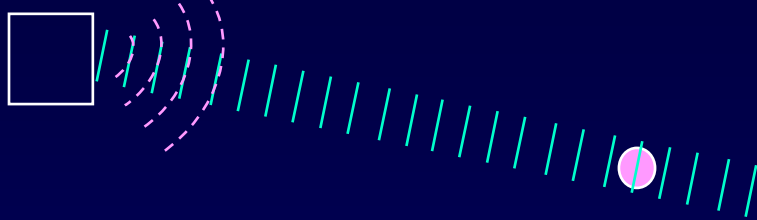


# Example: Changing phase of the Source

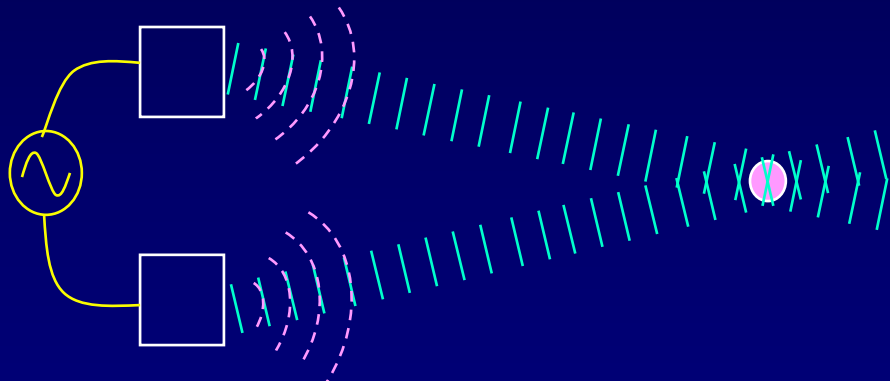
Each speaker alone produces an intensity of  $I_1 = 1 \text{ W/m}^2$  at the listener:



$$I = I_1 = A_1^2 = 1 \text{ W/m}^2$$

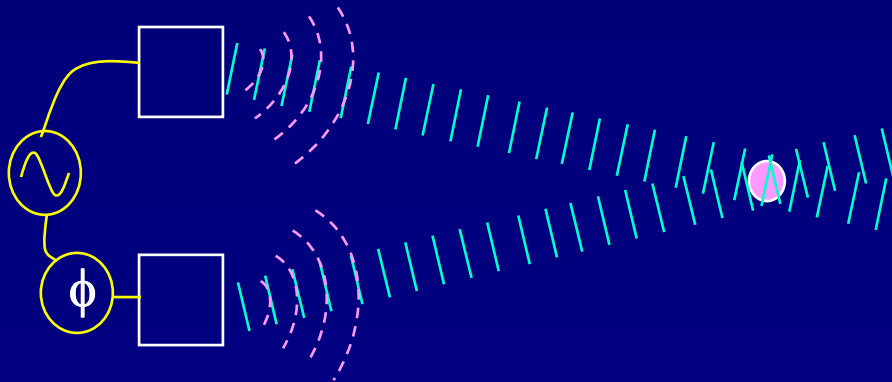


Drive the speakers in phase. What is the intensity  $I$  at the listener?



$$I = (2A_1)^2 = 4I_1 = 4 \text{ W/m}^2$$

Now shift phase of one speaker by  $90^\circ$ . What is the intensity  $I$  at the listener?



$$I =$$