

Dog Bark Cancellation

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Problem Definition

- One of the most aggravating sounds, a dog's bark.

Goals/Deadlines:

- 12/5/11 Design
- 03/1/11 Prototype (headphones)
- 06/1/11 Final Project
- Resources: Proto-Board, Basic Electrical Components and Speaker.

Prototype Specifications

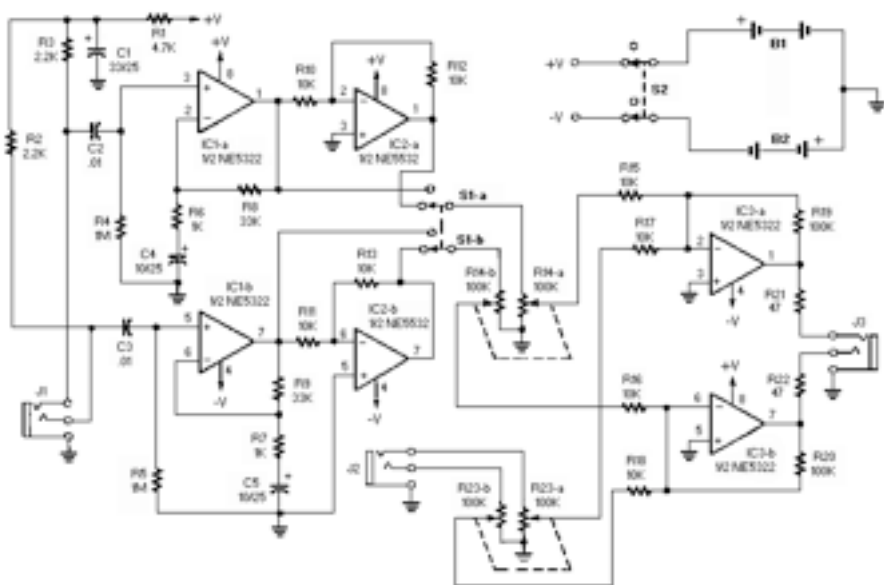
Inputs

Background noise to be cancelled (J1)

Auxiliary in - from Ipad or other device (J2)

Battery source - 2 9V batteries

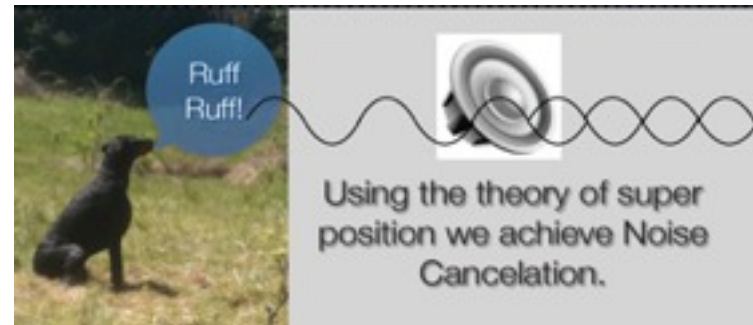
Processing



The signals from both microphones then go to IC1-a and IC1-b. an NE5532 set up as a standard non-inverting pre-amp. The gain is set to one plus the ratio of $R8/R6$ in the feedback path. The total gain for that stage is about 30 dB. Then IC2-a and IC2-b inverts the now amplified signal from the microphones then is coupled with the signal from auxiliary in (J2) and amplified again before the signal reaches your headphones.

Output signal

- The end result is a signal cancels out ambient noise and amplifies the music the signal from the desired audio source.



Competitive Analysis

- Current Methods to silence a dog bark involve harming the animal to teach it not to bark.
- These methods use a loud noise to trigger the device which can cause the device to injure the dog even if he is not barking.

Potential Applications

- Install the speaker facing away from your house to prevent your dogs from keeping up the neighbors up all night.
- Or face the speakers towards your house to cancel the noise from your neighbors dogs.



Engineering & Computer Science Departments