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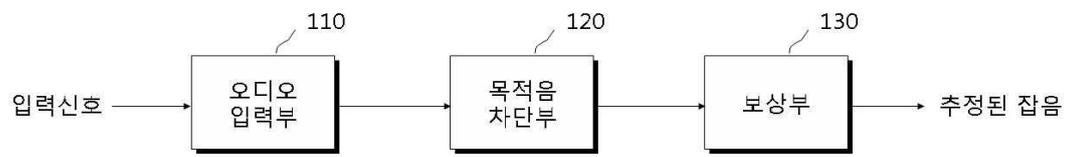
(non-stationary)

(target sound)

(directivity gain)

non-stationary

- 1



1

;

(target sound)

;

(directivity gain)

2

1
1cm 8cm

2

3

2
2

4

1

5

1

6

5

7

2

2

8

1

9

(target sound)

(directivity gain)

10
 9
 1cm 8cm 2 2

11

(target sound)

(directivity gain)

12
 11
 1cm 8cm 2

13

11

14

11

15

14

16

11

2

17

sound) ; (target ;

18

17

19

17

(directivity gain)

20

19

21

19

22

21

23

21

[0002]

[0003]

PC

[0004]

(sporadic)

[0005]

(non-stationary)

(target sound)

[0006]

(target sound)

(directivity gain)

[0007]

[0008]

2

[0009]

(target sound)

(directivity gain)

[0010]

(target sound)

(directivity gain)

[0011]

(target sound)

[0012] , (non-stationary noise)

[0013] . , .

[0014] .

[0015] 1 .

[0016] 1 , (110), (120)
(130) .

[0017] (110) (target sound) (120)
(110)

(directivity gain) (130)

[0018] , (110) 2 () ,
2

[0019] (120) 2 (omni-directional) 2
, 1cm , (target source)

[0020] 1cm 8cm , 8cm 1cm

[0021] , $S_1(f), S_2(f)$,
 $B(f)$ 1

1

[0022]
$$B(f) = w_1(f) \cdot S_1(f) + w_2(f) \cdot S_2(f)$$

[0023] $w_1(f)$ $w_2(f)$ $+1, -1$ $B(f)$
 $w_1(f)$ $w_2(f)$ $S_1(f), S_2(f)$

[0024] , $w_1(f)$ $w_2(f)$ $+1, -1$, ()
) 0

[0025] , (120) ,
(120) (aperture size)
(130) ,

[0026] (120) (directivity pattern), $D(f)$)
2

2

$$D(f, \phi) = \sum_{n=-\frac{N-1}{2}}^{\frac{N-1}{2}} w_n(f) e^{j \frac{2\pi}{\lambda} n d \cos \phi}$$

[0027]

[0028]

[0029]

N, d, f, $w_n(f)$, n
 1
 2, $w_{0.5}(f)$, $w_{0.5}(f)$, +1, -1
 (130) 1 B(f), 3

3

$$W(f) = \frac{\alpha}{\frac{1}{\pi} \int_0^\pi D(f, \phi) d\phi}$$

[0030]

[0031]

[0032]

(global scaling coefficient)
 (130) 4

4

$$\tilde{N}_a(f) = B(f) \cdot W(f)$$

[0033]

[0034]

[0035]

[0036]

[0037]

4, w, 2, w, 2
 2
 (210), (220), (210), (210), (210)
 0, (210), (210), (240)

[0038]

[0039]

[0040]

(240) 1, (220), (230-1, 230-2, 230-n), (210)
 3, (120) (directivity)
 (210), (220) 90, 3, 90 (gain) 0, 90 (gain)

(120)

[0041] 3 , 1 (130) W(f)

[0042] 4

[0043] (410)
(420) , (420) , (410)

[0044] (420)
4 , (410)

[0045] (local scaling coefficient), (f) , 5

5

$$\beta(f) = \frac{|S(f)|}{\tilde{N}_a(f)}$$

[0046]
[0047] , 5
6

6

$$\beta(n, f) = \left\{ \begin{array}{ll} \gamma \cdot \frac{|S(n, f)|}{\tilde{N}_a(n, f)} + (1 - \gamma) \cdot \beta(n - 1, f) & , \text{if } n^{\text{th}} \text{ frame has no target signal} \\ \beta(n - 1, f) & \text{otherwise} \end{array} \right\}$$

[0048]
[0049] , (update rate) 1
, 0
, (420) , 7

7

$$\tilde{N}_b(f) = B(f) \cdot W(f) \cdot \beta(f)$$

[0050]
[0051] , (410)

[0052] 5

[0053] (Gain calibrator) (510) 2

(120)

[0054]

[0055]

6

[0056]

(610)

(620)

[0057]

(610)

1

5

(target sound)

(directivity gain)

[0058]

(610)

2

2

[0059]

(620)

(610)

(spectral subtraction),

(wiener filter),

(620)

(amplitude estimator)

[0060]

7

[0061]

(S710).

