



The vertical/overhead displacement of the single sound source relative to the actual human speaker is unobtrusive and non-distracting to the listeners in the room because of the inability of our binaural human hearing to accurately localize sounds in a vertical plane. As shown in the above figure, the single sound source should be aimed towards the ***rear*** of the auditorium, since listeners near the front will be most able to easily hear the ***direct*** sound from the human speaker, whereas the listeners located at the rear of the auditorium will be the ones to benefit the most from hearing the sound originating from the overhead sound source, in comparison to the direct sound coming from the human speaker, at locations at, or near the rear of the auditorium.

The overhang structure at the rear of the auditorium is designed such that it suppresses reflections from the back wall of the direct and reinforced sound(s), *i.e.* sounds originating from either from the human speaker and the single overhead sound source.

For auditoriums or large rooms that are long and narrow and have a low ceiling, a sound reinforcement scheme which works well for such situations is to use a linearly-distributed array consisting of a few → several smaller sound sources that are again deployed along the centerline of the room along its length as shown in the figure below: