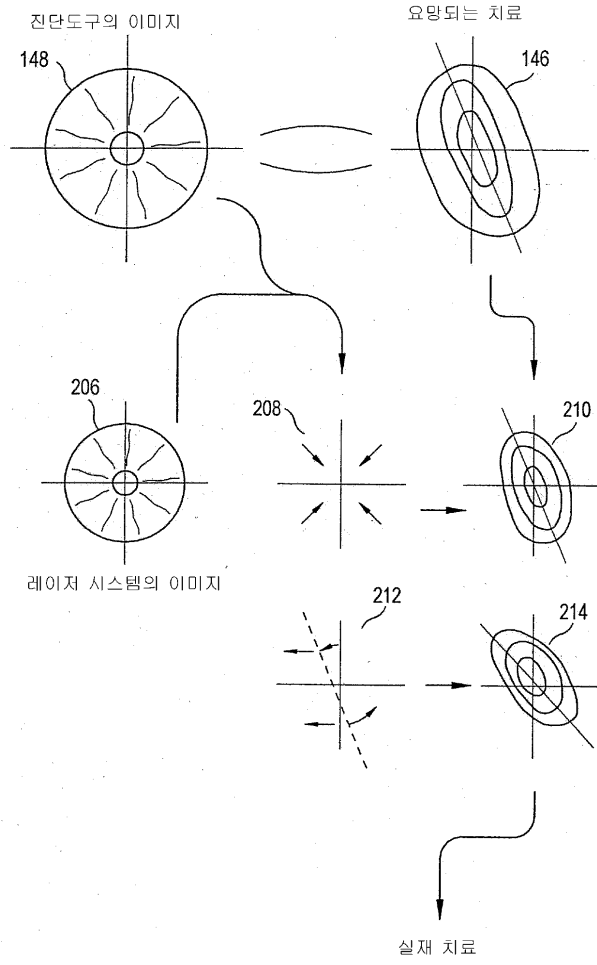
5



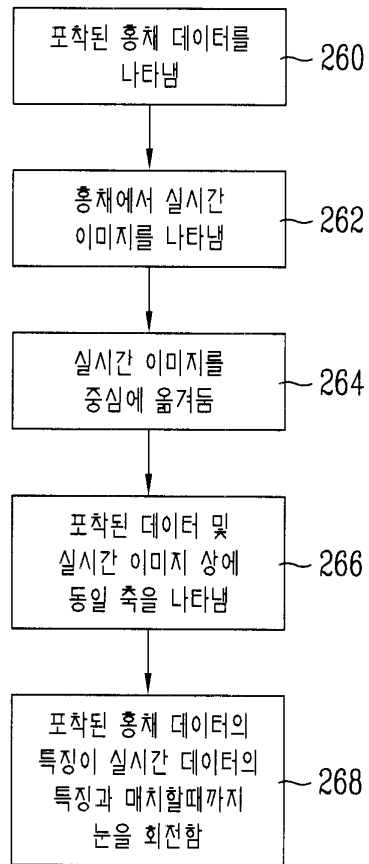
5a



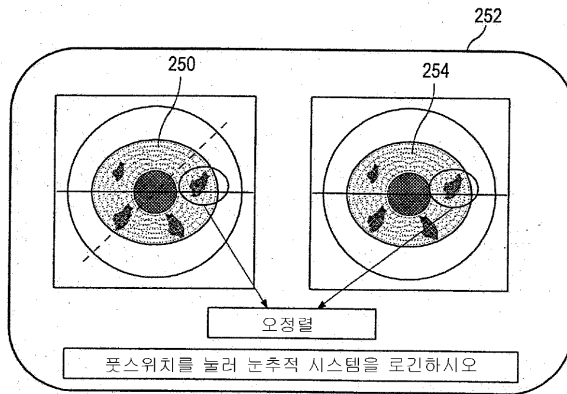
6



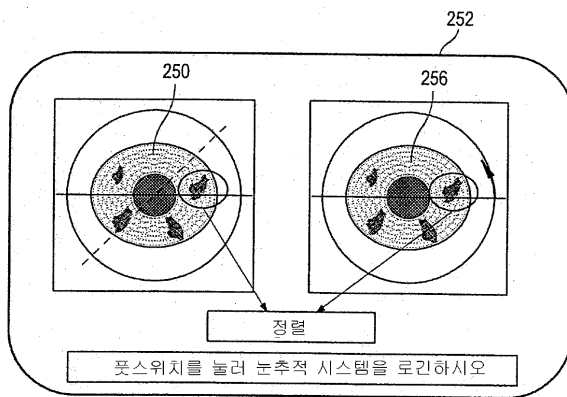
7



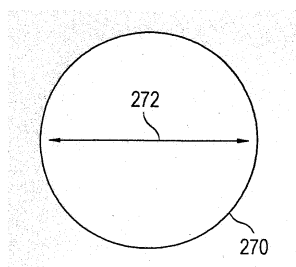
8a



