

Glossary

acoustic distortion - deformation of a sound wave, typically undesired.

Ampère's Law - one of the four fundamental laws of electromagnetism. It states that the magnitude of magnetic field passing through a surface enclosed by a conducting loop is directly proportional to the magnitude of the current passing through that loop.

amplifier - a device that increases the amplitude of an audio signal.

baffle - a device to deflect, check, or regulate the flow or passage of a fluid, light or sound. In this case, it refers to several different mountings of speaker drivers to modify the produced sound.

constructive resonance - a deliberate increase in intensity of a wave, caused by the internal resonance of a specific cavity.

diaphragm - a thin semi-rigid membrane attached to the coil, which vibrates at high frequency to produce sound.

driver - the collective name for the functional parts of a speaker: the coil, magnets and diaphragm.

enameled copper wire - copper wire coated in clear non-conductive ceramic. Used almost exclusively in industrial applications using coils of wire, such as fans and speakers.

frequency - the number of times a certain event occurs over unit time. In this case, the number of vibrations per second of a diaphragm, which creates sound. In acoustics, perceived frequency is also known as pitch.

frequency response - the measure of how perceived amplitude changes in relation to pitch assuming constant amplitude at the source.

gauss - a unit of the magnetic flux density (or field strength). In a permanent magnet, this is an absolute surface value measured independent of area. This means that while a large magnet might be more powerful than a small one, both magnets will have the same magnetic flux density if made of identical materials.

interference (audio) - the addition of two or more waves that result in a new wave pattern. The interference is constructive if the resultant wave has increased amplitude and destructive if it has decreased amplitude.

internal resonant frequencies - in this case, it refers to certain audible frequencies that have natural resonance in a specific cavity. That is, certain frequencies that are naturally intensified because of the shape and size of a cabinet or box.

port - a tube mounted in the driver enclosure of a bass-reflex baffle that enhances the reproduction of the lowest frequencies.

rare-earth magnets - a type of strong permanent magnet made from alloys of rare-earth metals. Usually made of neodymium or samarium-cobalt alloys.

solenoid - a hollow cylindrical coil of wire carrying an electric current. It produces a uniform magnetic field inside its core, which is directed along the cylinder's axis.