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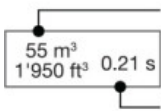
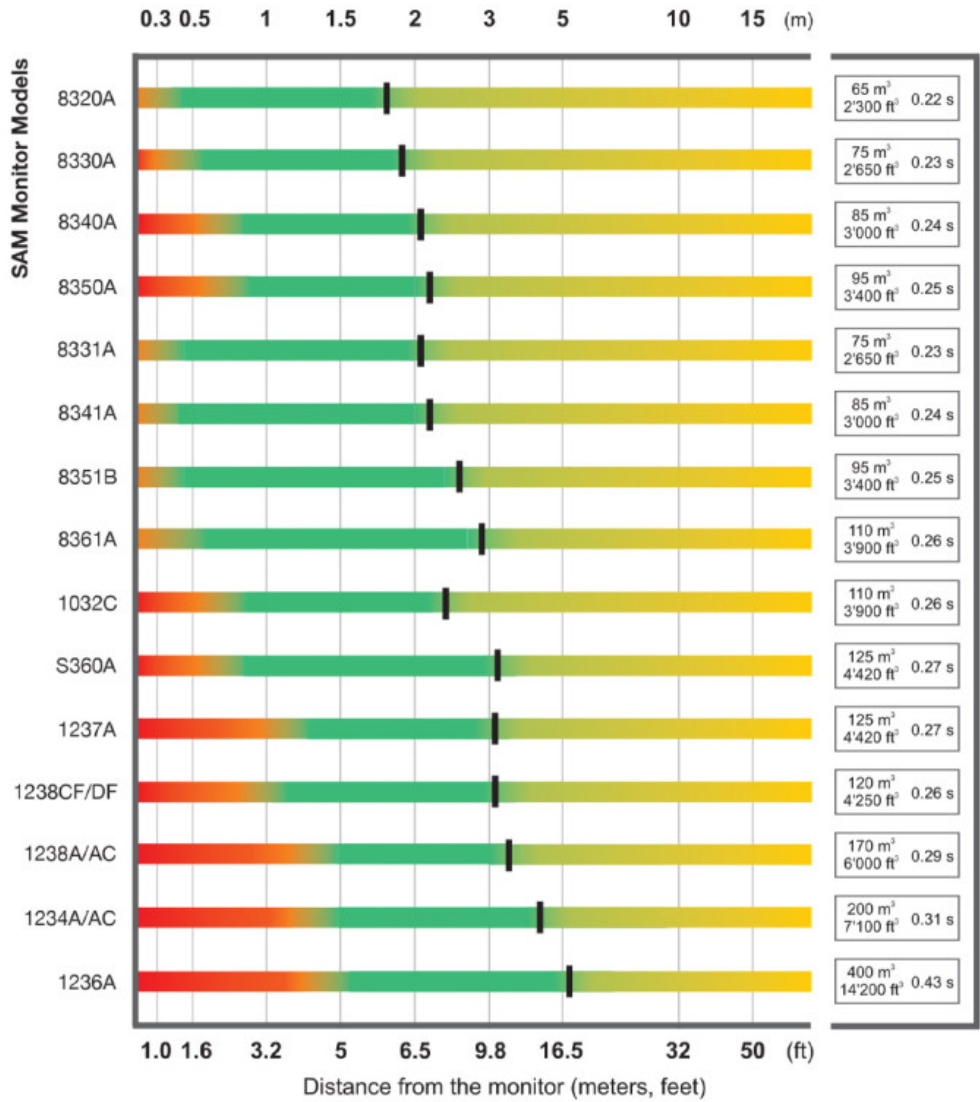
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## Listening Distance

1)

RT60



Room volume

Room reverbation time (RT60)



**Not Recommended Distances**

When the distance to the monitor is too short, summing of sound from multiple drivers is not happening as designed, and this affects the flatness of the frequency response. A flatter and more stable frequency response is obtained by a larger distance.



**Direct Sound Dominates**

Within this distance the direct sound from the monitor has a higher level than the reverberant sound in the room. Placing the monitor within this distance range is advantageous in minimizing the tendency of the room reverberation to change the character of the monitored sound colour and affect the precision of stereo imaging. The level of the direct sound relative to the reverberant sound progressively reduces as the distance to the monitor increases.



