

Decibel

The unit used to measure the intensity of a sound

- Relationship between two values of **power**
- The two numbers are of greatly different magnitude
- Based on the Logarithmic scale
- Useful due to the way an ear perceives loudness



Key Decibel facts:

- Doubling the power = increase of 3 dB
- Halving the power = decrease of 3 dB
- Ten times (10 x) the power = increase of 10 dB
- A 6 dB increase is twice as loud
- A 6 dB decrease is half as loud

Frequency Range

The Human Voice:

- Voice range: Approximately 100Hz - 6kHz
- 80 percent of voice energy: Below 500Hz
- "Presence" range: Between 2kHz and 5kHz

Signal, Noise, Feedback

Signal to Noise

Signal is the desired sound source.
Noise is everything else.

Acoustical Feedback

Feedback occurs when SPL of amplified sound at the microphone is equal to or greater than that of the original source sound.