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What is Tactile Sound?

Tactile sound is defined as sound or vibration that can be felt with parts of the body. This sensory effect is facilitated by various nerve receptors located throughout our bodies which send electrical impulses to the brain. The human tactile sound bandwidth ranges from the subsonic, 20 Hz and below and sonic up to 800 Hz for most individuals and up to 2 or 3 kHz for hearing impaired individuals. Studies have shown that most individuals are very sensitive to tactile sound and can detect a shift of as little as 2 Hz. This sensitivity approaches the acuity of the human ear which can detect shifts of 1 Hz.

The human body is also very sensitive to small amplitudes of Tactile Sound such as feeling the refrigerator vibrating through our feet on the kitchen floor or the pulse of a heart beat through our finger tips.

Tactile sound can be soft such as a baby's breath against your cheek or as violent as a car wreck or nearby explosion.

Where is Tactile sound?

We experience Tactile Sound in many activities including: talking, playing a musical instrument, driving a car or motorcycle, riding a roller coaster, flying an airplane, riding in an elevator, earthquakes, running water in the bath tub, shooting a gun, a door slamming shut, or when we are in contact with another person who is talking.

What are the effects of Tactile sound?

Tactile Sound can be calming and gentle when playing a musical instrument or using a message vibrator or irritating and harmful if we are running a jack hammer or too close to an explosion.

How do we create Tactile sound?

A. Air transmission: For many years sound you can feel has been recreated with recorded media through the use of large speakers or sub woofers. The physical effect is created by moving and/or compressing the air in an enclosed room. Using sub woofers to create a physical sensation is limited in both scope and bandwidth in that Tactile Sound as described above, with the exception of an explosion, is transmitted through a solid medium. Sub woofers typically operate in only the subsonic range and therefore do not reproduce the higher tactile frequencies.

B. Direct coupling: Tactile sound transducers are used by major amusement parks and the military to transfer vibrational information directly into solids such as seating or floor structures. This method of transfer has many advantages over air transmission.

FEATURE/ BENEFIT

FEATURE

BENEFIT

1. Adds a new dimension to any sound system.

Turns action movies into a virtual amusement park ride experience. Creates a live concert effect when used with music.

2. Full range response:

20 Hz to 800 Hz Tactile

20 Hz to 20 kHz audible.

20 Hz to 20 kHz bone conduction.

Provides accurate physical sensation for all sound effects and music in the tactile bandwidth, plus full range audio output.

Tactile sound can overcome some types of hearing loss through bone transmission of sound.

3. Low sound pressure level. typically operate 10 dB below overall audio levels.

Creates Tactile sensation at low volume levels which improves surround sound imaging by eliminating problems associated with sub woofers such as room resonance, standing waves, loading of other drivers/speakers in the room (a major source of distortion), noise in adjacent rooms, hearing loss associated with exposure to loud noise and low spousal acceptance factor due to high volume levels.

4. Low profile, direct mounting to floor or furniture.

Eliminates large freestanding speaker enclosures. works well with in wall and book shelf speaker systems using Tactile transducers to provide low frequency information.

5. Weather resistant.

Weather resistant models can be used in outdoor or high humidity environments such as mounted to exterior decks or lawn furniture to provide audio and Tactile sound.

6. Water tight models.

Used in swimming pools for high fidelity underwater sound and in hot tubs for fully immersive Tactile sound.

