

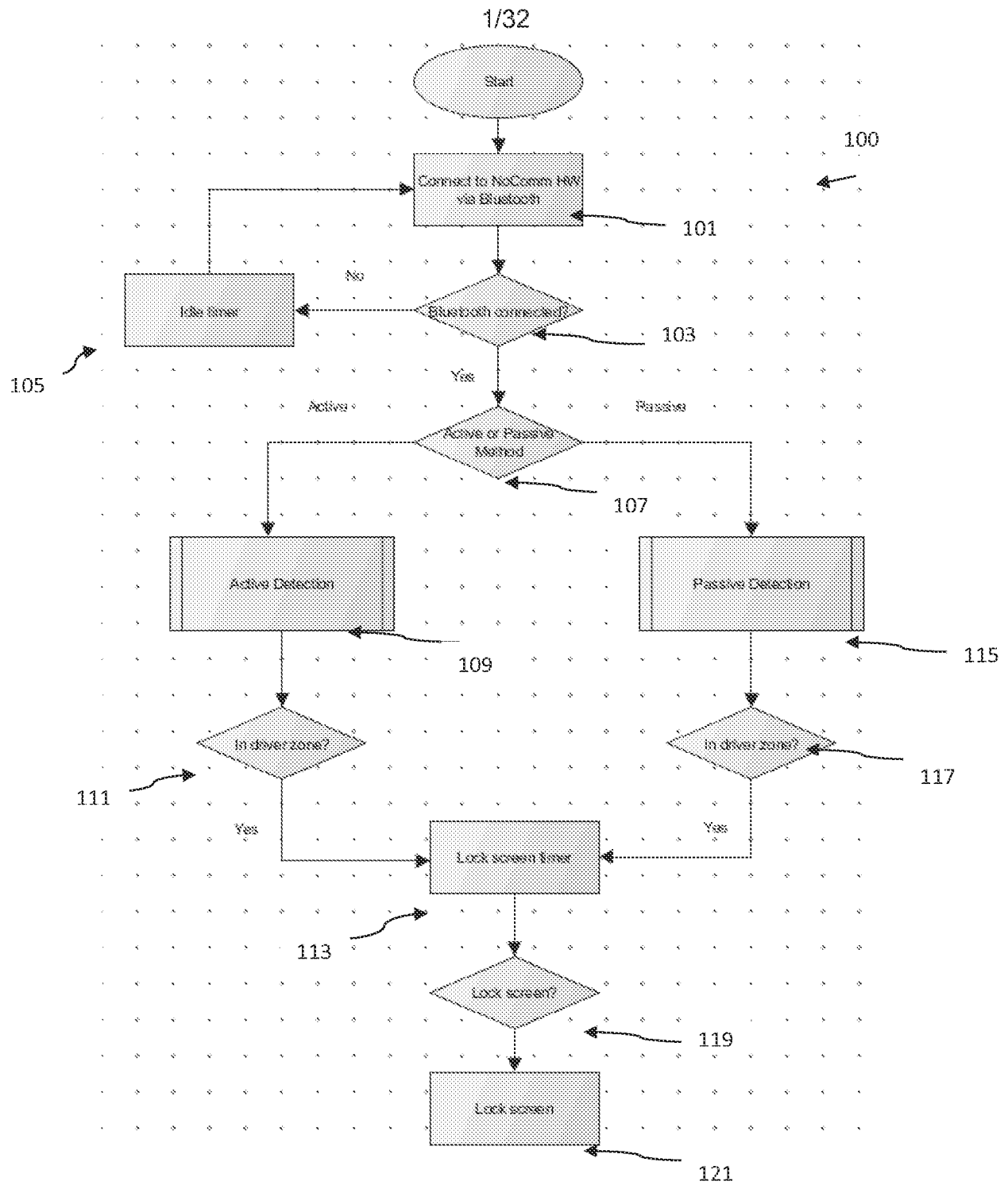


FIG. 1

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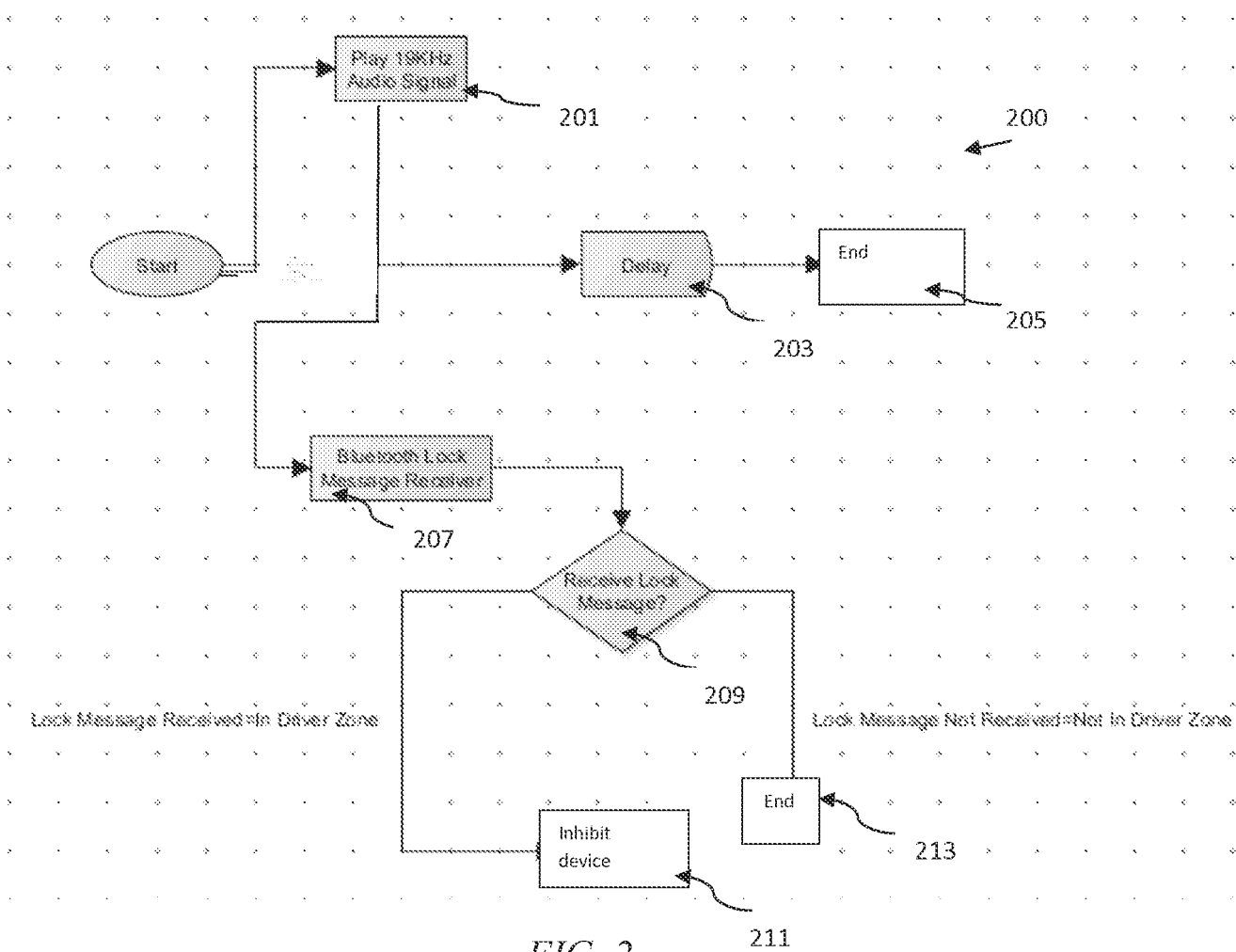


FIG. 2

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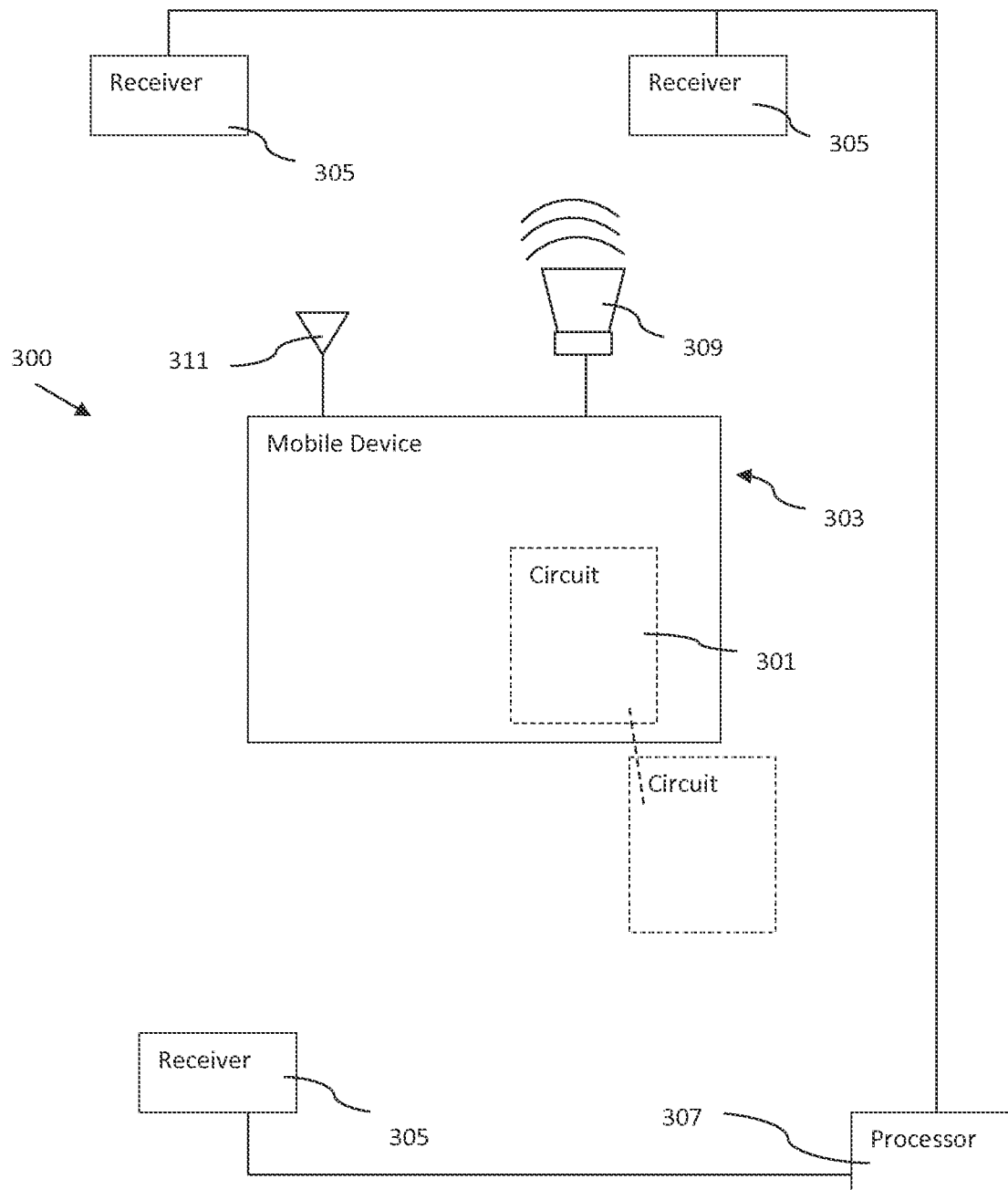


FIG. 3

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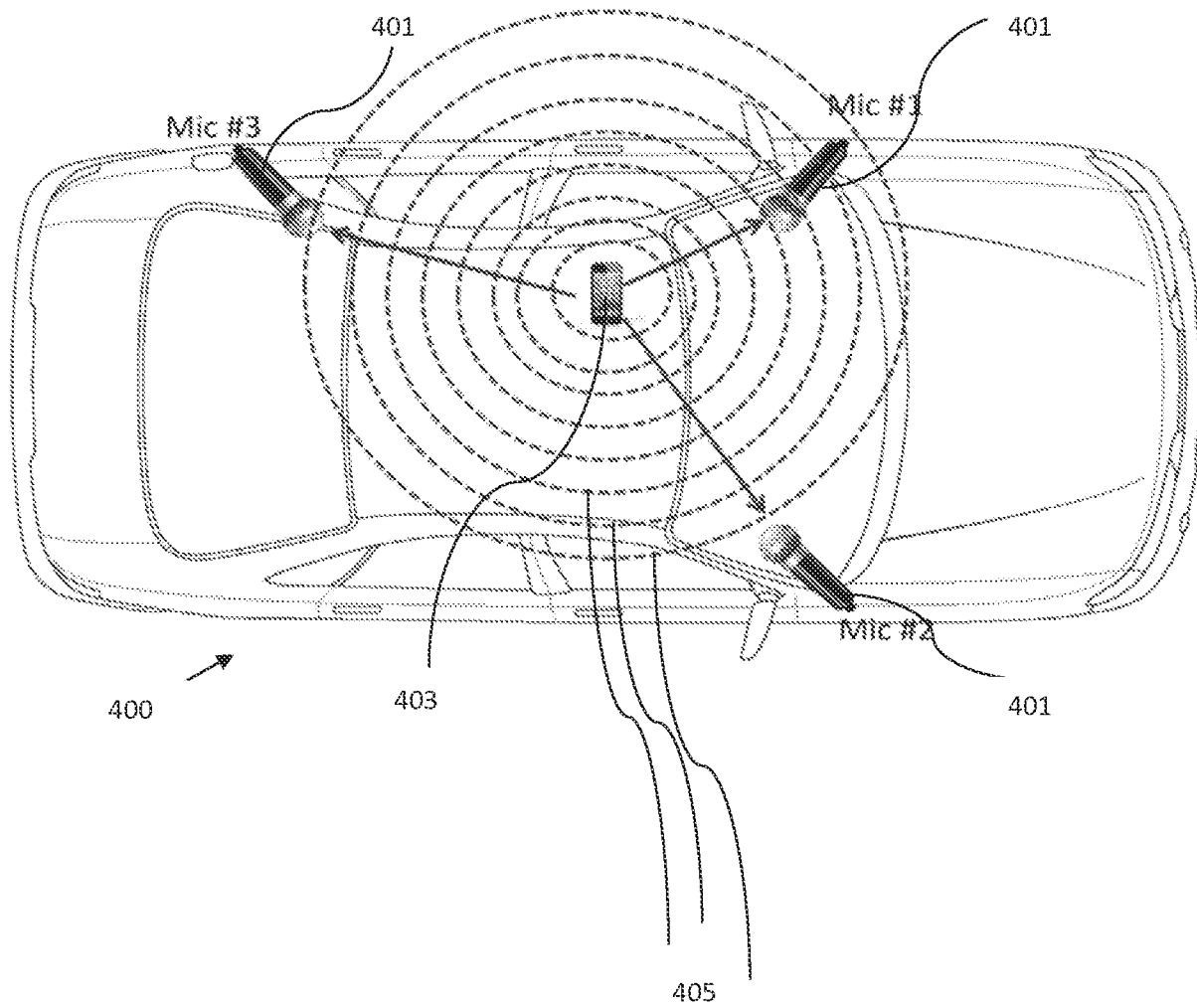