**Critical distance**

The critical distance is the distance where the direct sound from the monitor and the reverberant sound in the room have equal level in midrange frequencies (approximately between 200 Hz and 4 kHz). The critical distance is affected by the room volume, the room reverberation time (referred to ITU-R BS.1116-1 Recommendation), and the directivity of the monitor.



**Reverberant sound dominates**

At these distances the reverberant sound in the room has a higher level than the direct sound from the monitor. This balance progressively increases as the distance from the monitor increases. The monitor can be used in these distances, but the sound character is strongly affected by the reverberation characteristics of the room, and this has a progressively increasing effect on the sound colour and stereo imaging accuracy.

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5~6

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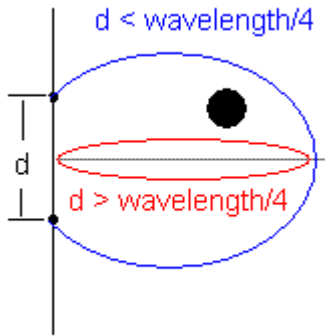
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1/4

2)

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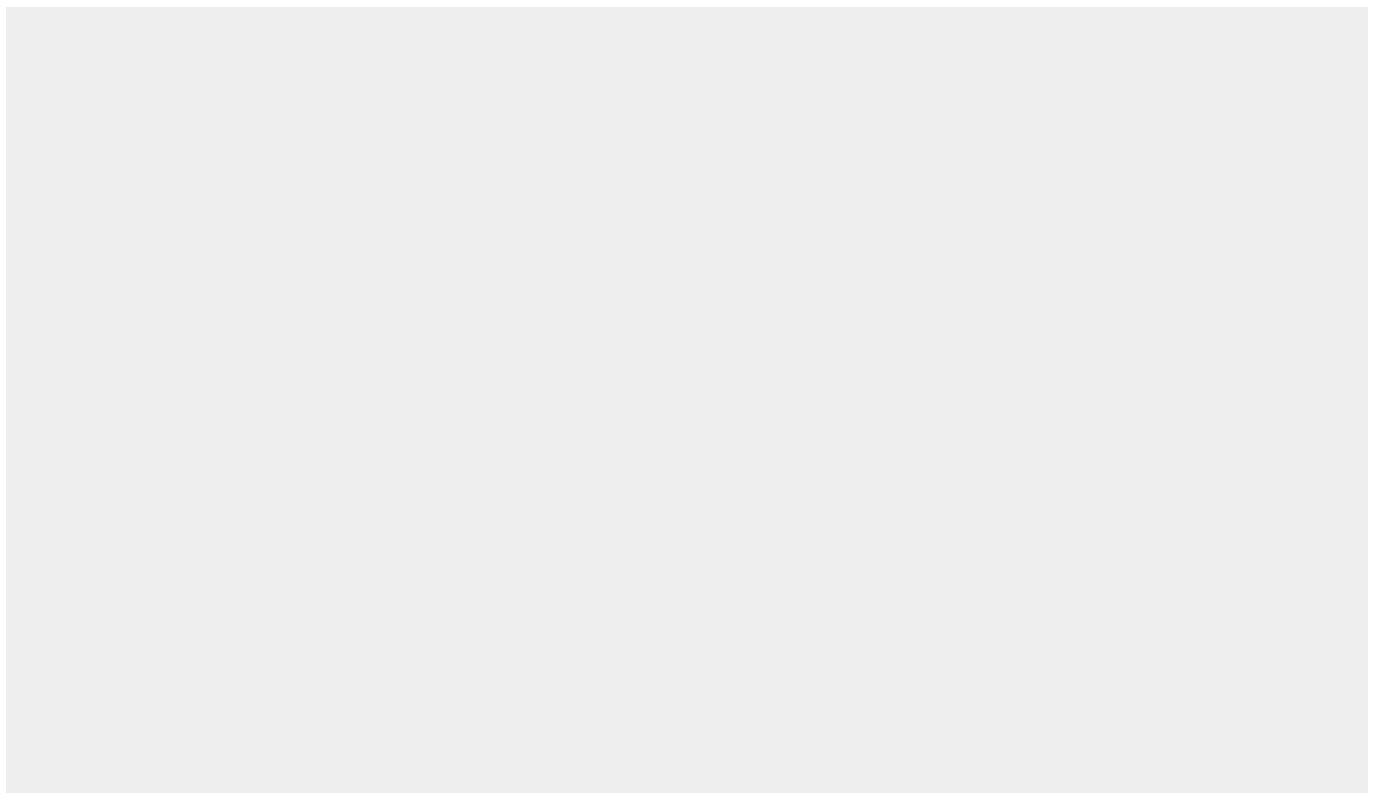
4"(100mm)	50cm
5"(130mm)	65cm
6.5"(165mm)	82.5cm
8"(200mm)	1m

