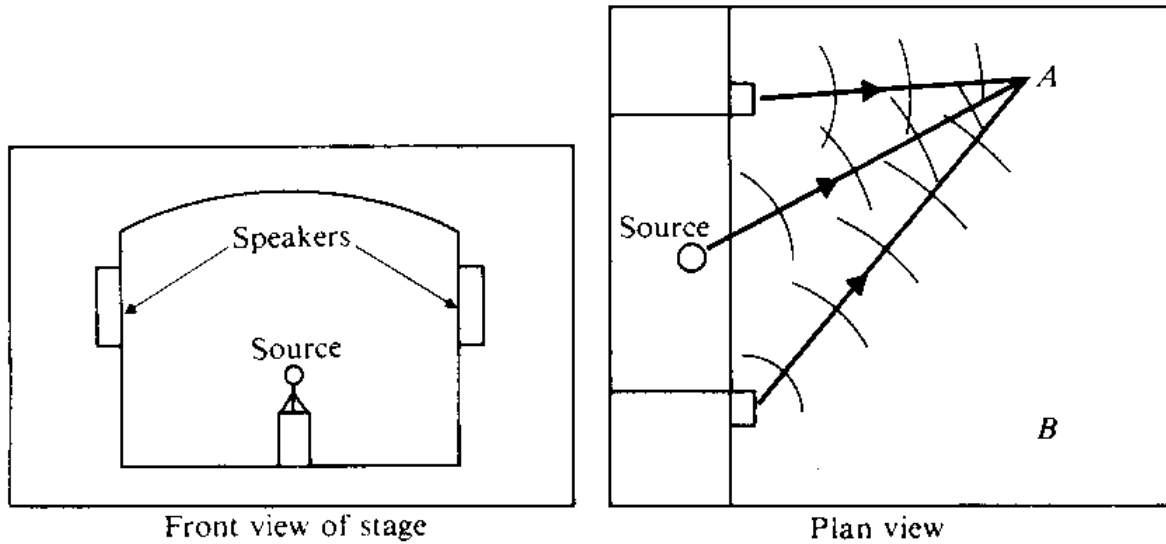


Unsatisfactory Placement of Sound Reinforcement Loudspeakers:



Loudspeaker Directivity:

There exist three main types of loudspeaker arrays that are commonly used in sound reinforcement systems:

- a) Cone Radiators
- b) Line or Column Radiators
- c) Horn Radiators

(a) Cone radiators are ordinary cone-type loudspeakers, which have a directivity factor $Q = Q(f)$, *i.e.* Q depends on frequency. Typically the directivity $Q(f)$ associated with a cone-type loudspeaker increases with frequency – at low frequencies $Q(f \sim 100\text{-}200 \text{ Hz}) \sim 2$, whereas at high frequencies, $Q(f \sim 5\text{-}10 \text{ KHz}) \sim \text{few} - 20$, as shown in the figure below.

