"LOW COST AND HIGH FIDELITY PERMANENT MAGNET ALTERNATIVE IN SPEAKERS AND MICROPHONES" VCU #10-107

Applications

- Speakers
- Microphones
- Electronic Devices

Advantages

- Increased range for input frequency signal
- Reduced size and weight
- Lower cost
- Higher quality sound generation
- No modification to input signal needed.

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Market Need

Existing speaker technology utilizes permanent magnets to generate the magnetic field required for the production of sound. Permanent magnets can be large, expensive and are designed to generate optimal sounds in a specific frequency range. With a fixed magnetic strength, only a specific range of input frequencies can be generated as high quality outputs. A mismatch between the input signal frequency/amplitude and permanent magnet strength leads to the generation of very low quality sounds. The size and weight of the magnet can also become a limiting factor in speaker construction.

Technology Summary

This is a novel device that can replace the permanent magnet currently used in speakers and microphones. This device allows for a greater control over the properties of the speaker and microphone. While this device can work passively, the magnetic field strength may be strategically varied based on the input frequency, thus allowing the device to instantaneously adjust to specific input resulting in higher quality sound production or capture. With increased mechanical control, a greater range of input frequencies can be accurately processed by this device. Additionally, this is a lightweight replacement to the traditional permanent magnet, thus allowing greater flexibilities in the construction of speakers and microphones of various sizes.

Technology Status

Patent pending: U.S. and foreign rights are available.

This technology is available for licensing to industry for further development and commercialization.