FIG. 4

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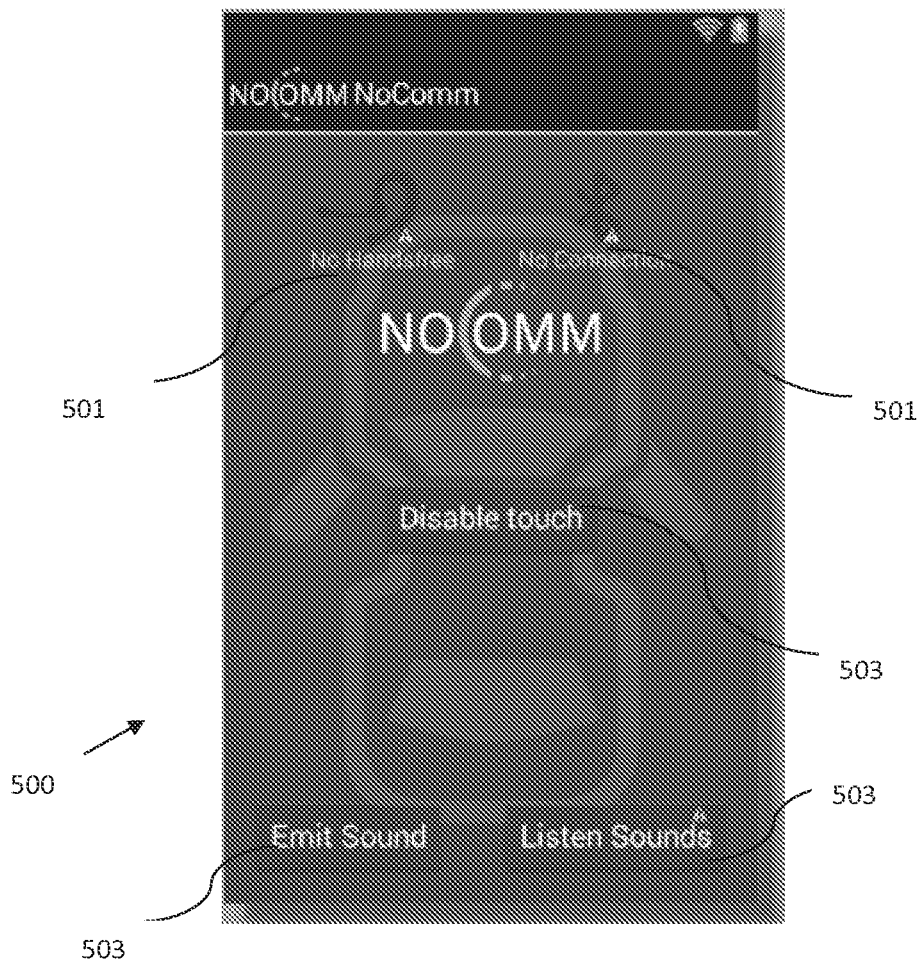


FIG. 5

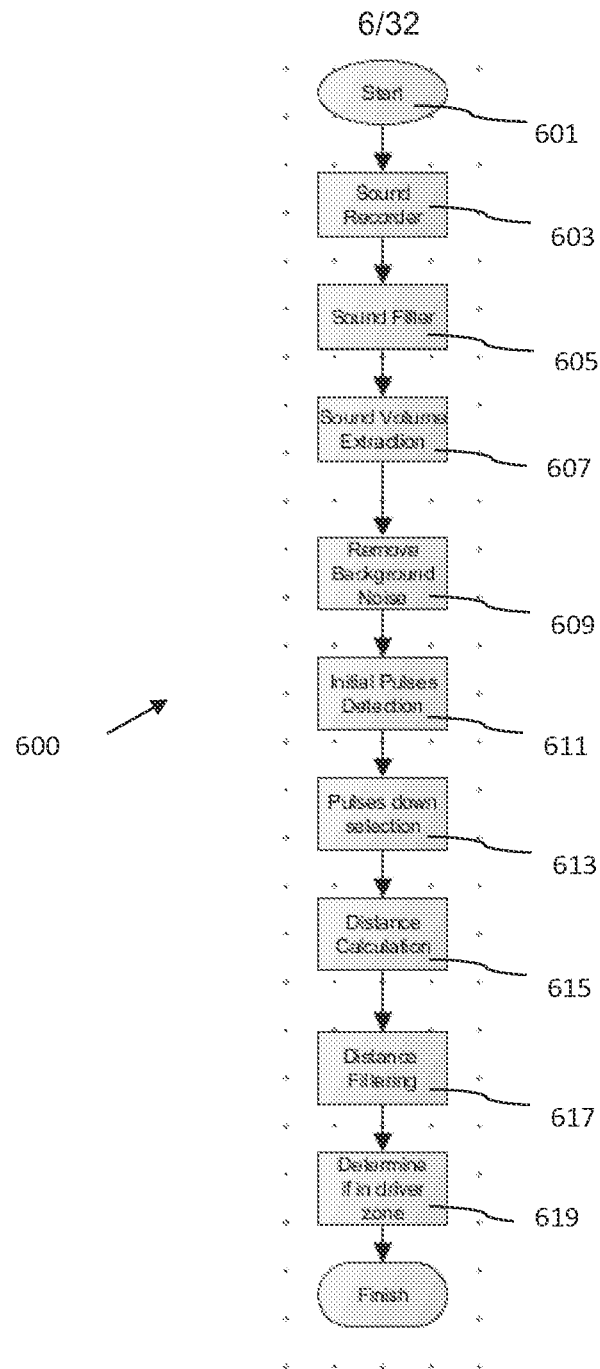


FIG. 6

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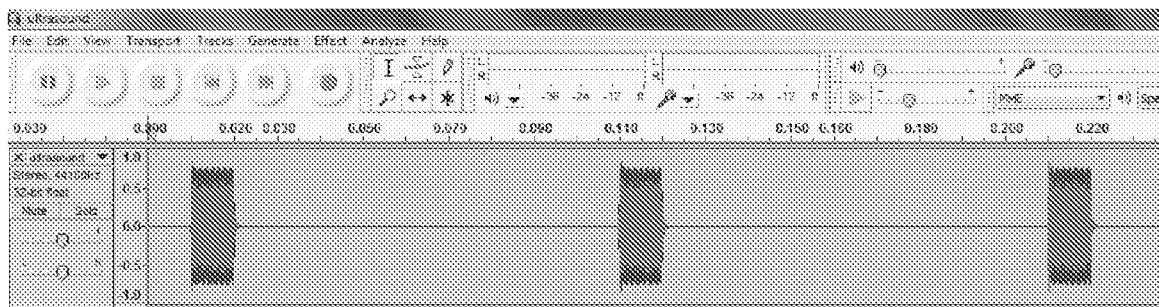


FIG. 7

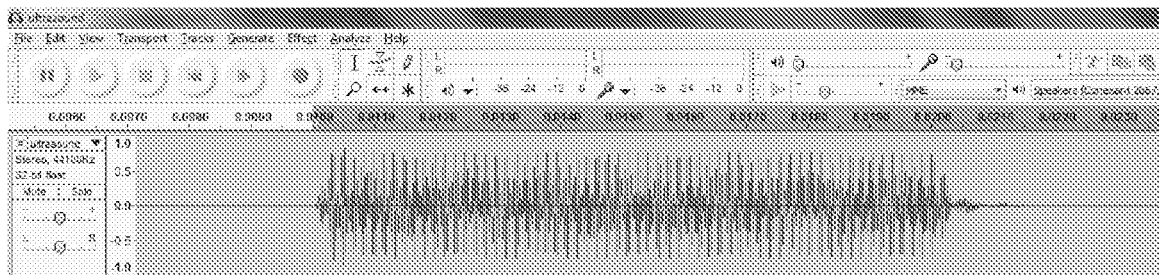


FIG. 8

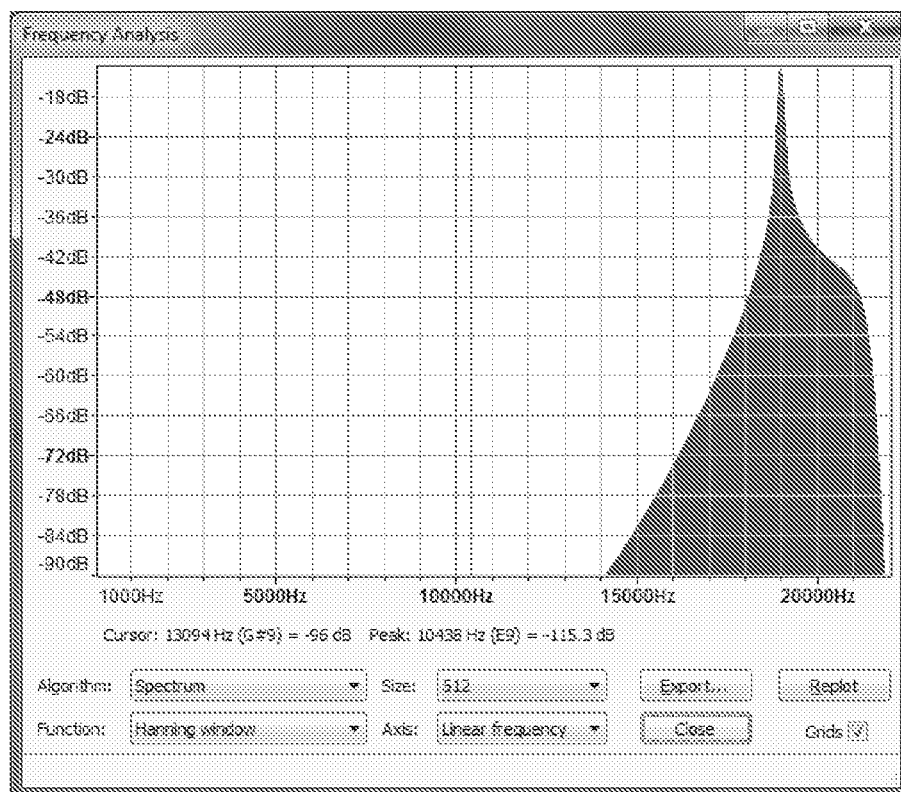


FIG. 9

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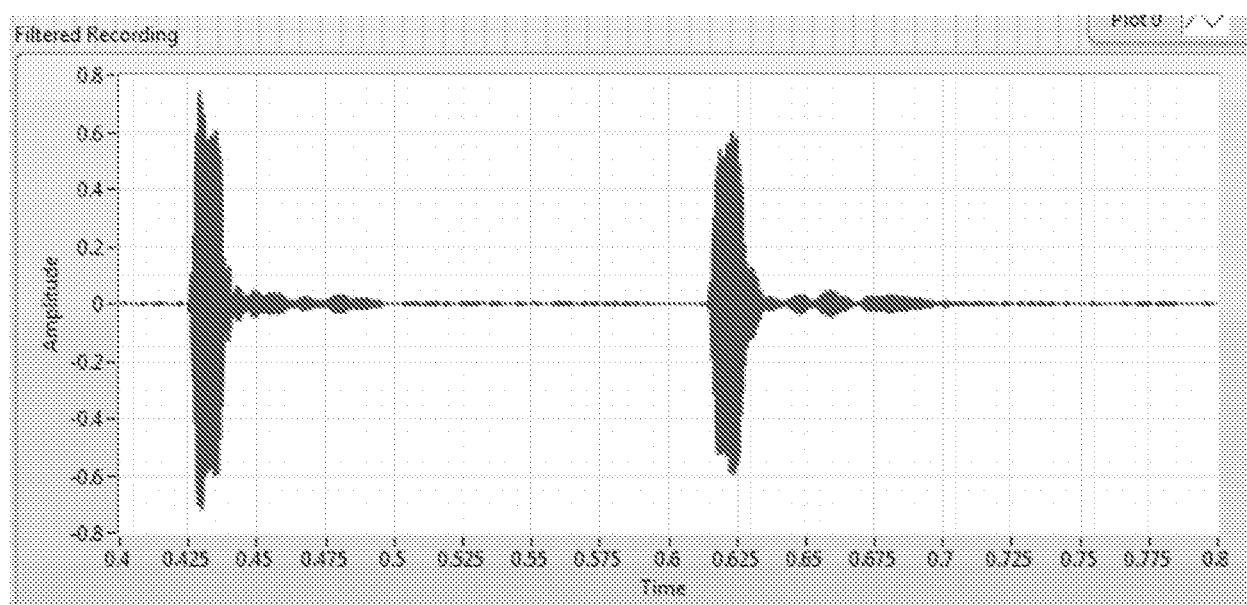


