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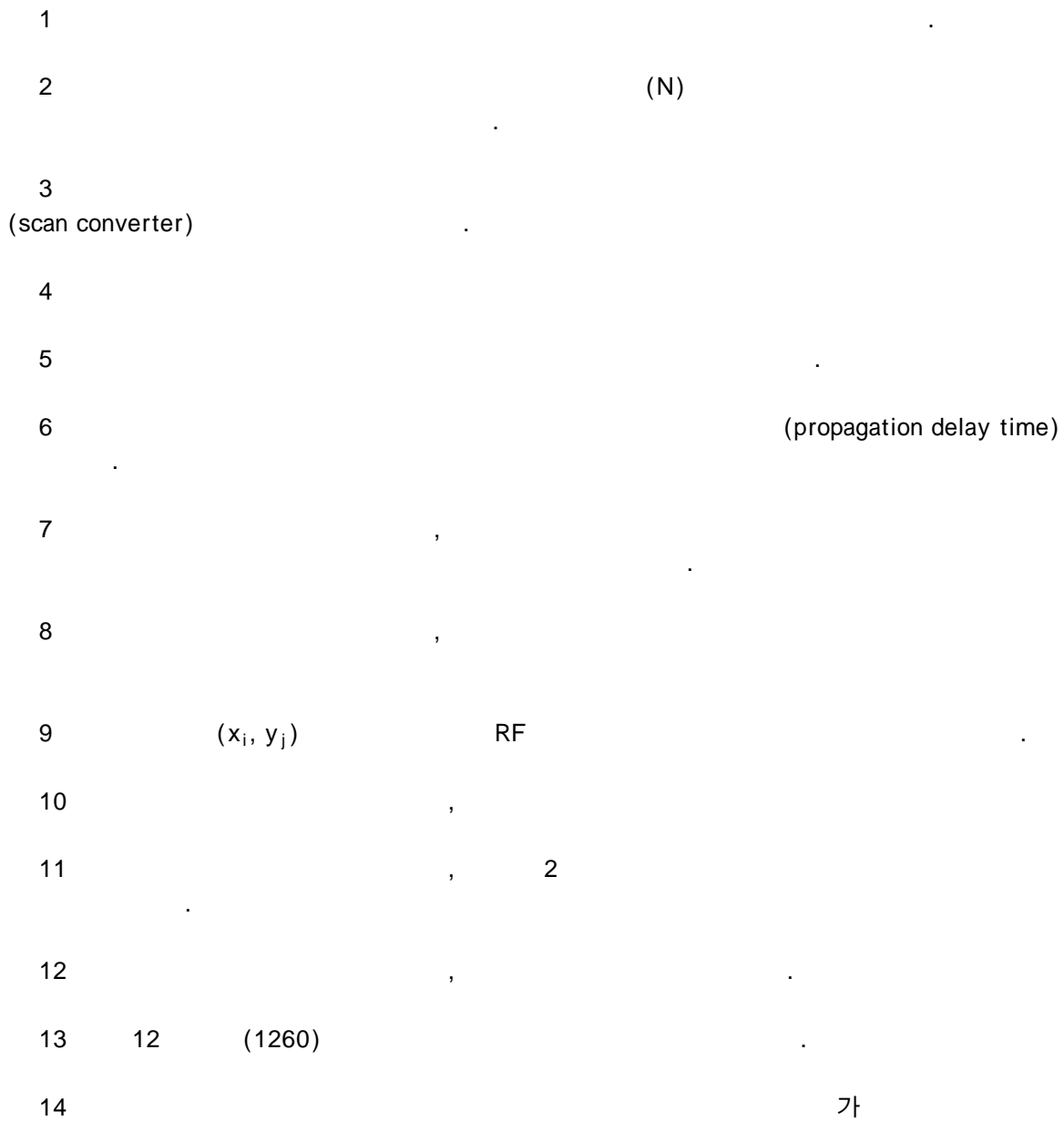
(74)

:

(54)

13

, RF



<

101 :

102 : A/D

103 : RF

105 :

(receive focusing)

(probe)

가 (transmit focusing)

1

가

가

가

가

가

가

가

가

1

1

$$\frac{1}{FR} = \frac{2D}{v} \times N$$

FR

, D

, v

, N

1

2  
(N)

2

가 (32)

(32) zontal raster line display format (33) (hori

(32) (interpolation) (9) 가 가 ( )

5 (51) (52)