(target sound)

(S720).

2

[0062]

(directivity gain)

(S730).

[0063]

[0064]

S730

(spectral distortio

n)

[0065]

(S710)

2

[0066]

[0067]

1

[0068]

2

[0069]

3

(120)

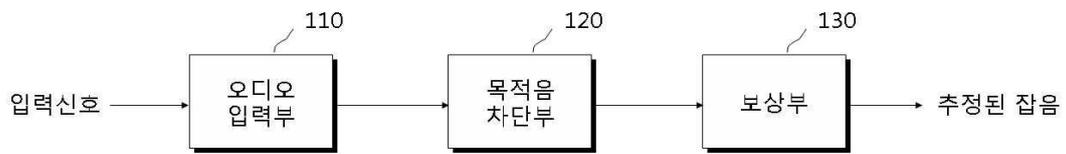
(directivity)

[0070]

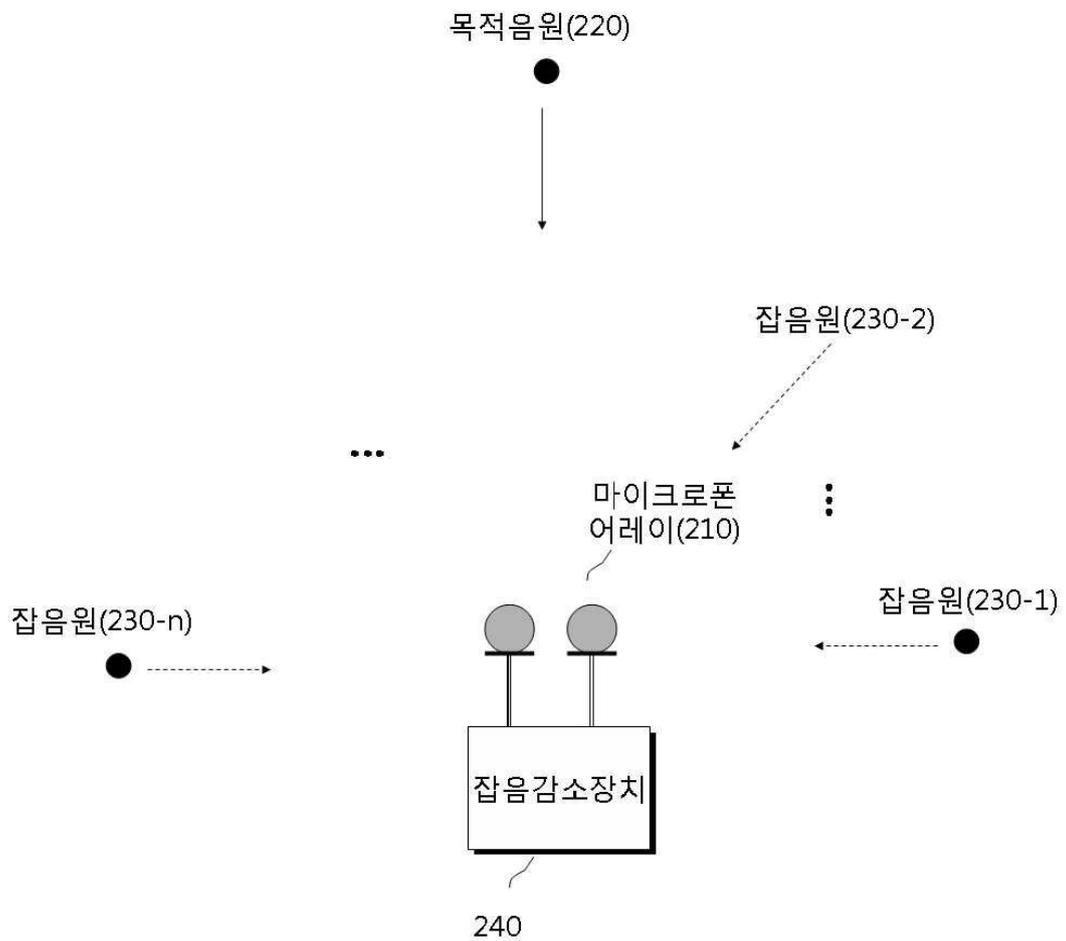
4

- [0071] 5
- [0072] 6
- [0073] 7
- [0074] < >
- [0075] 110 : 120 :
- [0076] 130 : 410 :
- [0077] 510 :