FIG. 10

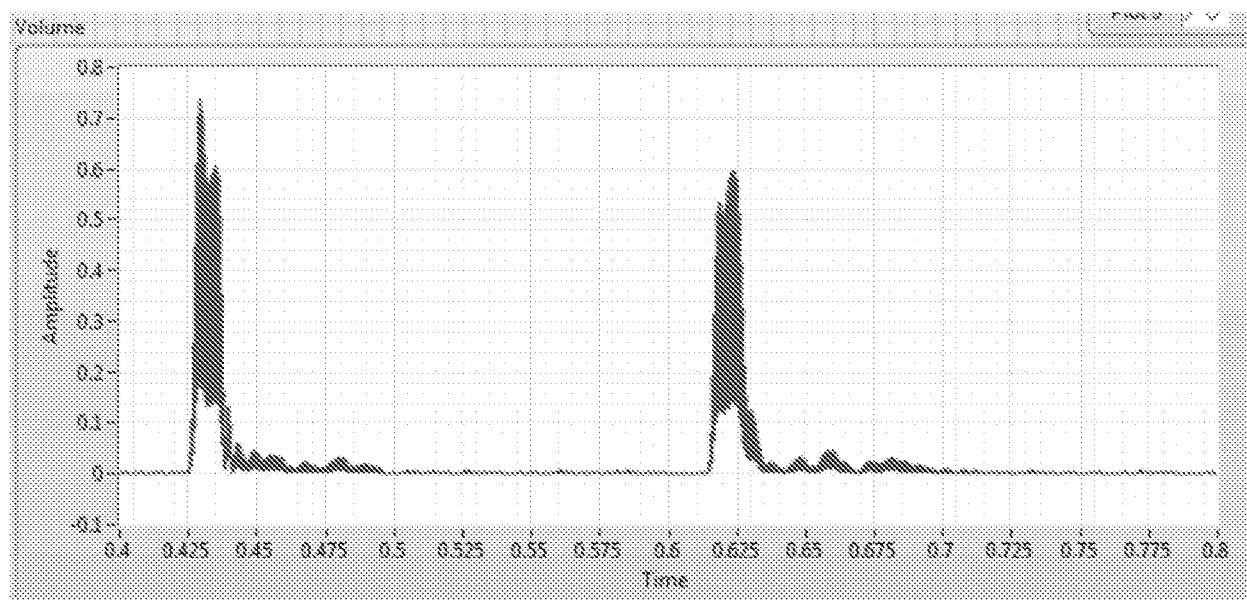


FIG. 11

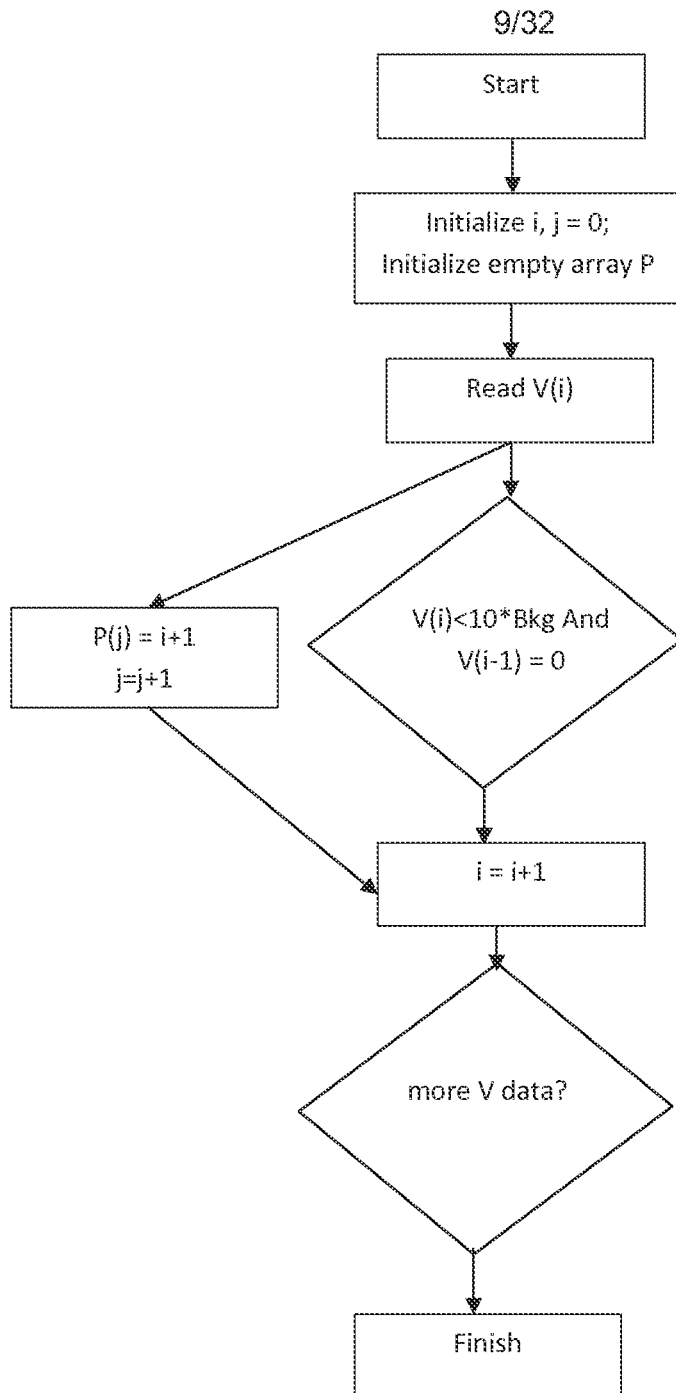


FIG. 12

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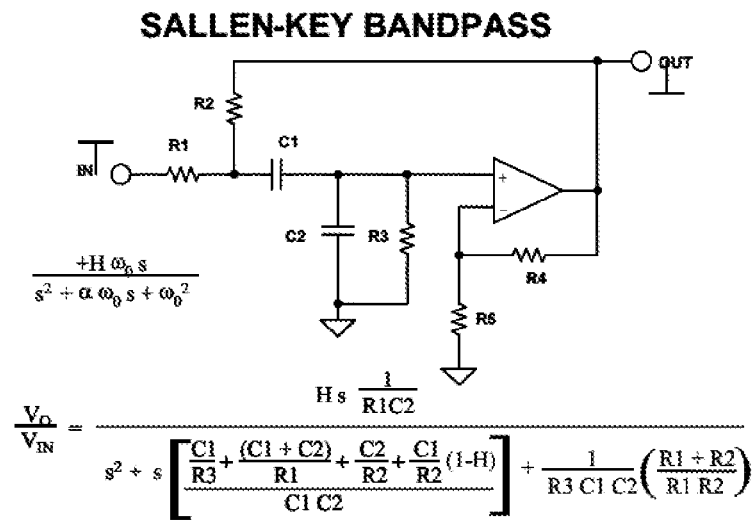
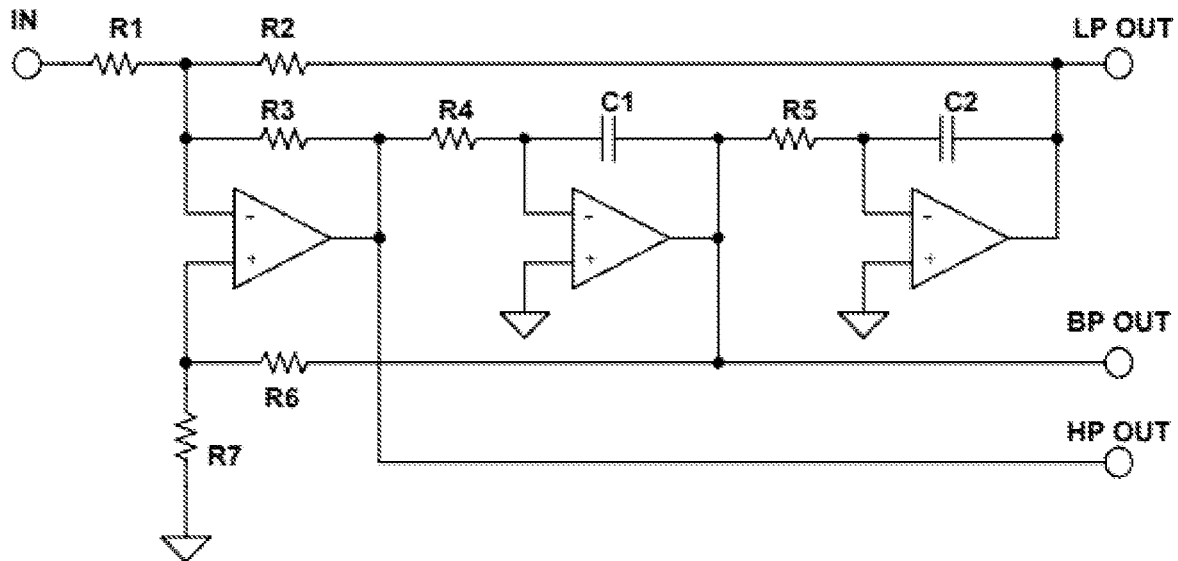


FIG. 13

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STATE VARIABLE (A)

$$A_{LP}(s=0) = -\frac{R2}{R1}$$

$$A_{HP}(s=\infty) = -\frac{R3}{R1}$$

$$\omega_0 = \sqrt{\frac{R3}{R2 R4 R5 C1 C2}}$$

CHOOSE R1:

$$R2 = A_{LP} R1$$

$$R3 = A_{HP} R1$$

CHOOSE C:

$$R = \frac{1}{2\pi F_0 C} \sqrt{\frac{A_{HP}}{A_{LP}}}$$

LET R4 = R5 = R, C1 = C2 = C

$$A_{BP}(s=\omega_0) = \frac{\frac{R6+R7}{R7}}{R1 \left(\frac{1}{R1} + \frac{1}{R2} + \frac{1}{R3} \right)}$$

CHOOSE R7:

$$R6 =$$

$$R7 \sqrt{R2 R3} Q \left(\frac{1}{\frac{1}{R1} + \frac{1}{R2} + \frac{1}{R3}} \right)$$

FIG. 14

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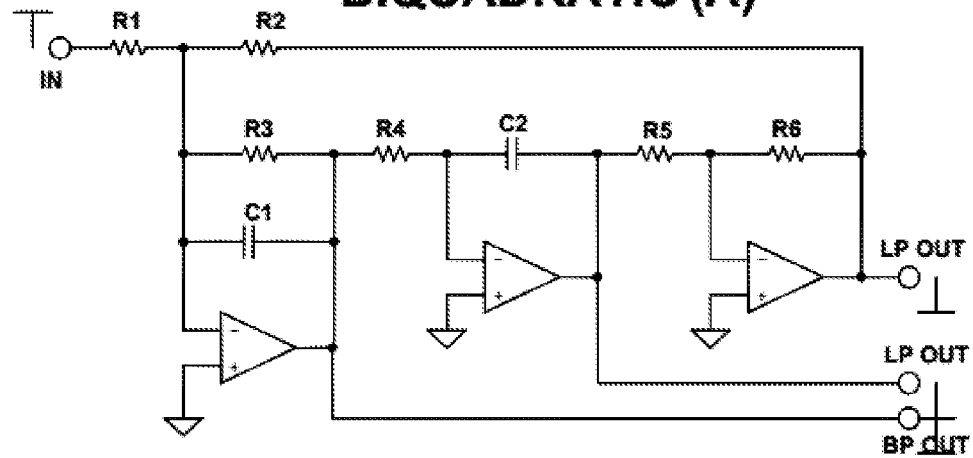
BIQUADRATIC (A)

FIG. 15

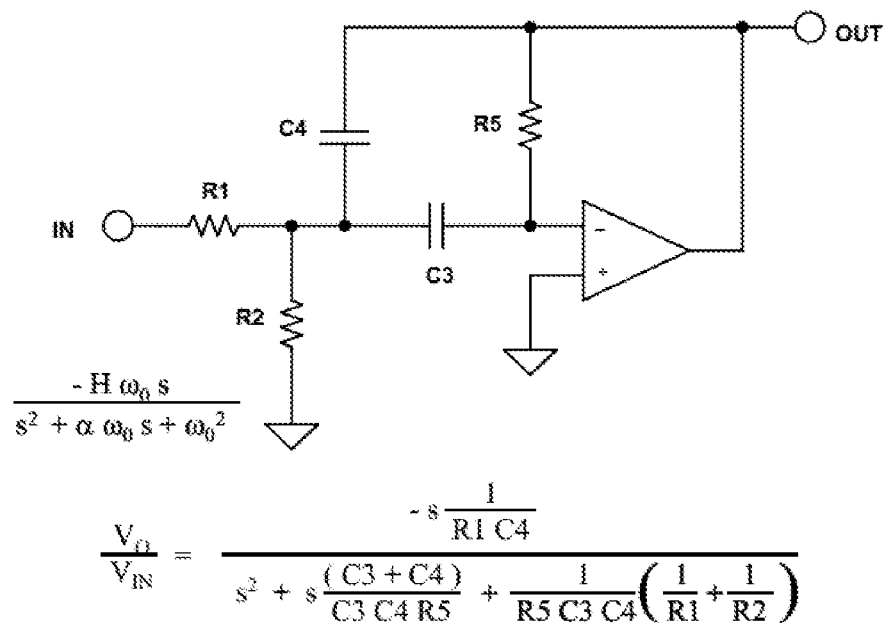
MULTIPLE FEEDBACK BANDPASS

FIG. 16

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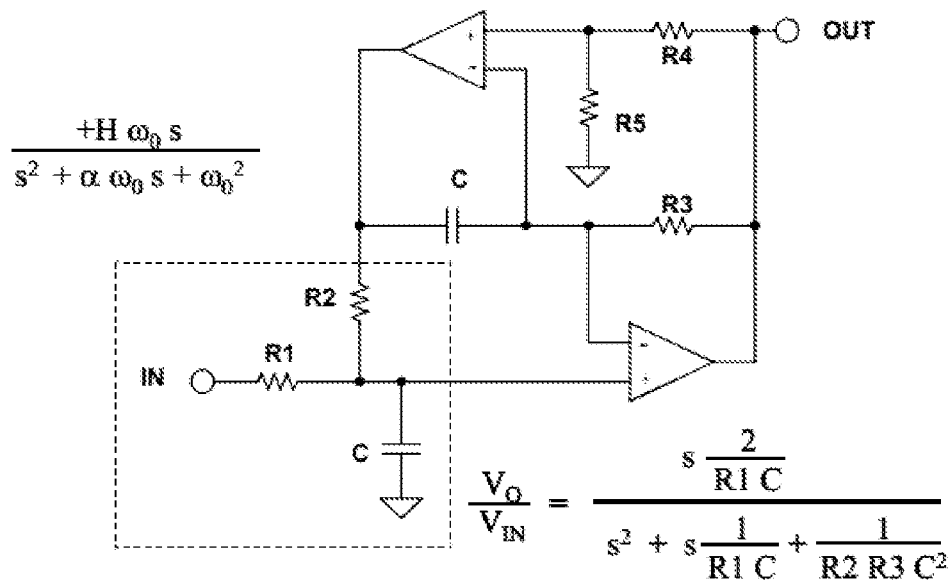
DUAL AMPLIFIER BANDPASS