(52) 6 6 (curvilinear array) N, M R(mm), max M (x<sub>e1</sub>, y<sub>e1</sub>) (x<sub>eM</sub>, y<sub>eM</sub>) (61) (x,y) (x<sub>em</sub>, y<sub>em</sub>) m (2)

2

$$t_{dm} = t_{t,dm} + t_{r,dm} = \frac{Z}{v} + \frac{Z_m}{v}, \quad Z_m = \sqrt{(x-x_{em})^2 + (y-y_{em})^2}$$

m RF (x, y) (2) t<sub>t,dm</sub> (x, y) (61) (61) (x, y) (2) (x, y) (x, y)

, 5

, 6

(53)

(53)

(54)

(52)

4  
(52)

(54)

, 5

(55)

가

RF

, RF

가  
가

(probe)

RF

RF

RF

2

가

가

가

RF

RF  
2

가

RF

가

가

7

7

1) (61)

(6

가

$$(x_{il}, y_{jl})$$

(3)

$$(x_{em}, y_{em})$$

m

3

$$t_{dm} = t_{t, dm} + t_{r, dm} = \frac{Z_{\frac{M}{2}}}{v} + \frac{Z_{ijlm}}{v}, \quad Z_{\frac{M}{2}} = \sqrt{(x_{il} - x_{e\frac{M}{2}})^2 + (y_{jl} - y_{e\frac{M}{2}})^2},$$

$$Z_{ijlm} = \sqrt{(x_{il} - x_{em})^2 + (y_{jl} - y_{em})^2}$$

(3)

(2)

가

$$t_{t, dm}$$

$$(x_{il}, y_{jl})$$

$$t_{r, d}$$

m

$$(x_{il}, y_{jl})$$

$$(x_{il}, y_{jl})$$

$$(x_{il}, y_{jl})$$

(3)

M

(3)

$$(x_{il}, y_{jl})$$

$$(x_{il}, y_{jl})$$

8

N

R(mm),

max

D(mm)

M

RF

$$(x_A, y_A)$$

N

, M

f<sub>s</sub>

N

8

(86)

N<sub>y</sub>

$$N_x \cdot N_y$$

, N

x

$$(x_i, y_j) (1 \leq i \leq N_x, 1 \leq j \leq N_y)$$

가

$$(x_i, y_j)$$

$$(x_A, y_A)$$

가 RF

(81)

가

4

$$\text{Minimize } |\theta_{x_i, y_i} - \theta_k|, 1 \leq k \leq N$$

(84)  $\theta_{x_i, y_i}$ ,  $k$ ,  $k$ ,  $(x_i, y_j)$ ,  $(x_A, y_A)$  가 (81)  $(x_i, y_j)$ ,  $k$ , (82) (82) (84) RF 가

$(x_i, y_j)$ , 가 (81)  $(x_i, y_j)$  (91)  $(x_{i1}, y_{j1})$ ,  $(x_{iL}, y_{jL})$  (92)  $(x_i, y_j)$ ,  $(x_{i1}, y_{j1})$ ,  $(x_{iL}, y_{jL})$  (8)  $(x_i, y_j)$

10 (101) RF ADC(102)  $f_s$  (103) RF (103) RF 가 (103) RF (5) RF 가 D  $f_s$  RF, N, M

5

$$N \cdot M \cdot \frac{2D}{v} \cdot f_s$$

RF (103) (108) (104) (B/F, 105), (106) (107) (105) RF (103) RF 가 (106) (106)  $(x_A, y_A)$  가  $(x_i, y_j)$

10 (quadrature demodulation)

5) (dynamic ba) (10) (105) (106)  $(f^0)$  -  $(f^c)$  (10) (106) (106)

(log compensator, 107) (108) (106) (108) (108)

RF (103)

, , RF RF

가 (82) k k+1 (83) 가 (x<sub>i</sub>, y<sub>j</sub>)

11 RF k RF (111)

k+1 RF 가 가 (111)

10 (dynamic band - pass filtering) 10 가 , 가

w<sub>k</sub> w<sub>k+1</sub> (6) 11 가

6

$$w_k = \frac{d\theta_{k+1}}{\theta_{k+1} - \theta_k}, \quad d\theta_{k+1} = \theta_{k+1} - \theta_{x,y_j}$$

$$w_{k+1} = \frac{d\theta_k}{\theta_{k+1} - \theta_k}, \quad d\theta_k = \theta_{x,y_j} - \theta_k$$

, k, k+1 k k+1 , d<sub>k</sub>, d<sub>k+1</sub>

(x<sub>i</sub>, y<sub>j</sub>) (x<sub>A</sub>, y<sub>A</sub>) 가 , RF

12 (1210) (N) 가 ,

(Ns) 가 (L), (Nx Ny),

(1220) , Nc 10 RF 가 , R

RF RF F RF (1230) ,

(1230) i가 1 Nx (1240) i가 1 Nx (12

20) , RF , i 1

(1240)  $j$ 가 1  $N_y$  , (1250)  $j$ 가 1  $N_y$   
 $i$  ,  $y$  ,  $j$  1  
 가 (1230) .

