Make to Learn

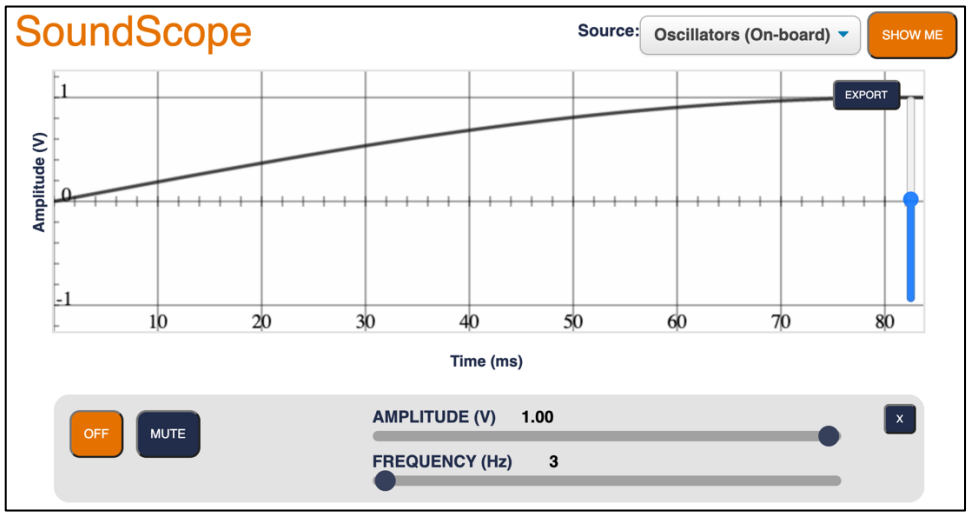
Station 1. Linear Motor and Electronic Oscillator

Step 1. Control the motor with an oscillator:

a. Set Amplitude to approximately 1.0 by sliding the bar.

b. Set the frequency to 2-3 times per second (Hz) by sliding the Frequency bar.

c. Turn on the electronic oscillator (tone generator).



Observe the effect on the movement of the linear motor.

Step 2. Increase the frequency and amplitude:

Observe the effect of the following changes on the movement of the linear motor:

d. Gradually increase the frequency to 6 Hz and then to 10-12 Hz.

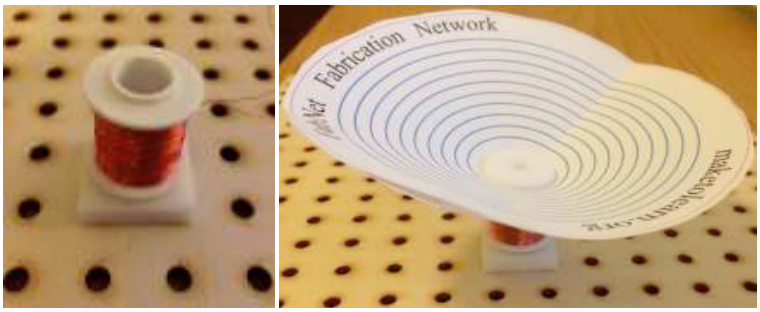
e. Increase the frequency to ~ 400 Hz.

f. Try setting the frequency to a range of other values, noting the effect on the movement of the motor.

Make to Learn

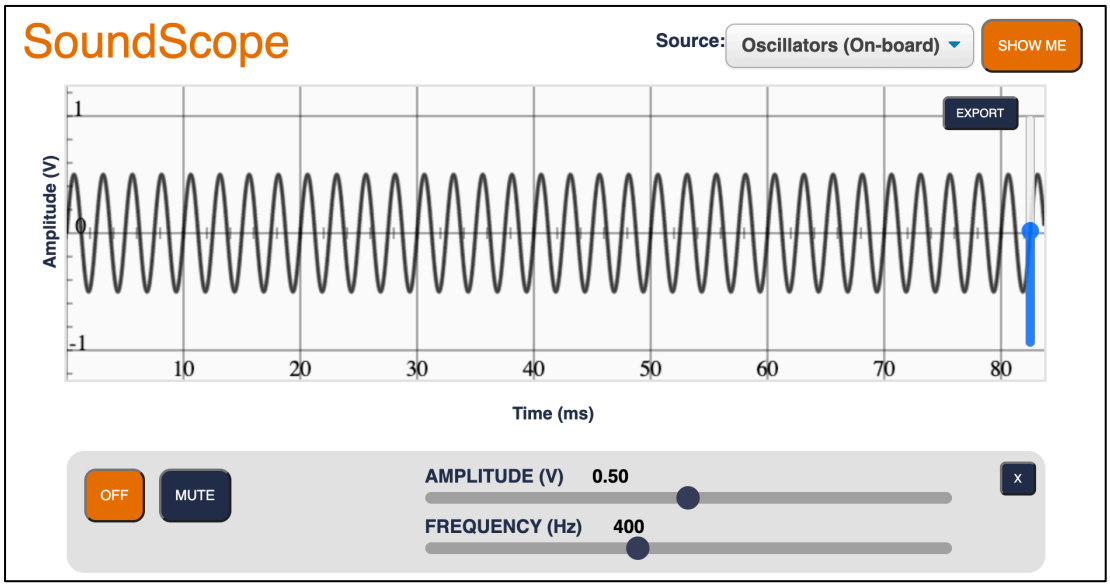
Station 2. Loud Speaker

a. A cone is placed over the solenoid (coil of wire) that is mounted to the base of a pegboard, to create a speaker.



b. Place your finger in the middle of the cone and hold it down.

c. Play a 400 Hz tone by turning the oscillator on.



a. Play the music track on the laptop connected to the speaker and observe changes in the quality of the sound.