FIG. 17

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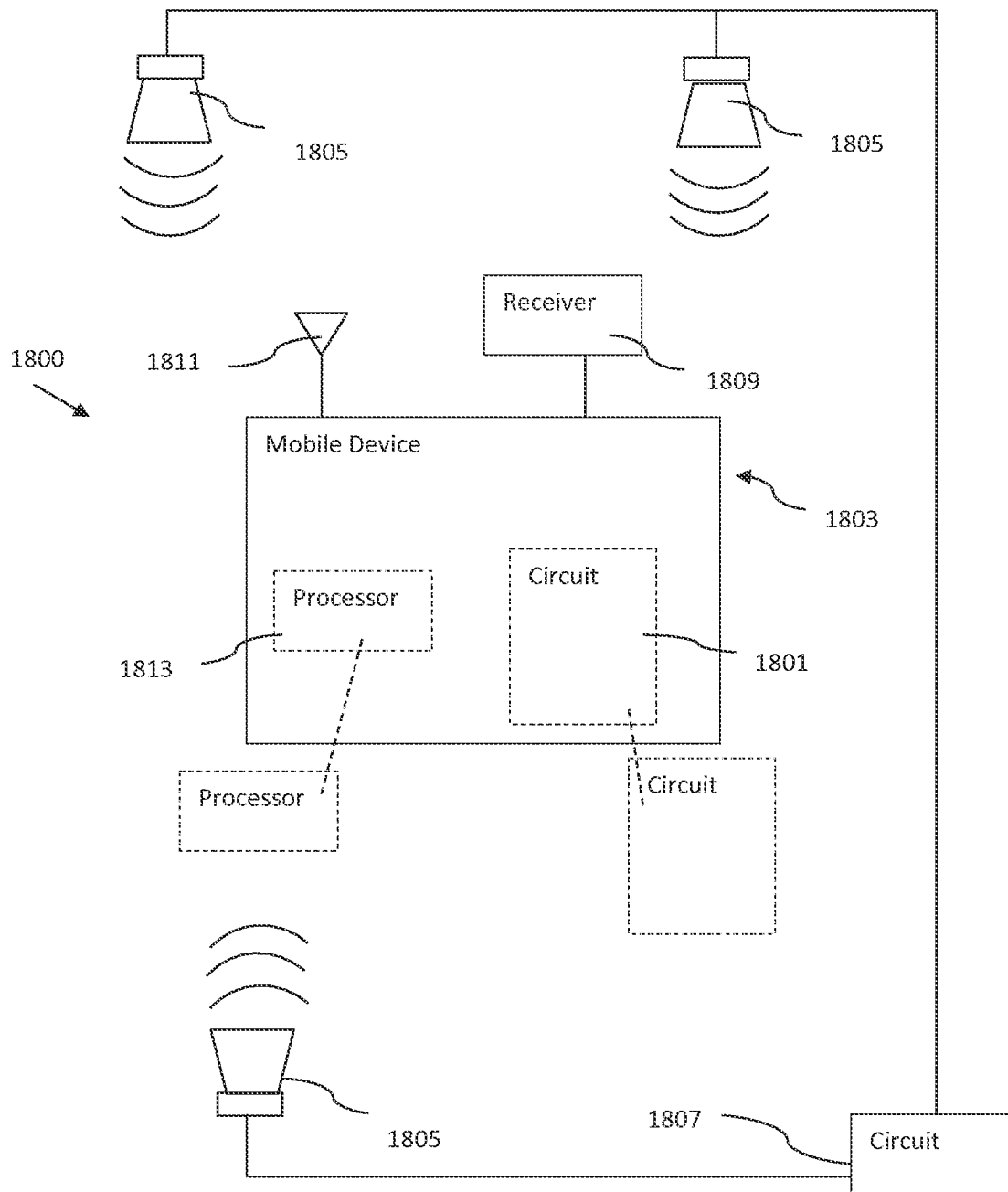


FIG. 18

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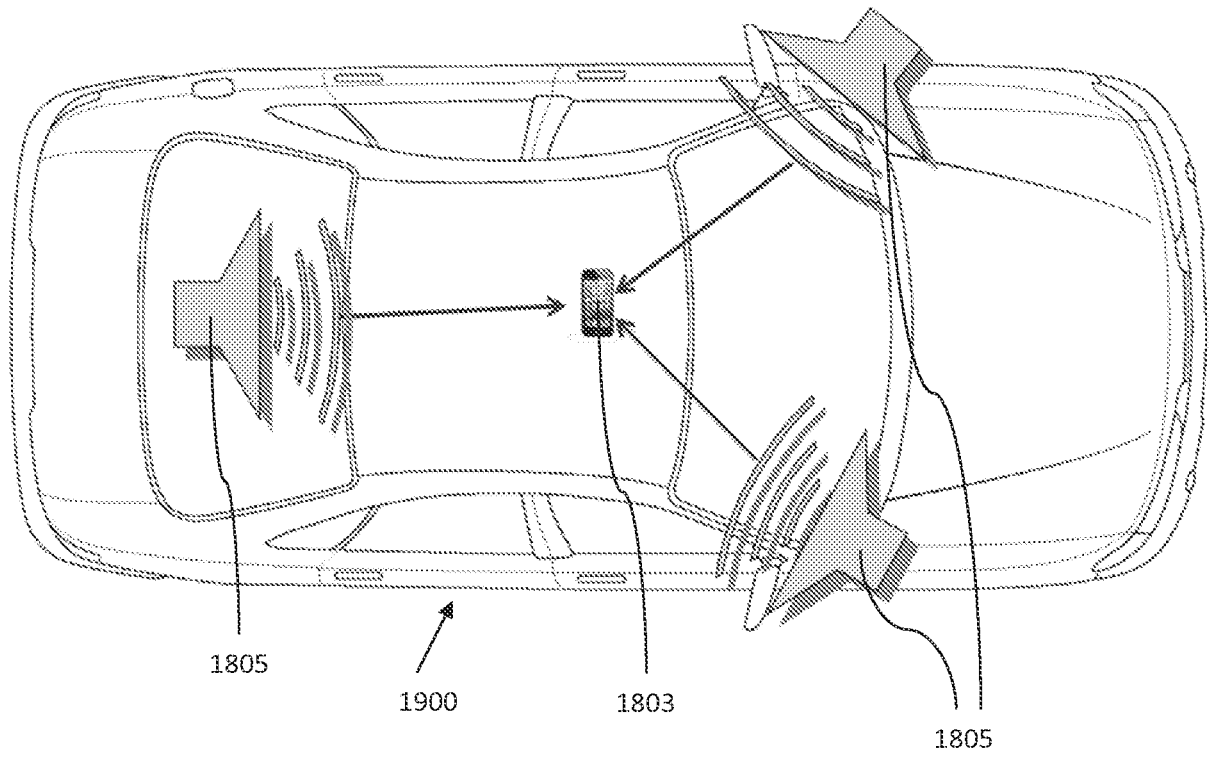


FIG. 19

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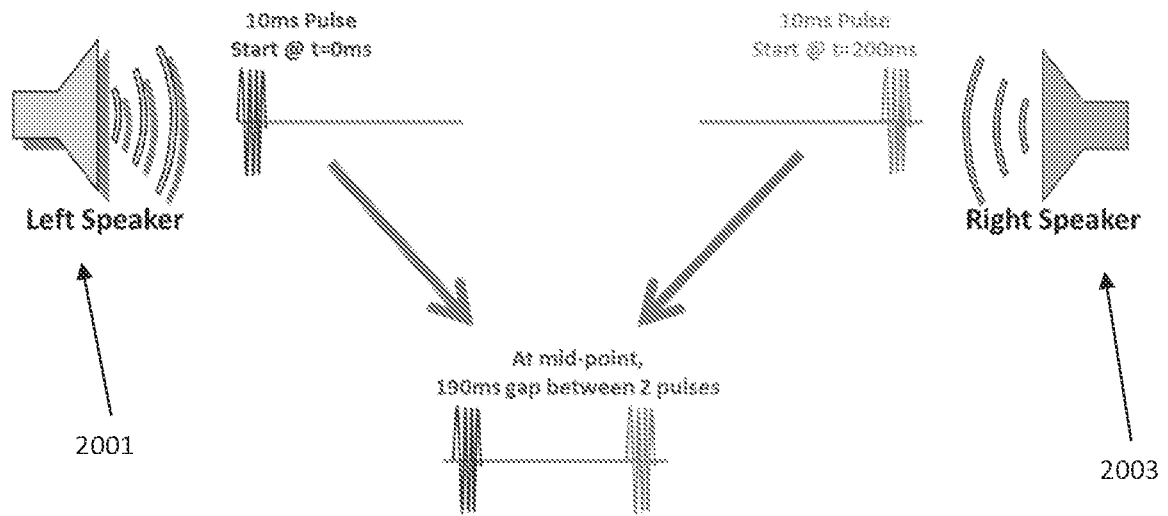


FIG. 20

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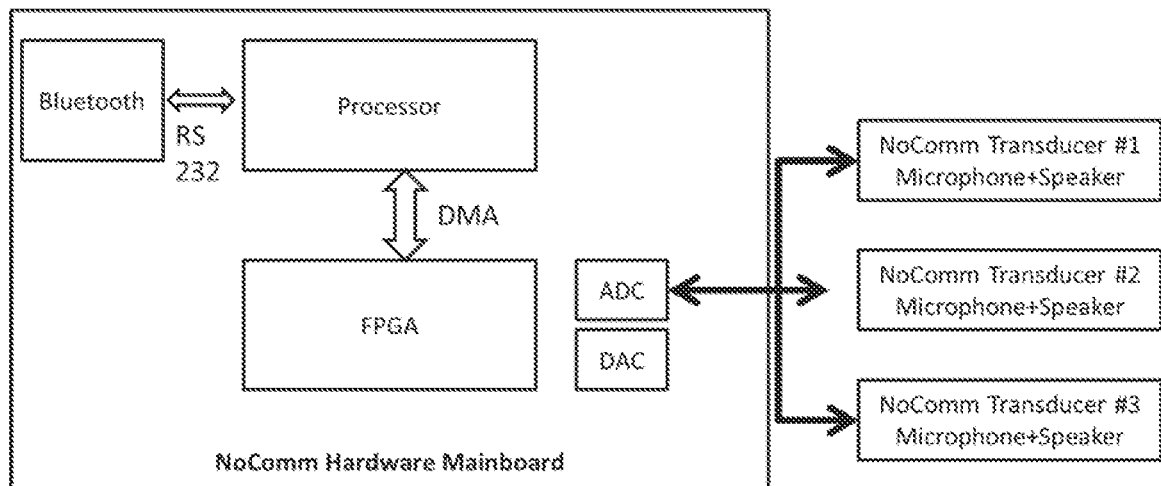


FIG. 21

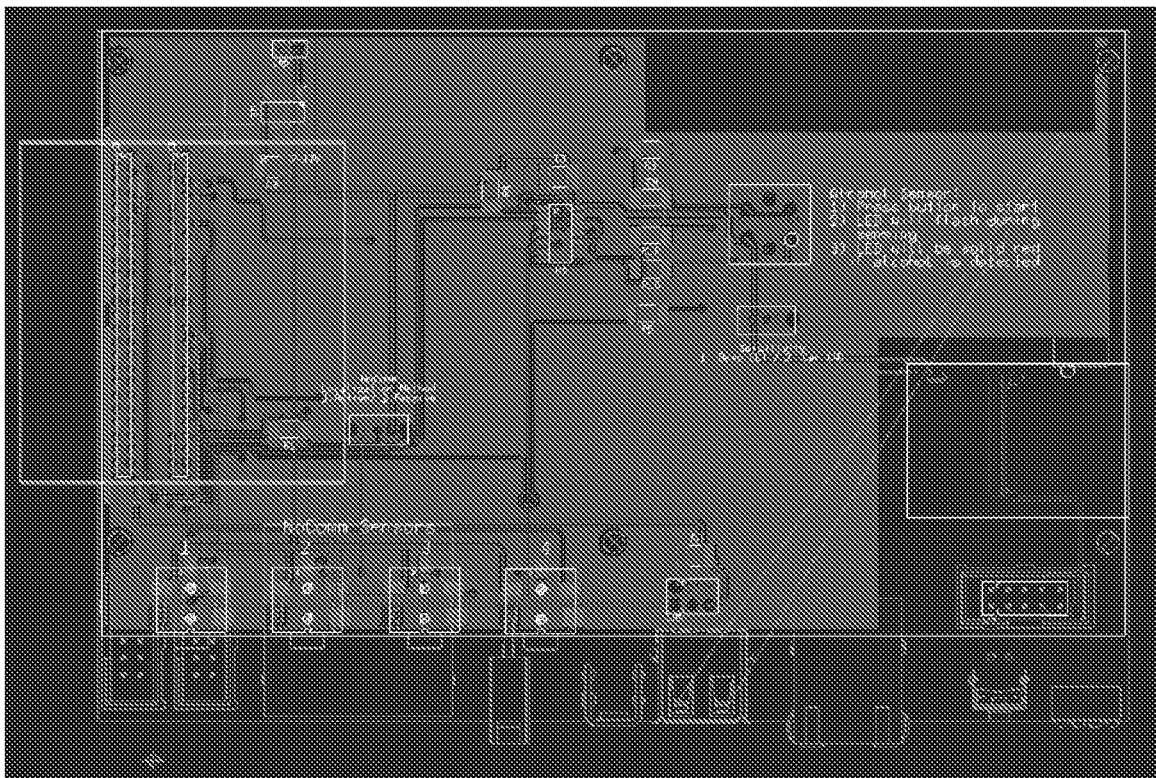


FIG. 22

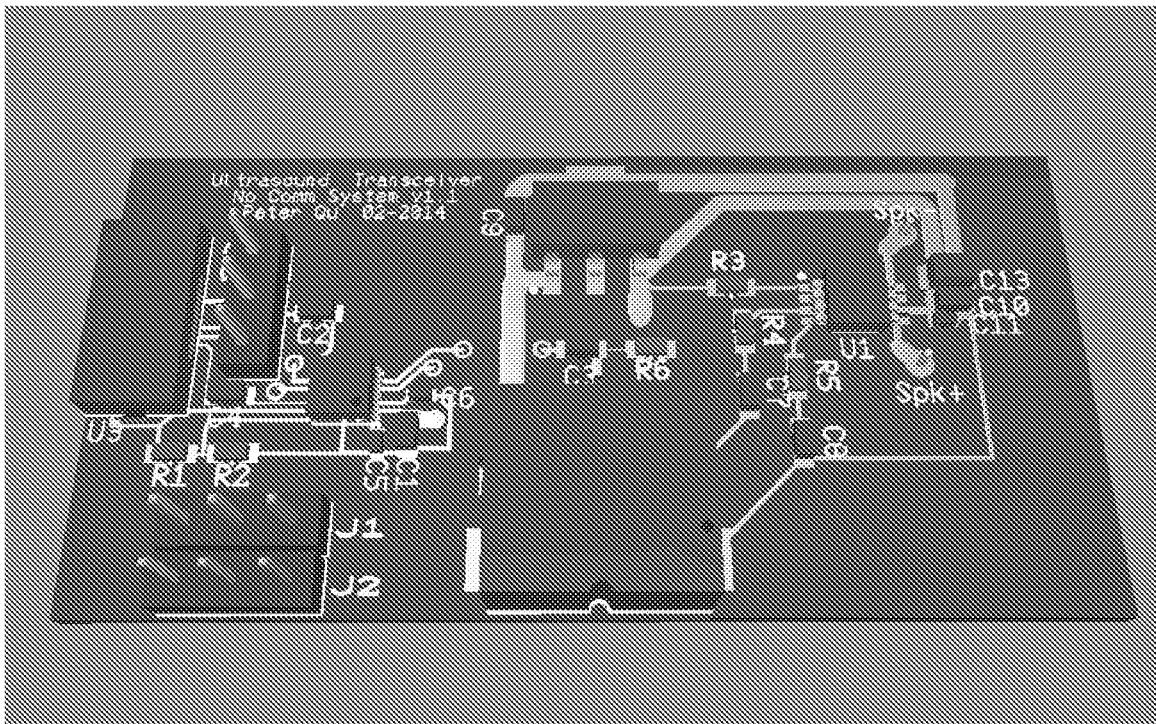


FIG. 23

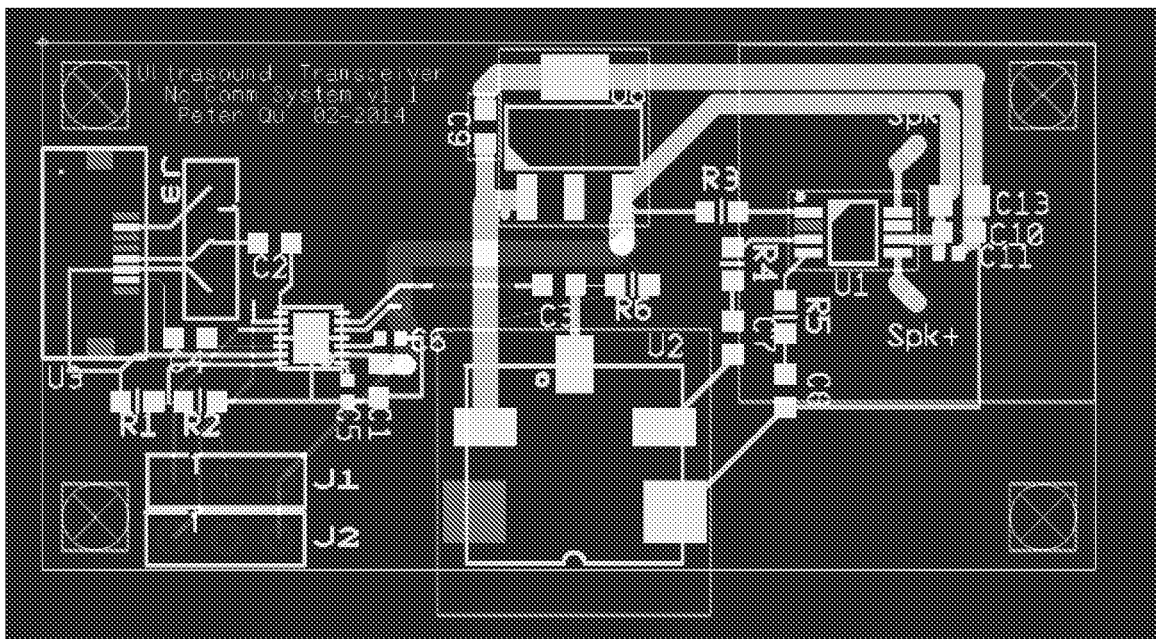


FIG. 24

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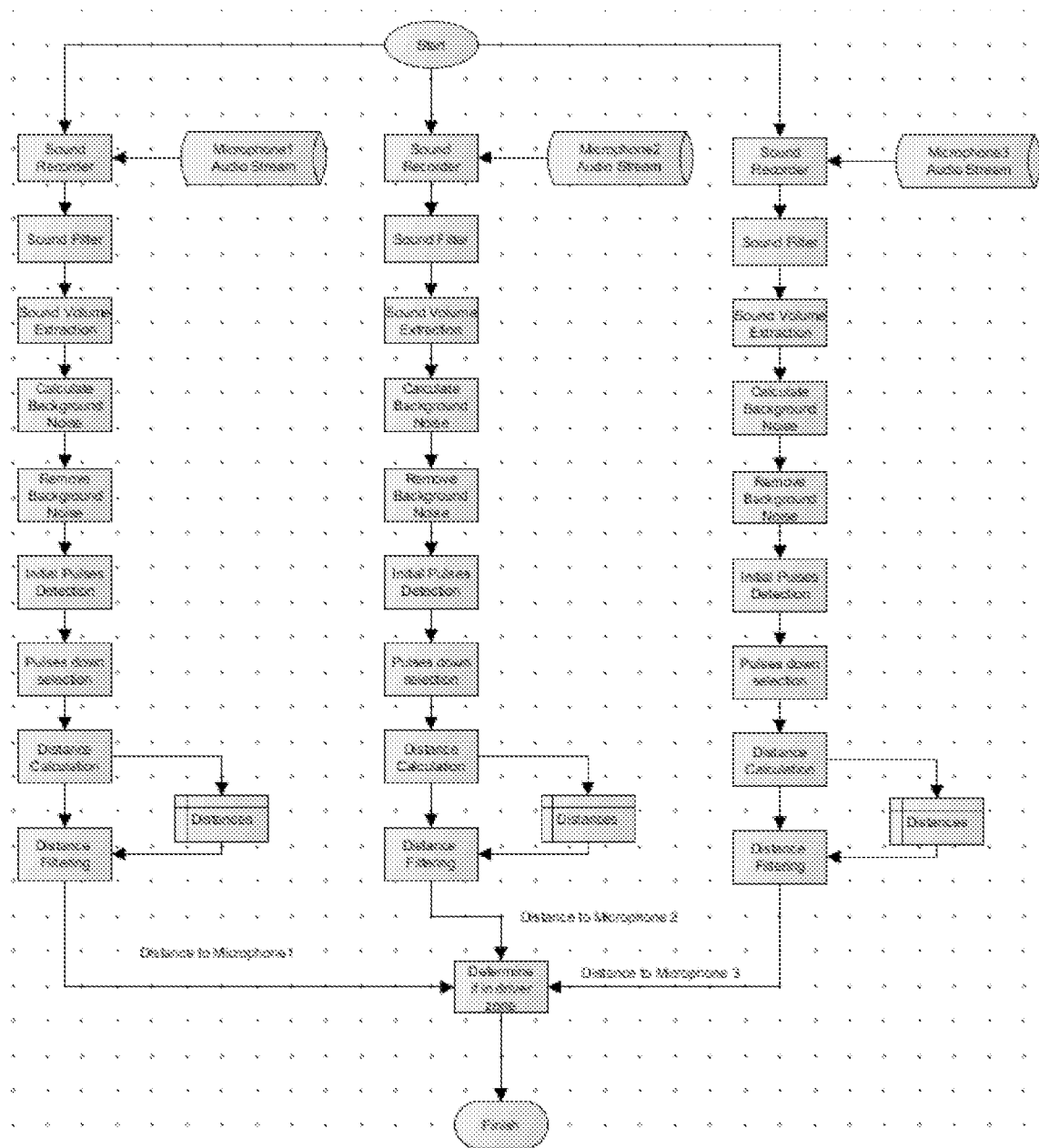


FIG. 25

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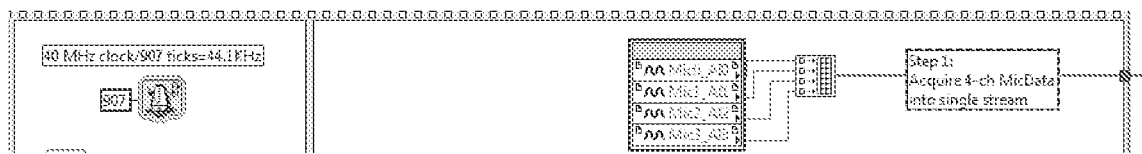