(1250)  $(x_i, y_j)$ 가 .  
 8  
 가 (87)  $(x_i, y_j)$ 가 가 (87)  $j$   
 (1240)  $(x_i, y_j)$ 가 가  
 , (1260)  $(x_i, y_j)$   $N_s$  RF  
 ,  $(x_i, y_j)$  .

(1260) (1270)  $j$  가 (1270)  $(i, j)$   
 ,  $j$  가 (1240) (1280)

13 12 (1260),  $N_s$  RF  $(x_i, y_j)$   
 $N_s$  , 가 (1310)  $(x_i, y_j)$   
 가 가

(1320)  $k, c, m$  1  $L$   $Acc[m]$   $k$   
 $(i, j)$   $N_s$   $N_c$   $c$   $m$   
 ,  $(x_i, y_j)$  가  $L$   $m$   
 . 13 3 1 1350 138  
 0 2 1 1340 1390 . 2 가 1  
 1 가  $L$  . 3 2 1330 1310 . 3 가  
 1 2 가  $N_c$  . 3  $N_s$  .

RF 가 가  $k$   $N_c$   $c$  가  
 $(x_{iL}, y_{jL})$  , 8  $(x_i, y_j)$  가  $L$  1  $(x_{i1}, y_{j1})$   
 $(x_{i1}, y_{j1})$   $c$   $(x_{i1}, y_{j1})$   $m$  1 , (1360) 가  $(x_i$   
 ,  $Acc[1]$   $(1370)$  (1360)  
 가  $RF$  ,  $k$   
 1  $m$  2 ,  $(x_{i2}, y_{j2})$   $(1380)$   $m$  1 가 (1350)  
 . 1  $L$  , 가  $Acc[2]$   
 . (1390)  $c$  1 가 ,  $m$  1  $L$  1  $L$  ,  
 $L$  ,  $N_c$   $RF$  가  $L$  ,  $k$   
 $L$  . 3  $N_s$   $N_s$  가



가 . ,

가 가

가 가 . ,

,

가 가 .

가

(57)

1.

,

,

RF

,

RF

,

RF

,

2

가

2.

1

,

가

,

가

가

가

RF

3.

1

,

가

,

가

가

가

RF

4.

,

가

,가

5.

RF

RF

RF

2

가

6.

5

가

가

가

가

RF

가

7.

5

가

가

가

가

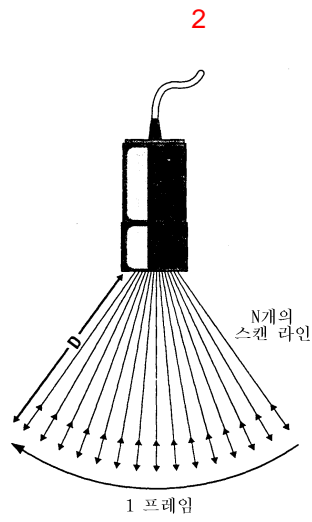
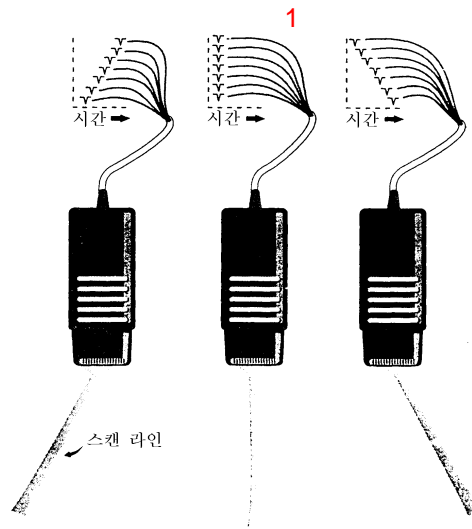
RF

가

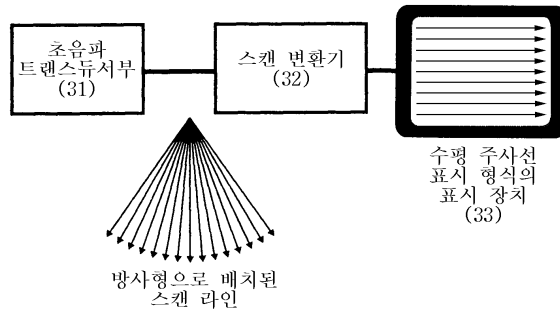
8.