3-way

3-way

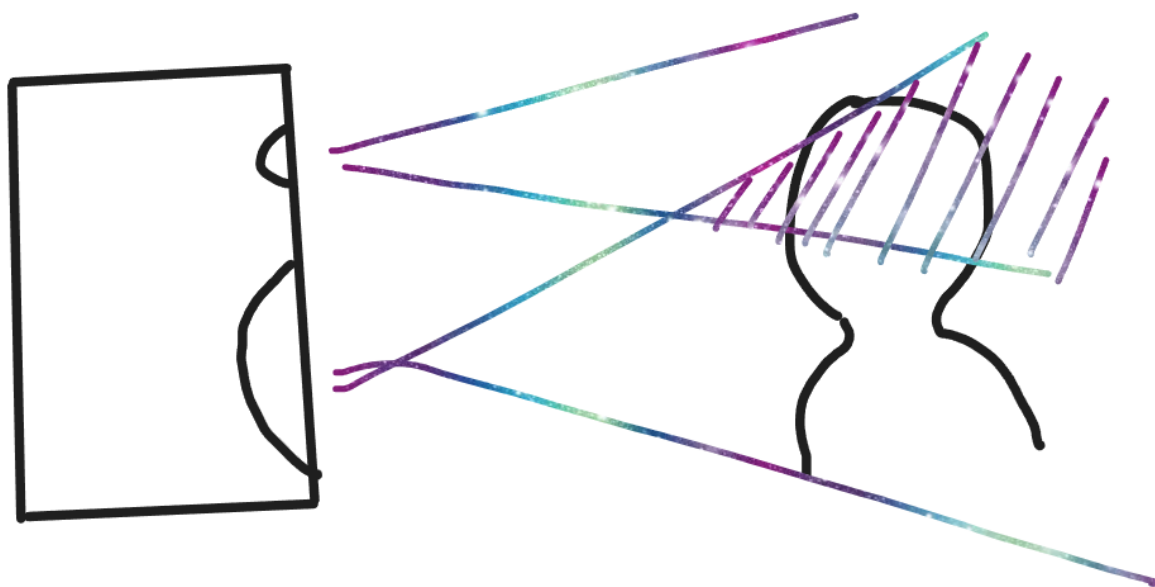
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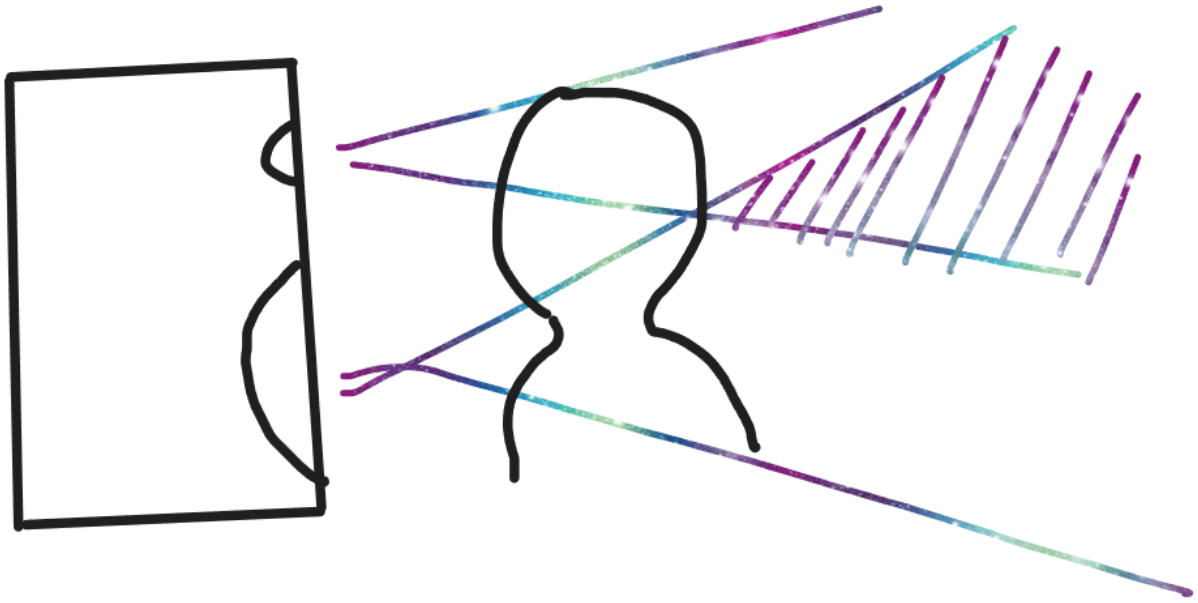