FIG. 26

FIG. 27

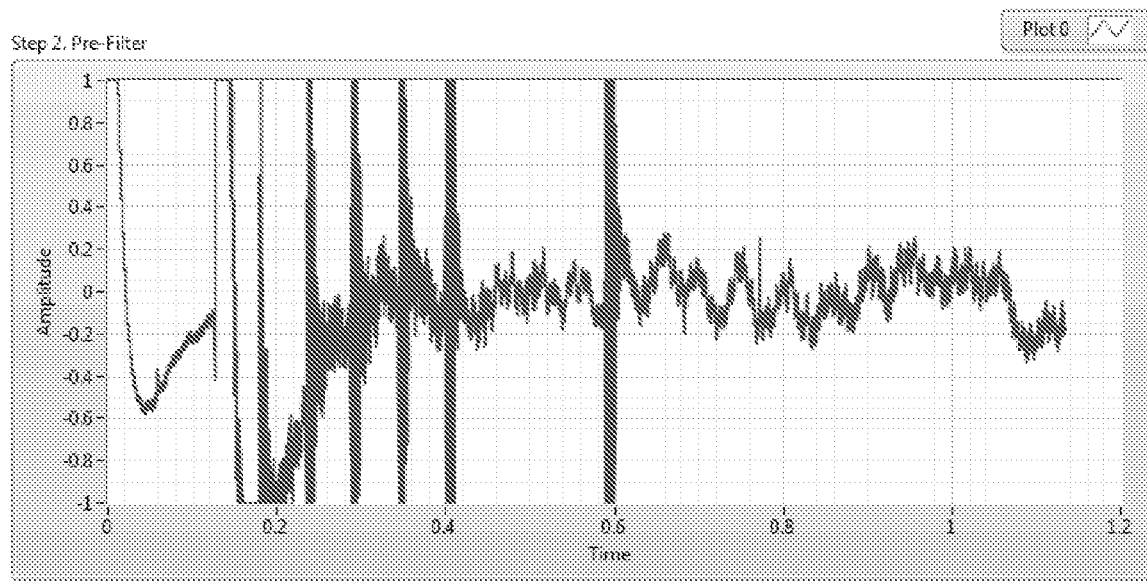


FIG. 28

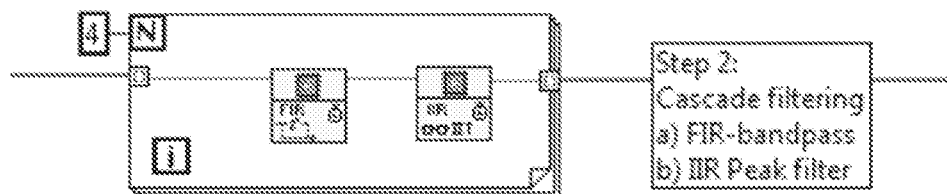


FIG. 29

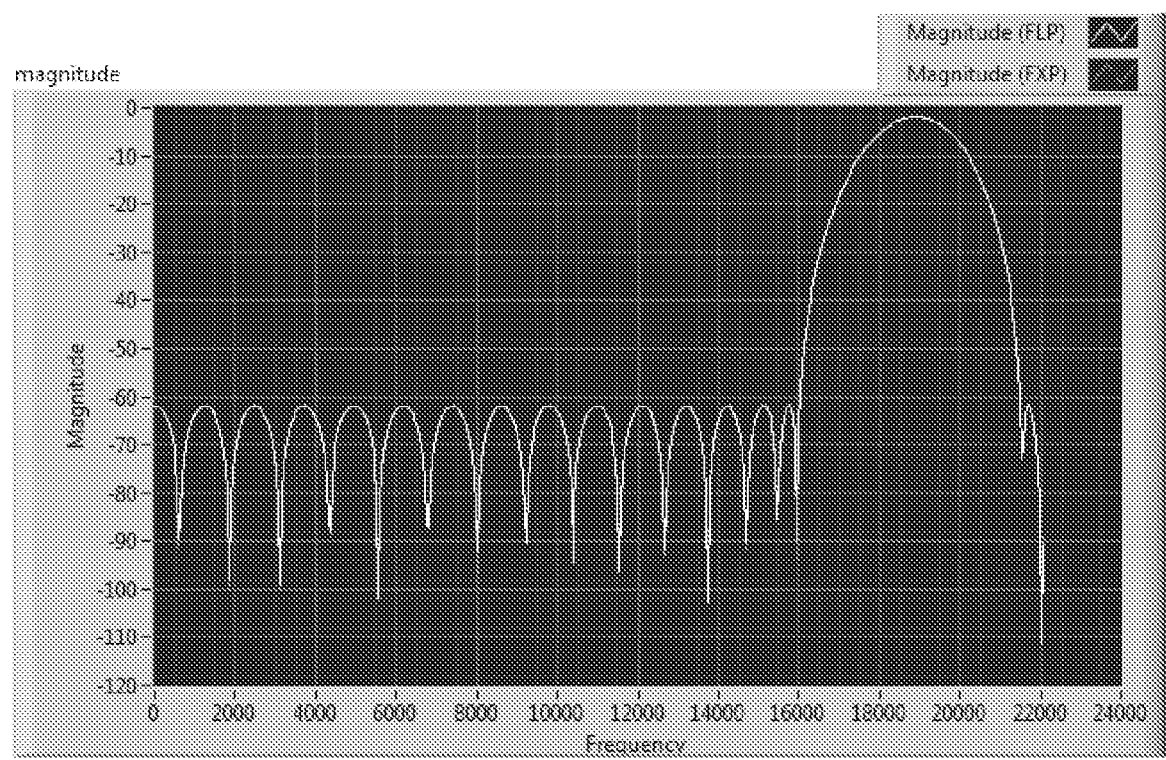


FIG. 30

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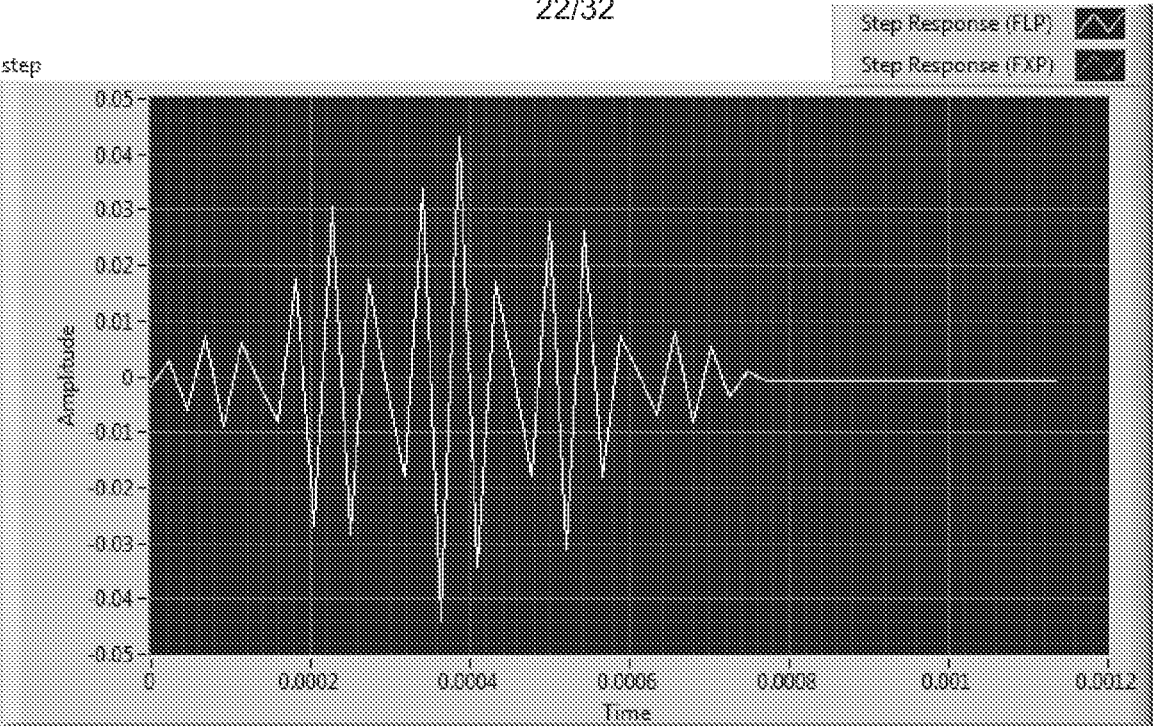


FIG. 31

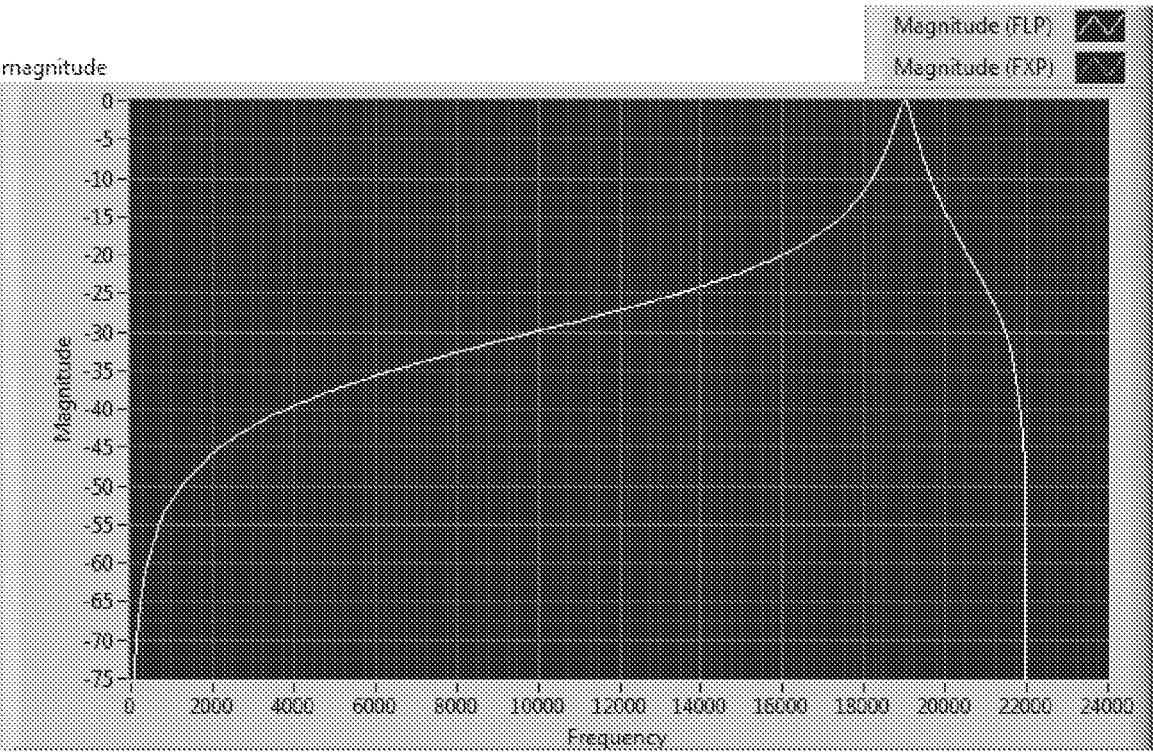


FIG. 32

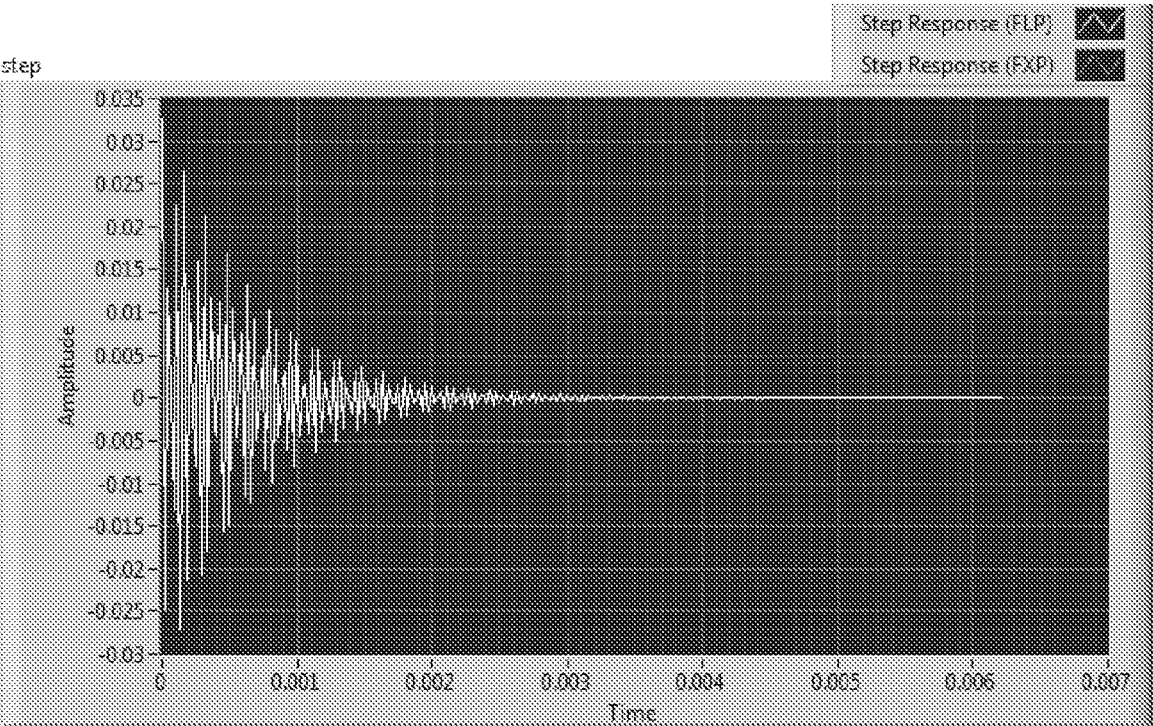


FIG. 33

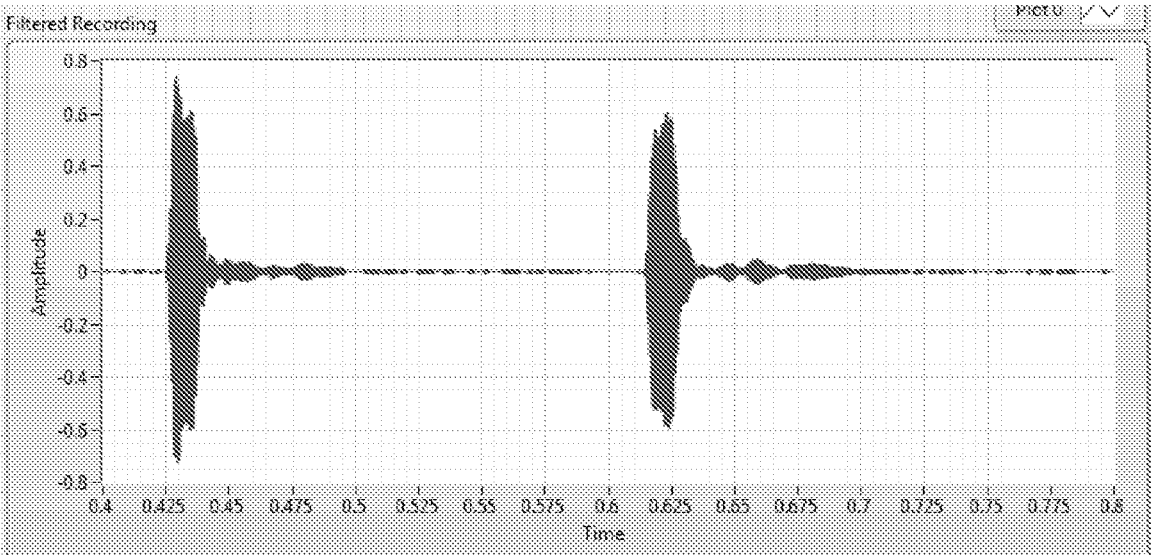


FIG. 34

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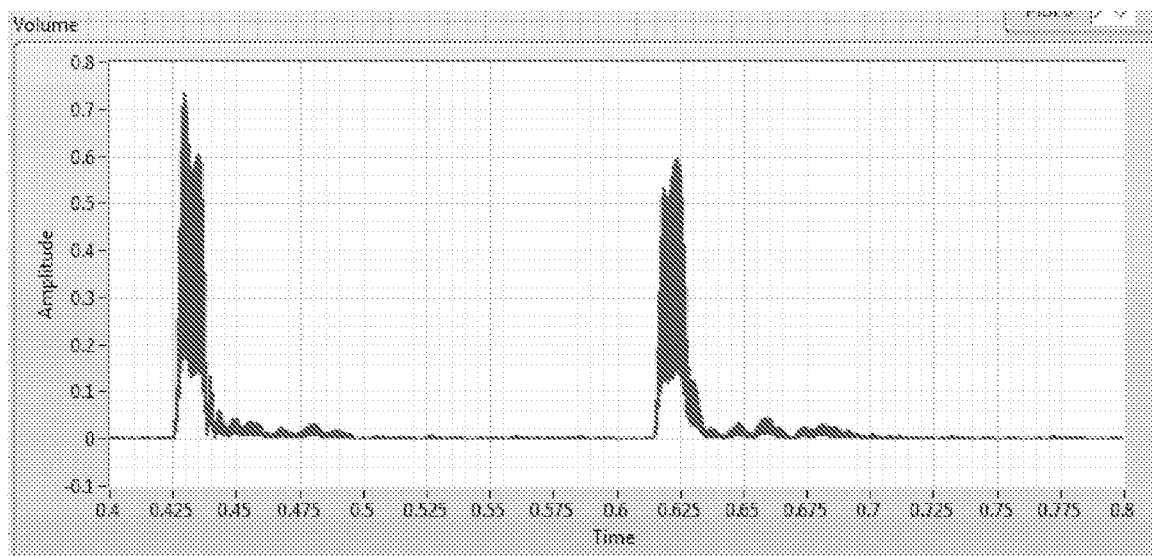