가

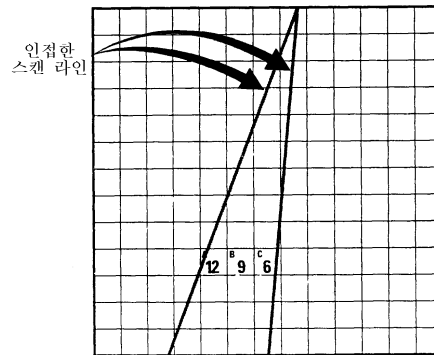
가



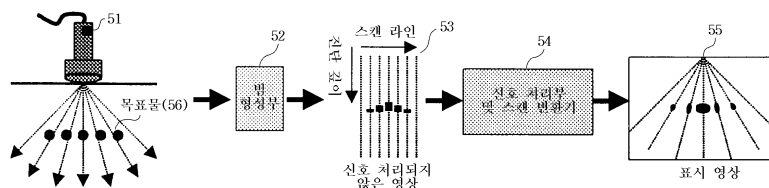
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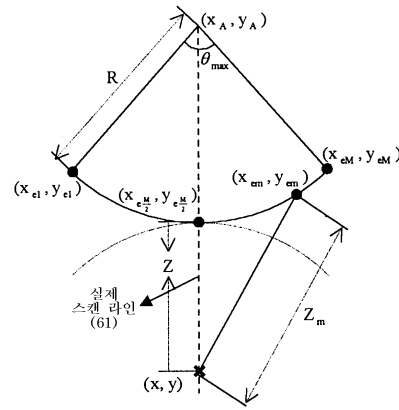
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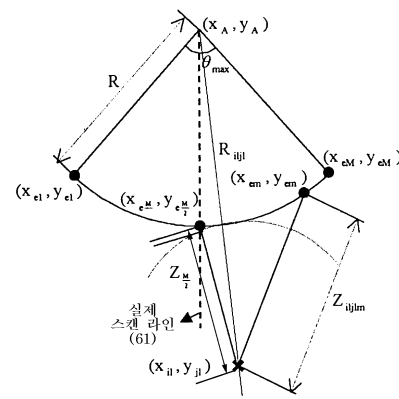
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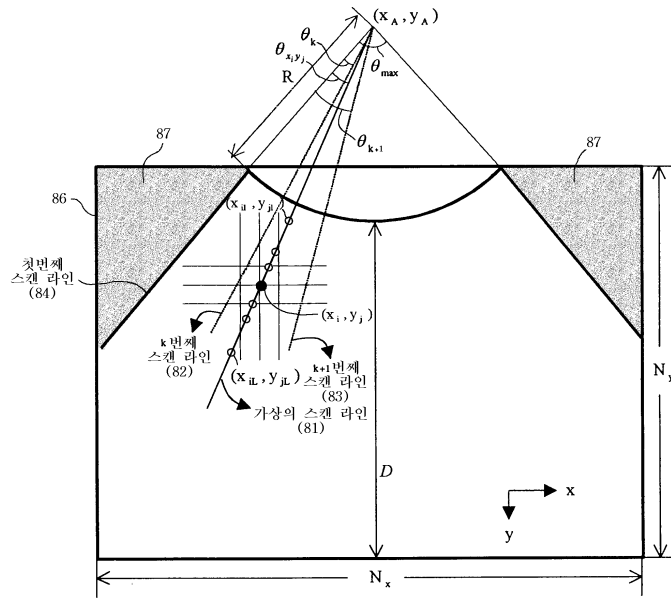
6