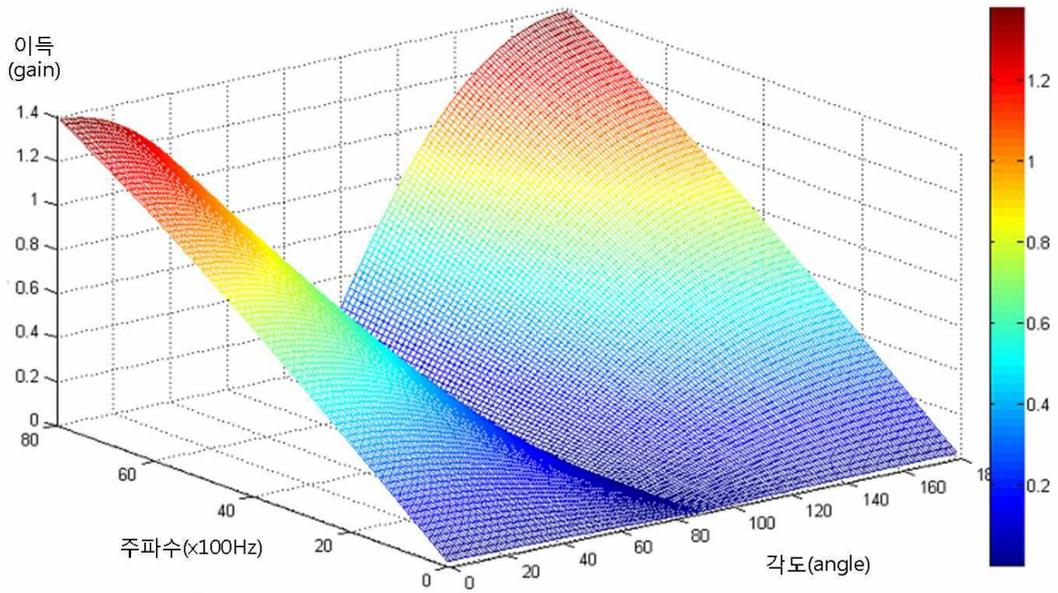
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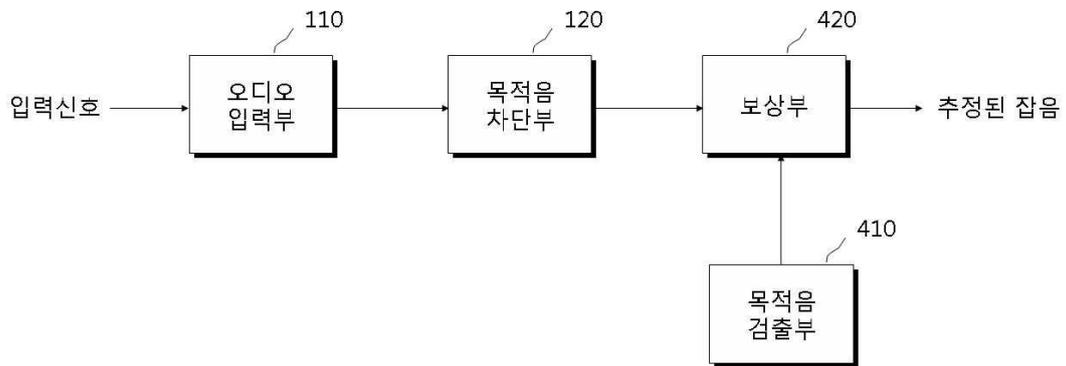
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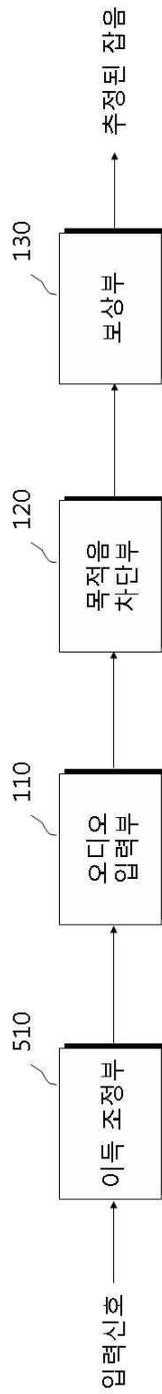
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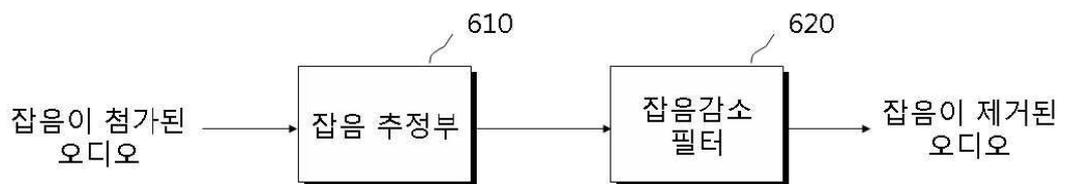
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5



6



7