FIG. 35

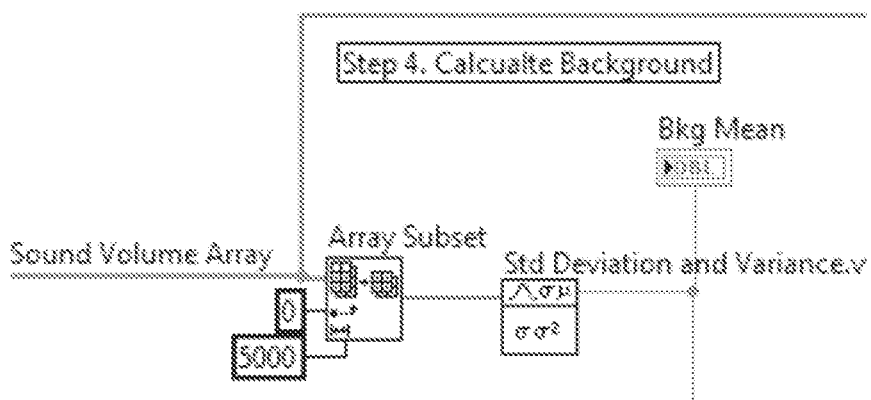


FIG. 36

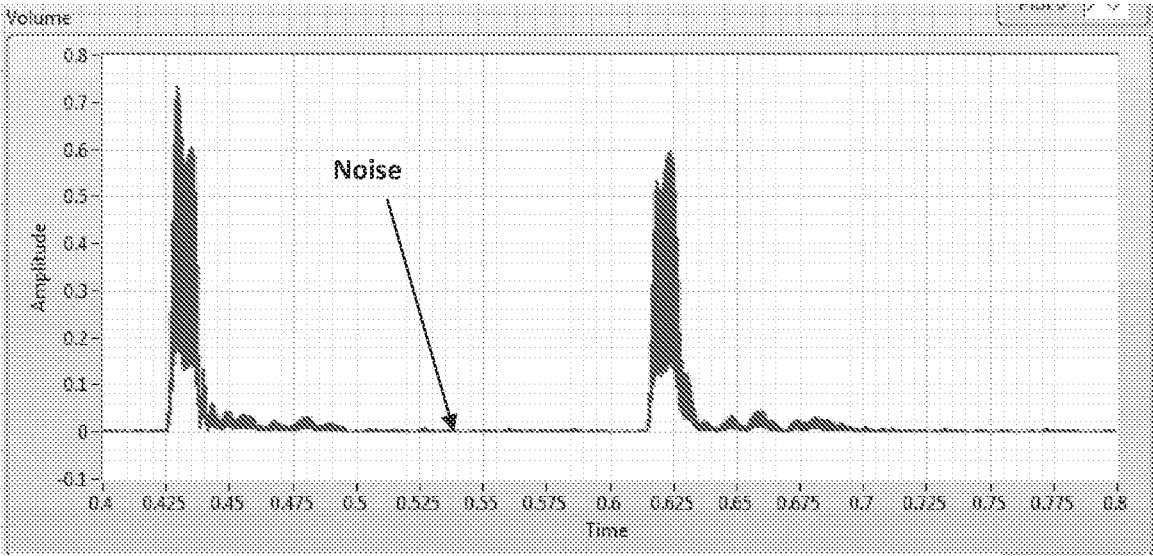


FIG. 37

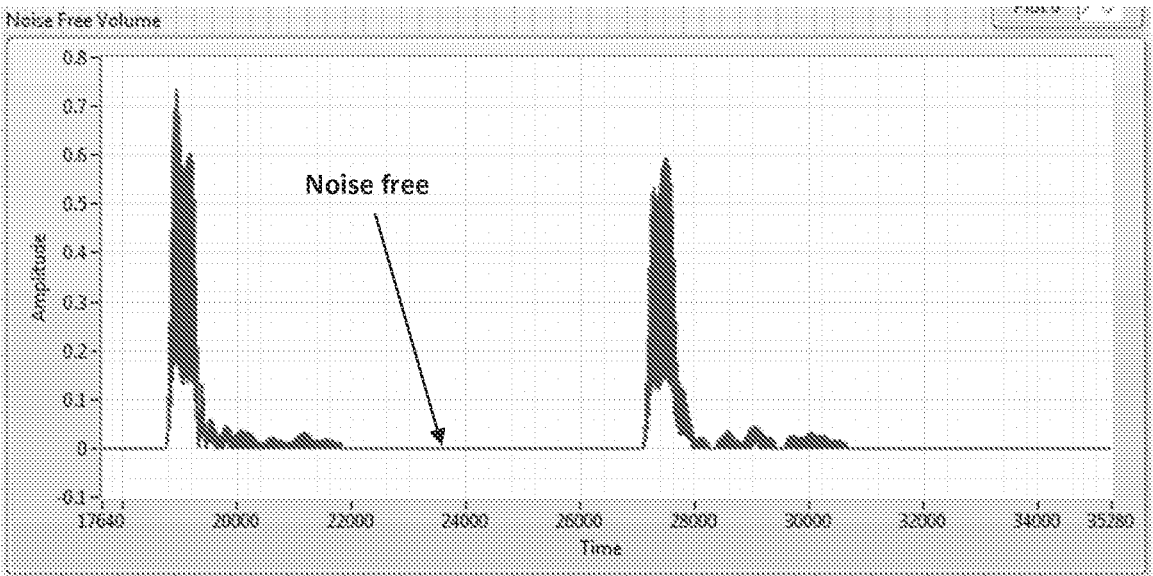


FIG. 38

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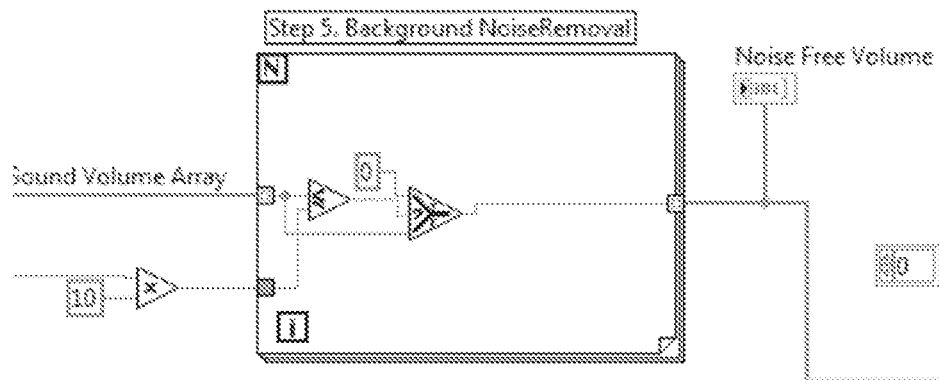


FIG. 39

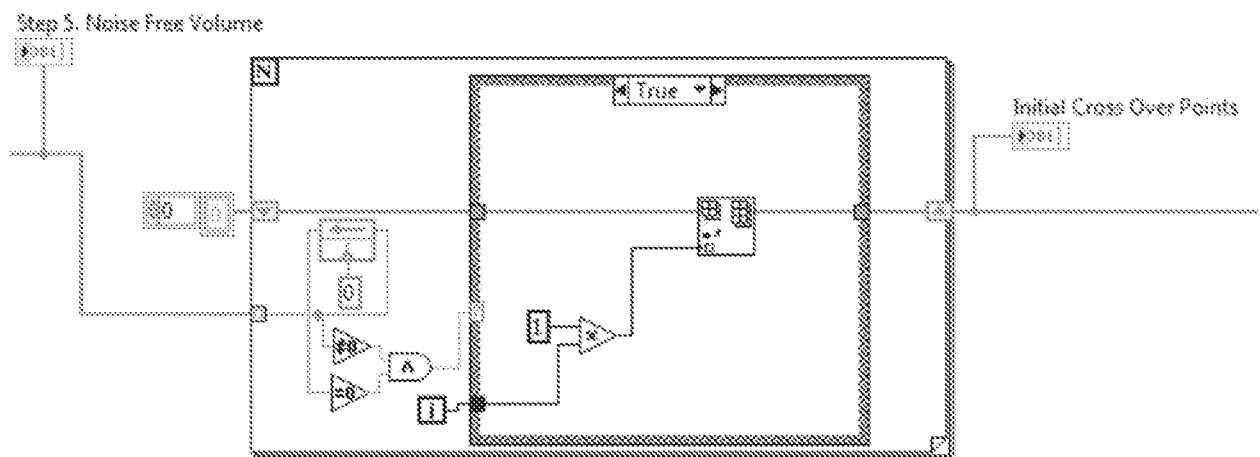


FIG. 40

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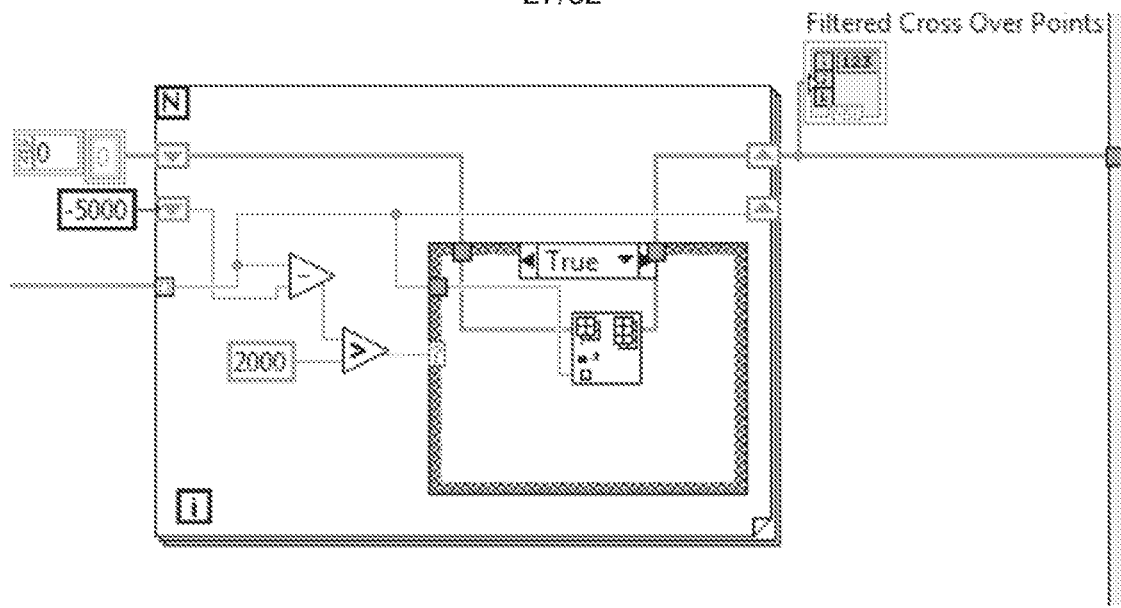


FIG. 41

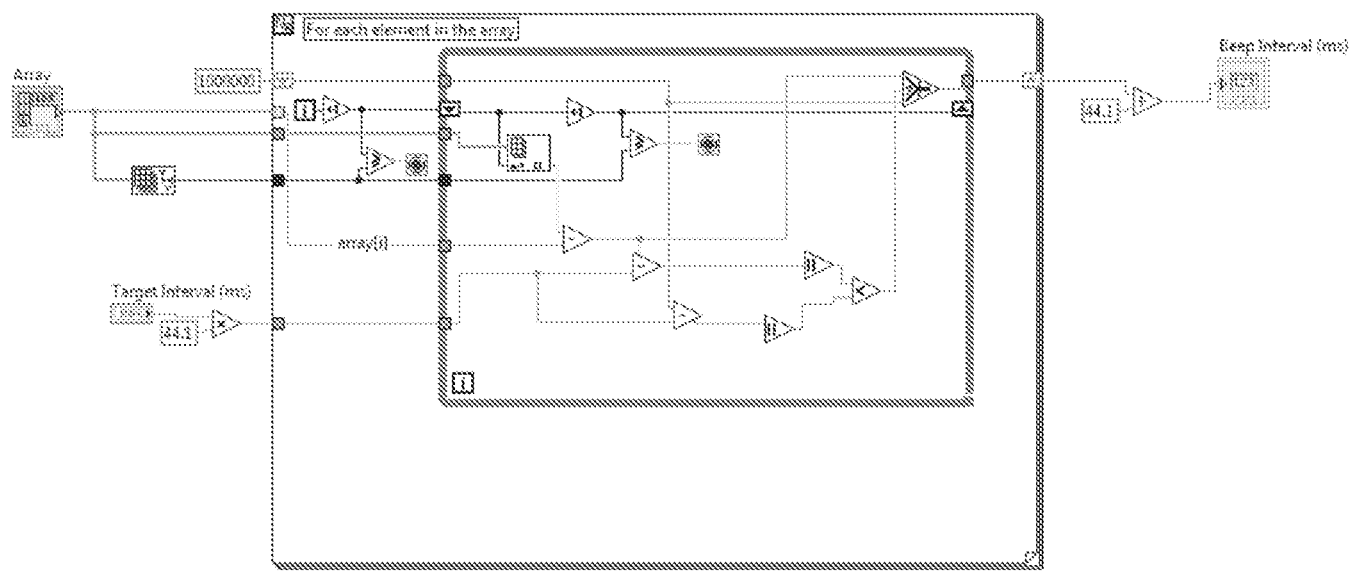


FIG. 42

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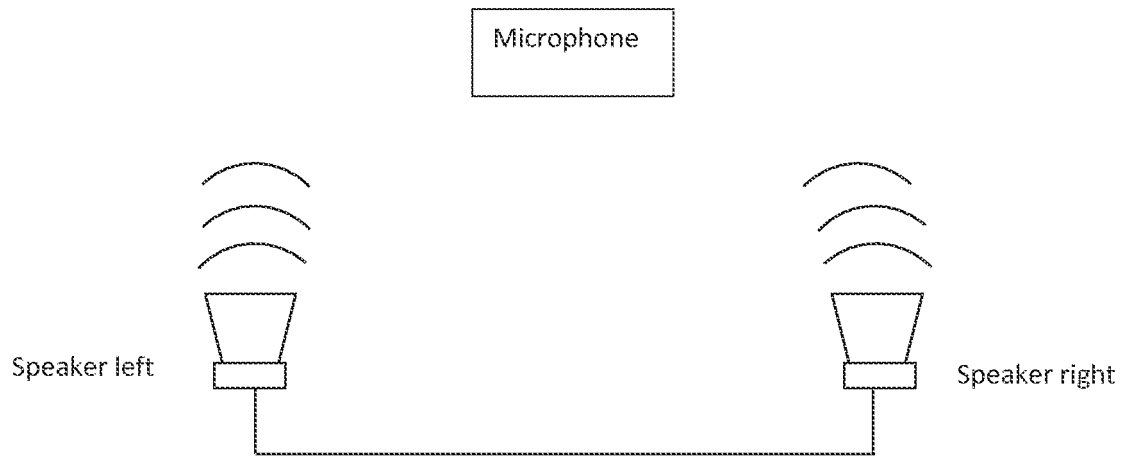


