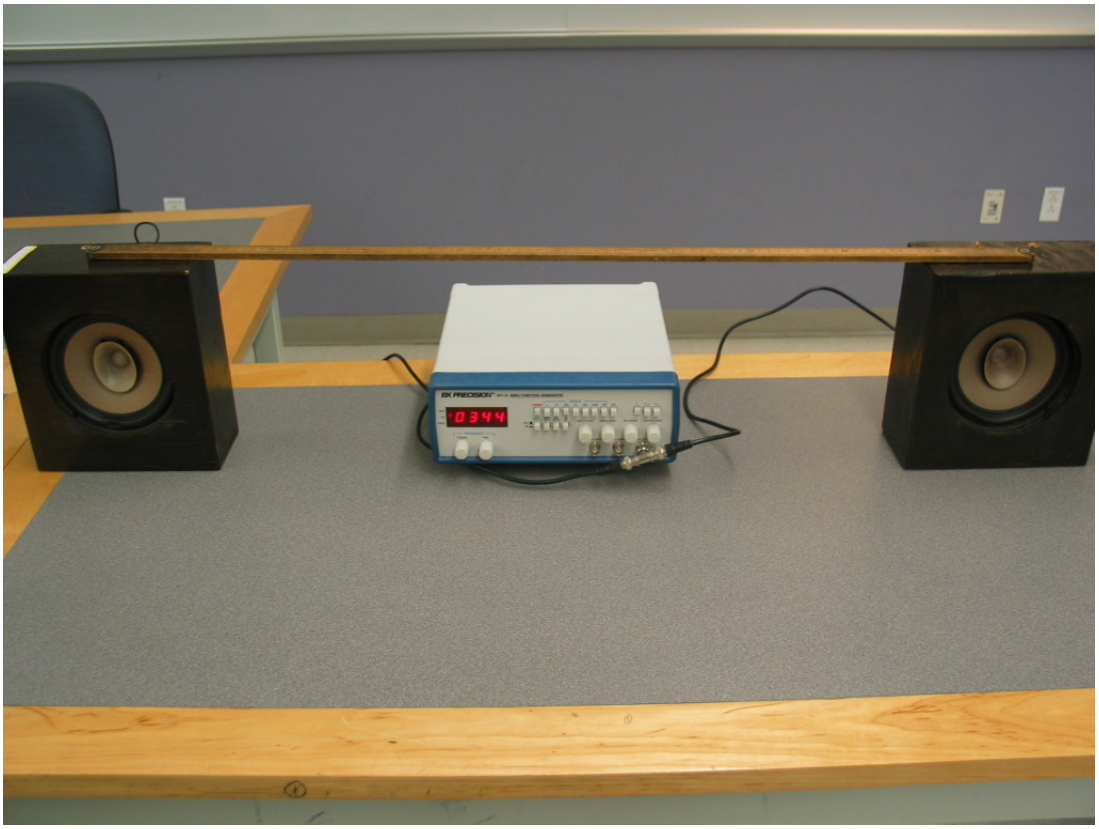
Sound Wave Interference



Purpose: To demonstrate audible sound wave interference patterns.
Location: room 146, shelf O4 (speakers); function generator, G5; BNC splitter and BNC-to-alligator clip cables, G4.
The setup shown in the photo has the speakers separated by 1 m and the function generator set at 344 Hz, which corresponds to approximately a 1 m wavelength of sound in air. Connect the BNC splitter to the Output terminal on the function generator, then, connect BNC-to-alligator cables from the splitter to the speakers. Set the function generator to the sine wave setting and the range to 500 Hz. Turn the function generator on and use the coarse and fine knobs to set the frequency. Turn the output level up so the speakers are fairly loud. Students can hear loud regions (constructive interference) and quieter regions by moving around the speakers at different distances & angles.