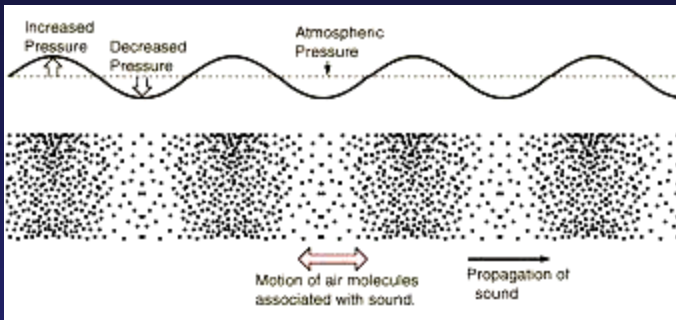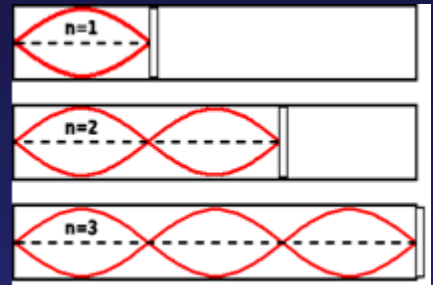# KUNDT (pronounced "Kunst") TUBE

Sound in air is propagated only by means of longitudinal waves; waves in which the particle's motion consists of oscillations back and forth in the direction of propagation. In this experiment we will create a resonance in a Perspex tube to determine the wavelength of the sound generated by a speaker.


Closed tubes in an organ

The frequency is set to 333 Hz or vibrations per second. The Kundt tube is also known as a resonance tube and vibrations can be clearly heard and felt when resonance occurs. This occurs when the transmitted and reflected waves are in phase and reinforce each other by constructive interference. Adjust the microphone position to find the position of the loud nodes

This equation is used to calculate the speed of sound: $V = \lambda f$

where V is speed of sound in air in metres/sec, λ is wavelength in metres and f is frequency in Hz. At 333Hz the loud points should be at 0ne and 2 metres from the speaker
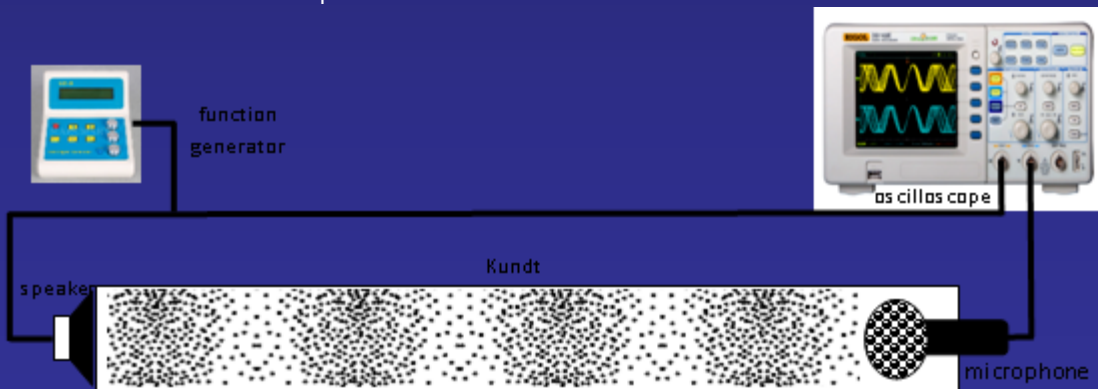
In a thunderstorm the light from a lightning flash travels at 300,000,000 metres per second and the sound from the thunder at 333 metres per second.

If there are 12 seconds from seeing the flash to hearing the sound, how far away is the storm?

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