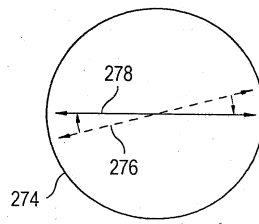
8b



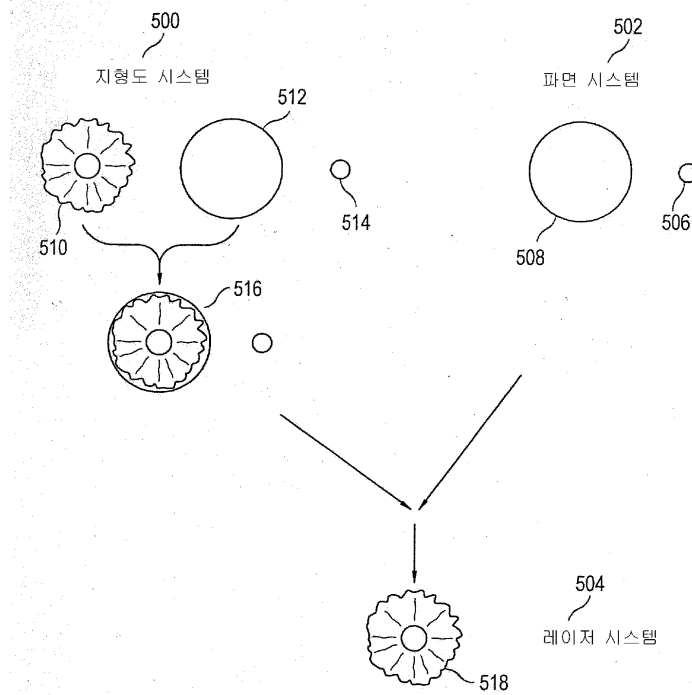
9a



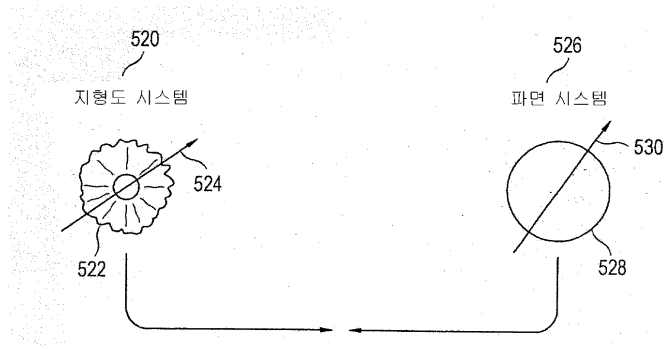
9b



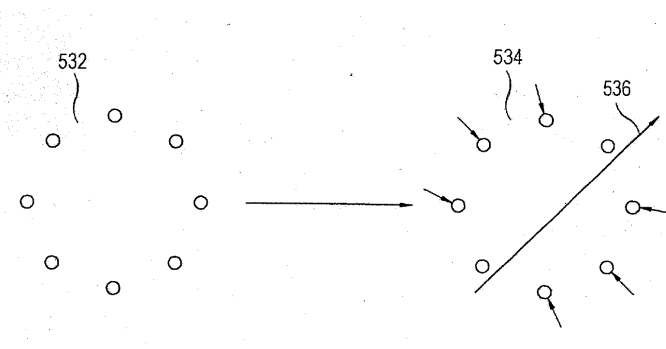
10



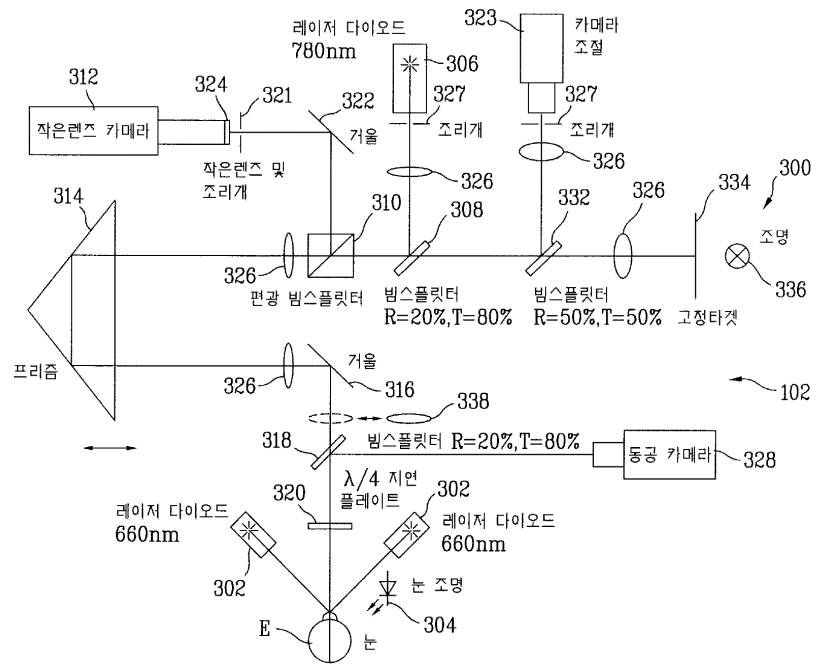
11a



11b



12



13