FIG. 43



FIG. 44

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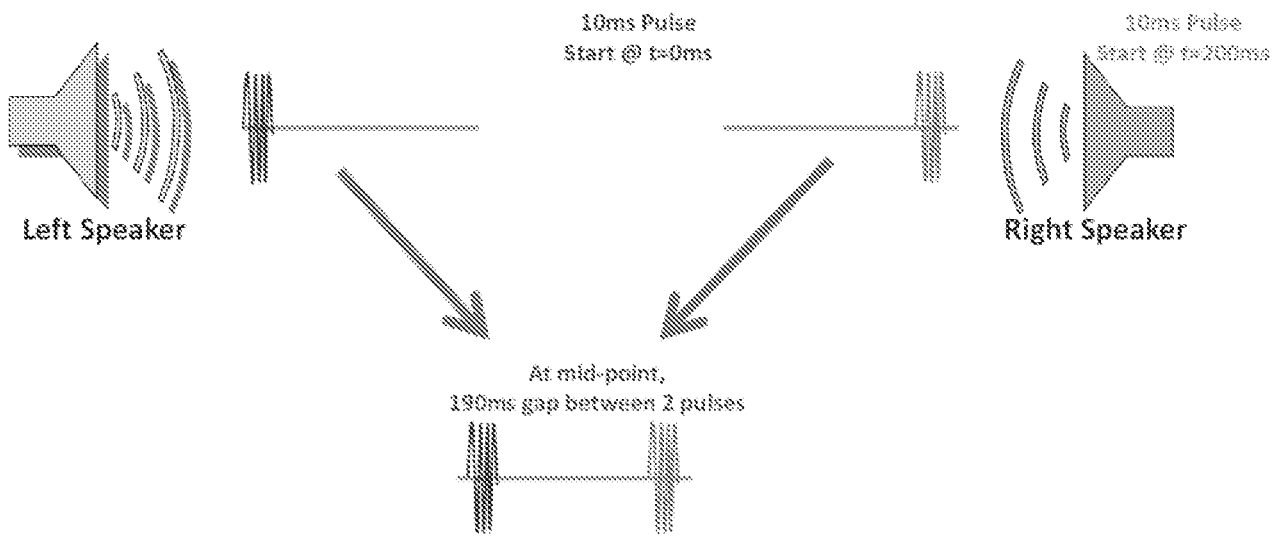


FIG. 45

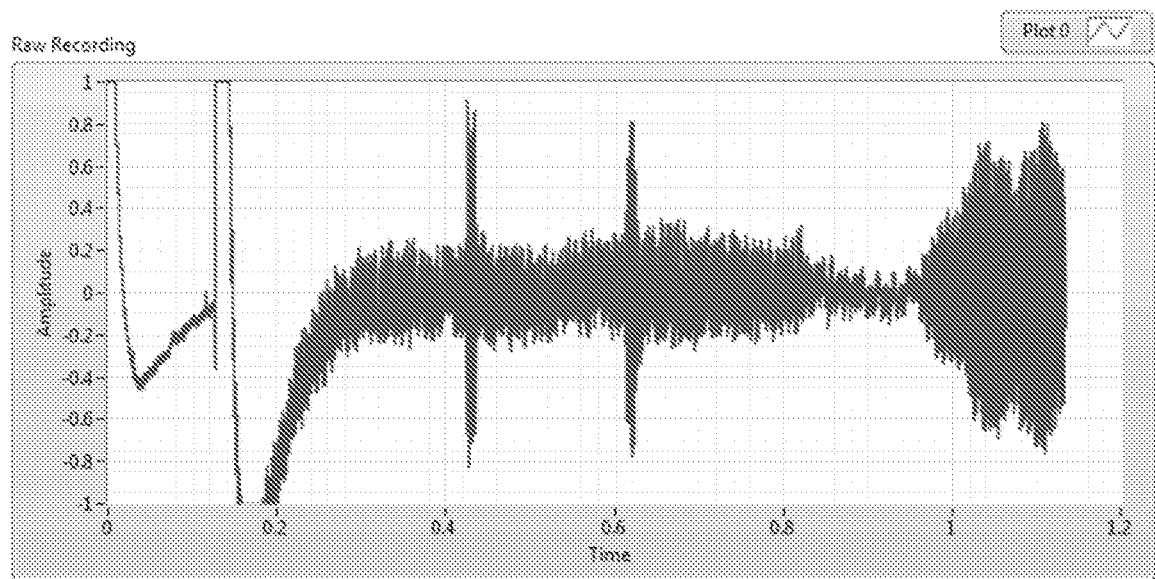


FIG. 46

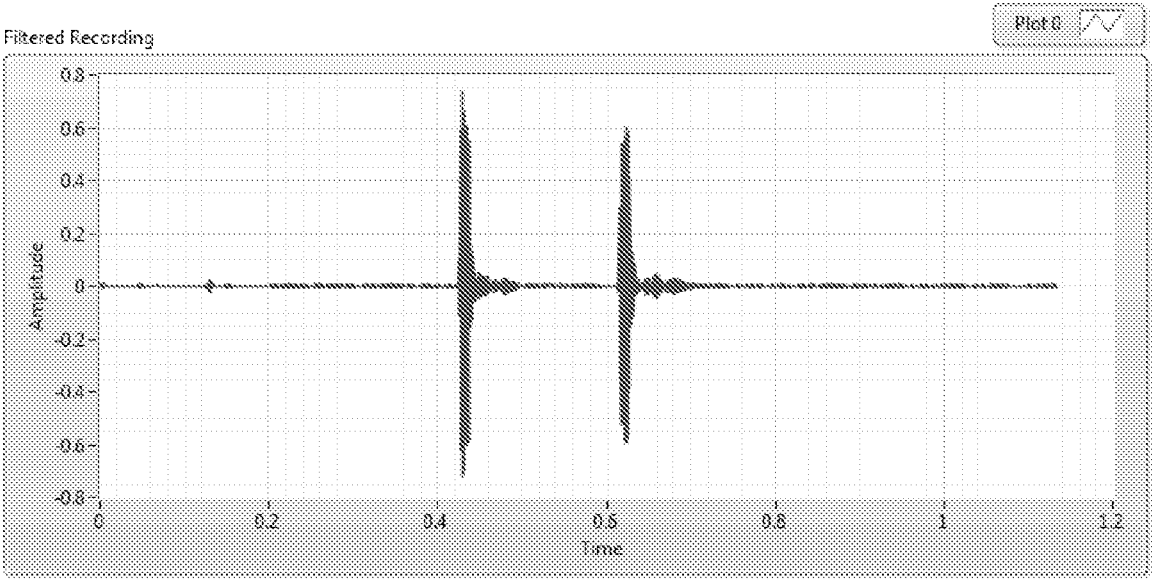


FIG. 47

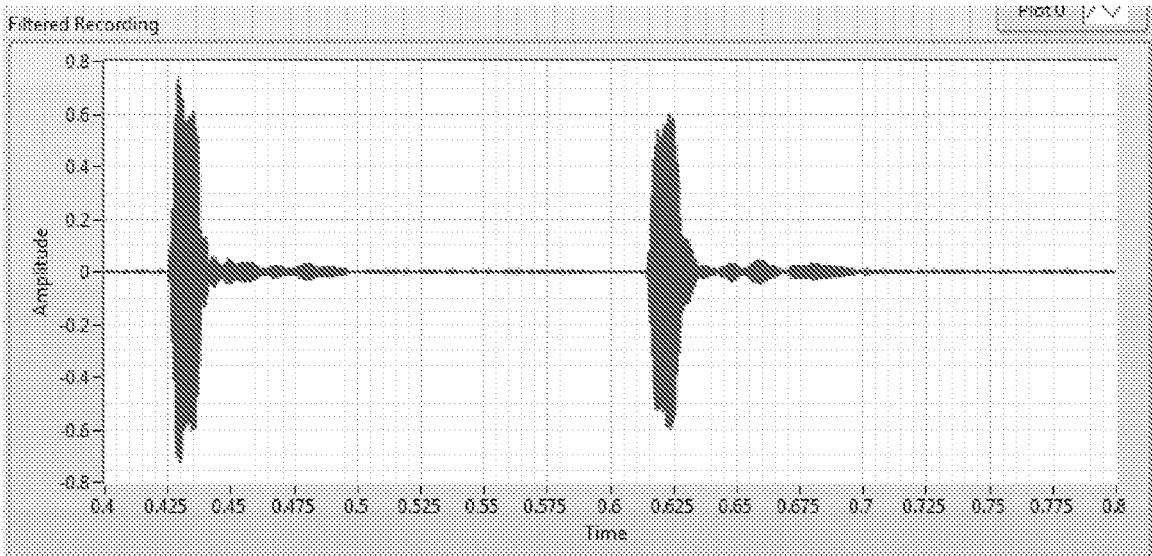


FIG. 48

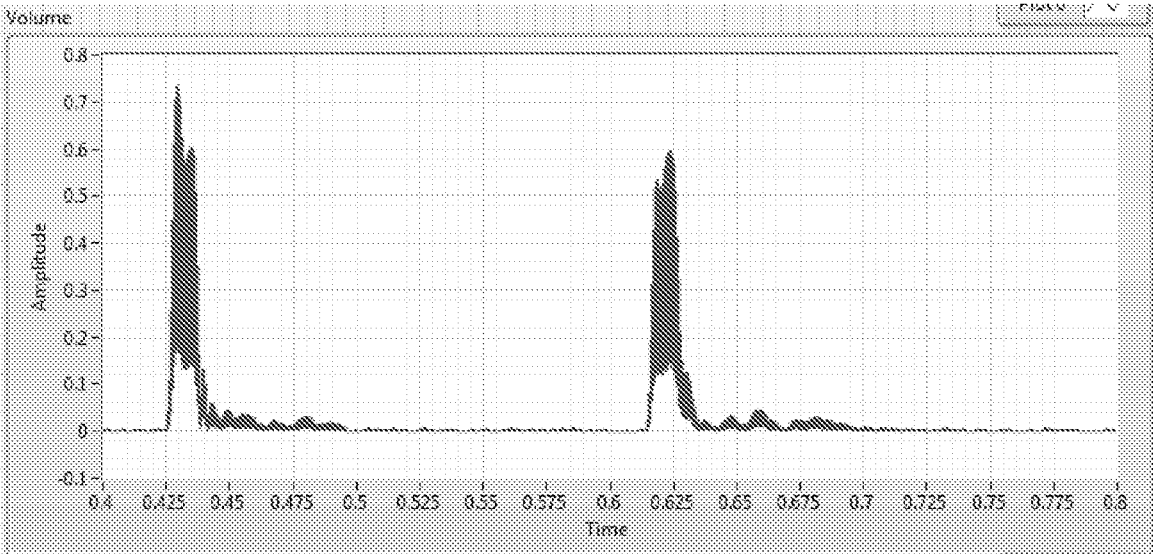


FIG. 49

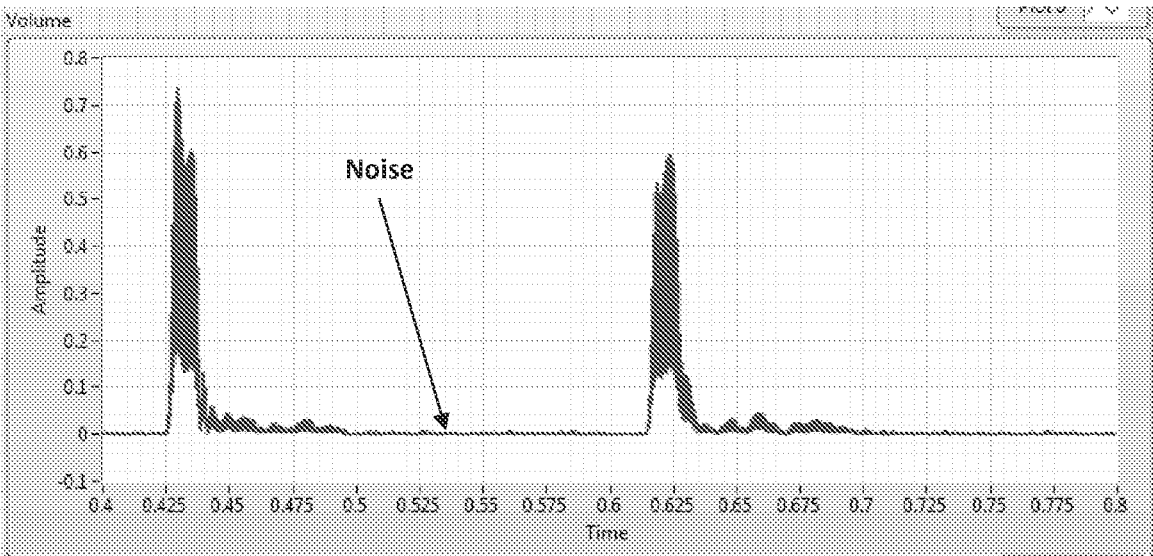
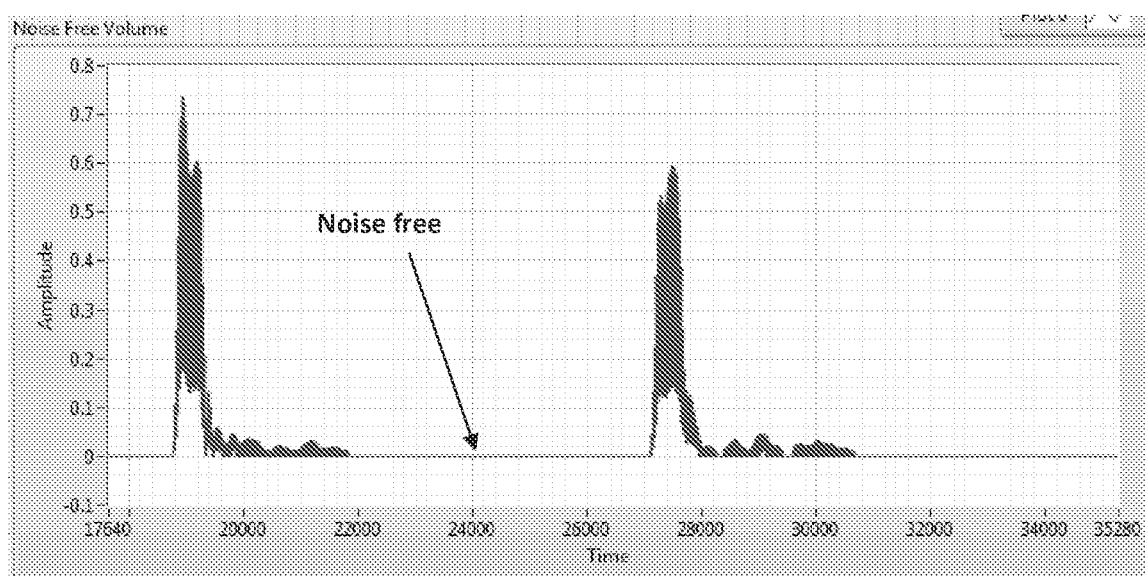


FIG. 50

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*FIG. 51*