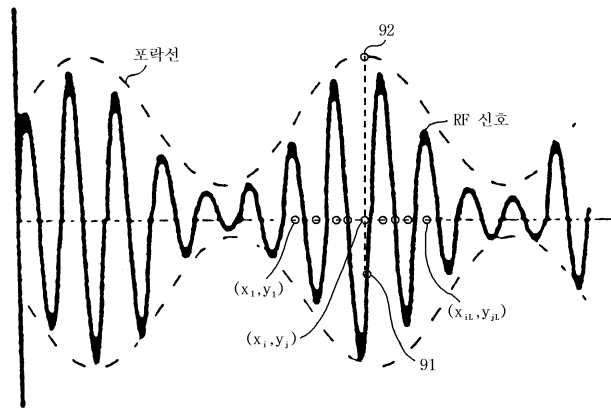
7



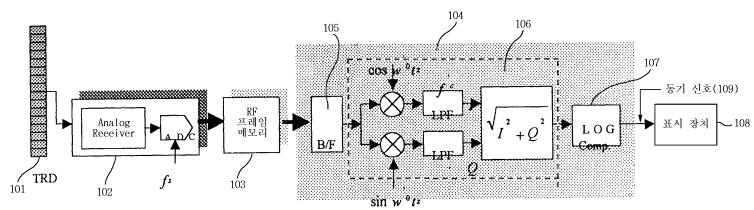
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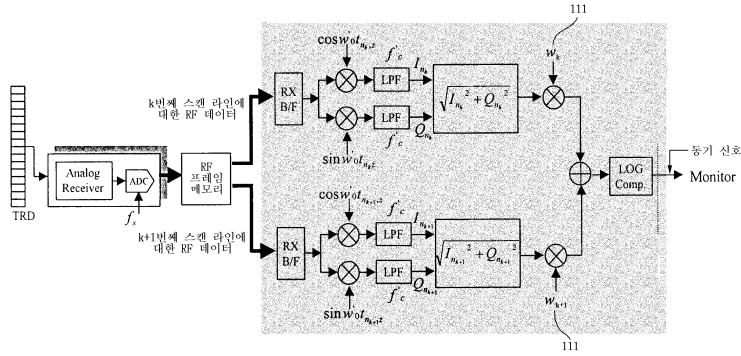
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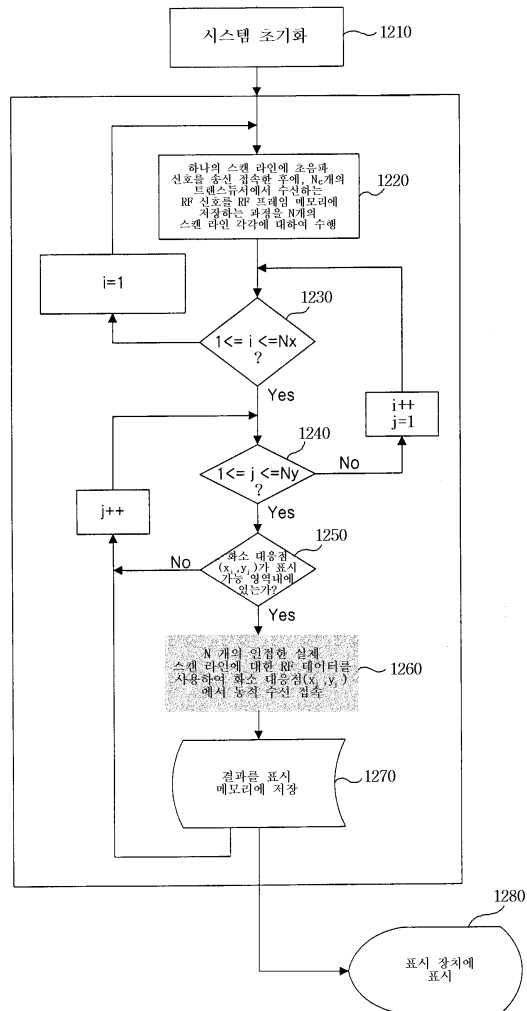
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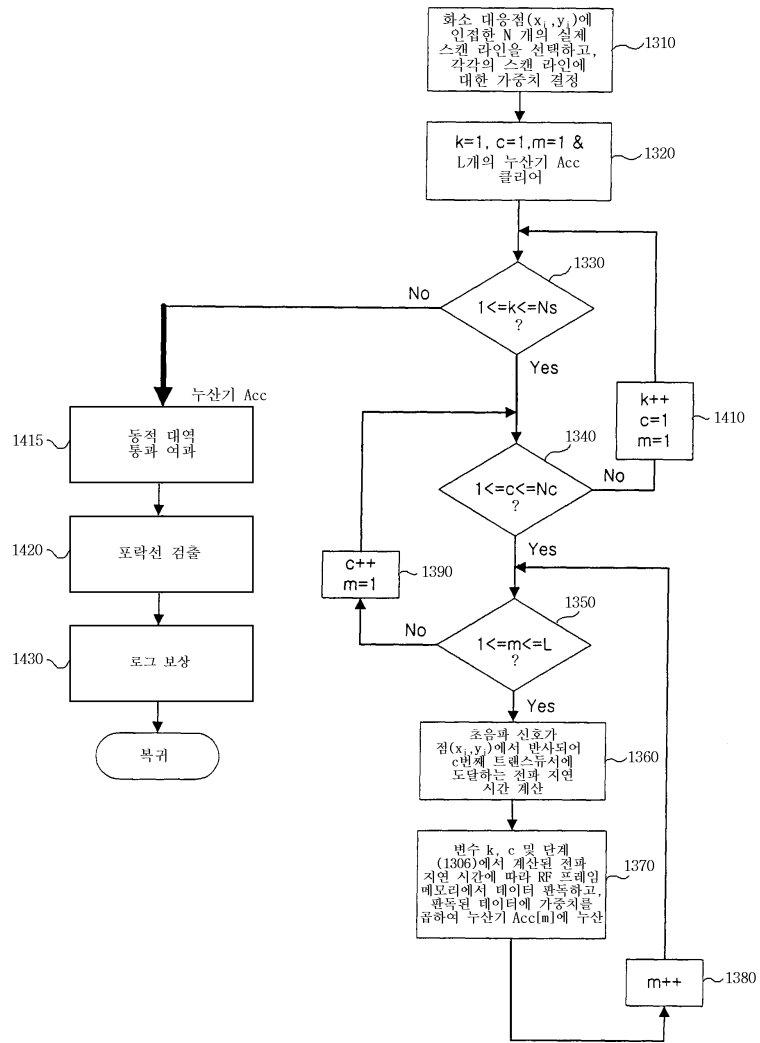
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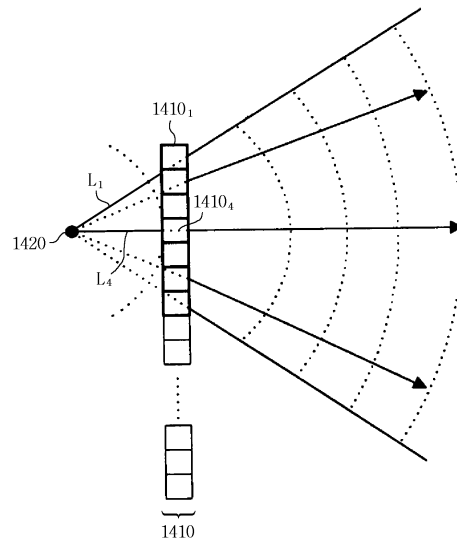
12



13



14



专利名称(译)	一种超声成像系统和方法，用于在对应于显示设备的像素的点处接收和聚焦		
公开(公告)号	<a href="#">KR100369955B1</a>	公开(公告)日	2003-01-30
申请号	KR1020000007236	申请日	2000-02-16
[标]申请(专利权)人(译)	三星麦迪森株式会社		
申请(专利权)人(译)	三星麦迪逊有限公司		
当前申请(专利权)人(译)	三星麦迪逊有限公司		
[标]发明人	HWANG JAESUB 황재섭 SONG TAIKYONG 송태경		
发明人	황재섭 송태경		
IPC分类号	G01S7/52 G01S15/89 A61B8/00		
CPC分类号	G01S7/52046 G01S7/52044 G01S15/8906 G01S7/52053		
代理人(译)	CHU, 晟敏 CHANG, SOO KIL		
其他公开文献	KR1020010083532A		
外部链接	<a href="#">Espacenet</a>		

摘要(译)

本发明提供一种超声成像系统，用于接收发送消息的超声信号，并且是在目标对象中的目标对象的诊断区域内反射并在显示装置中指示目标对象的图像的超声信号。根据本发明的图像系统包括信号处理装置，用于计算在使用换能器单元对应于显示装置的每个像素的诊断区域内的点内接收和聚焦的超声信号的值，用于接收超声信号发送超声信号被反射并存储装置，用于存储由换能器单元接收的信号和存储在存储装置中的信号，并在显示装置中指示该信号。超声成像系统，超声换能器，动态接收聚焦，扫描转换器，RF帧存储器。