## 2-Way

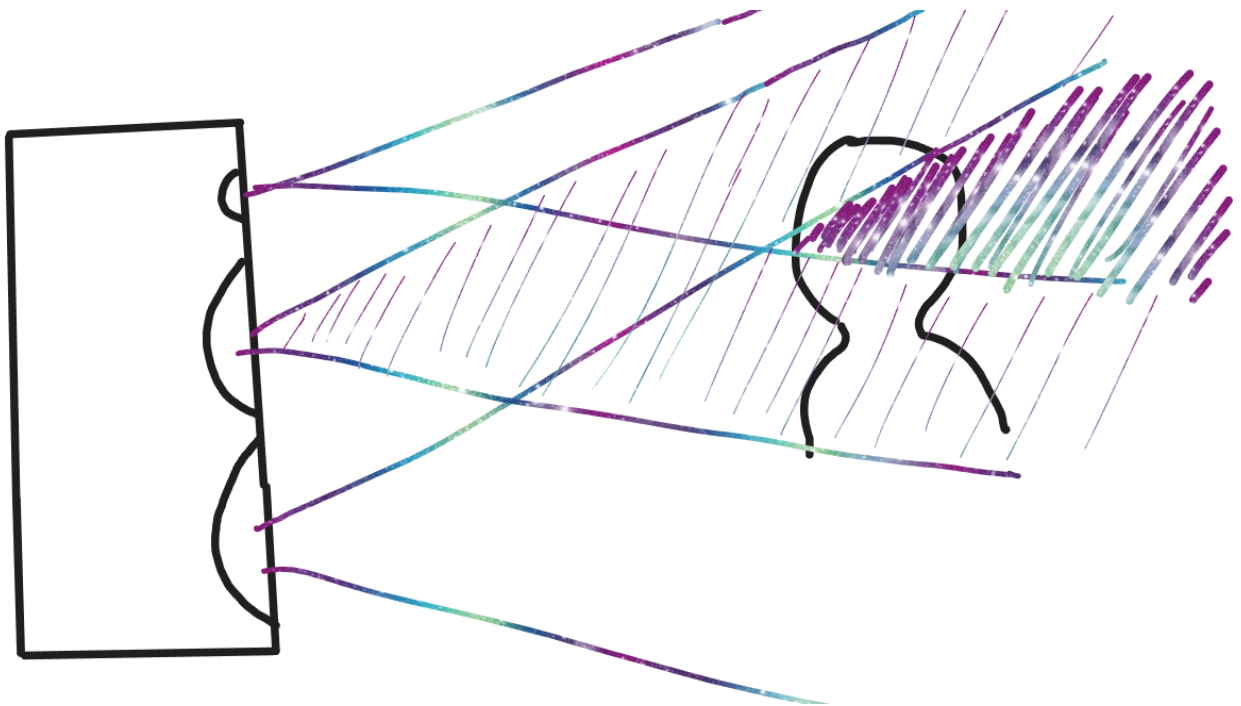






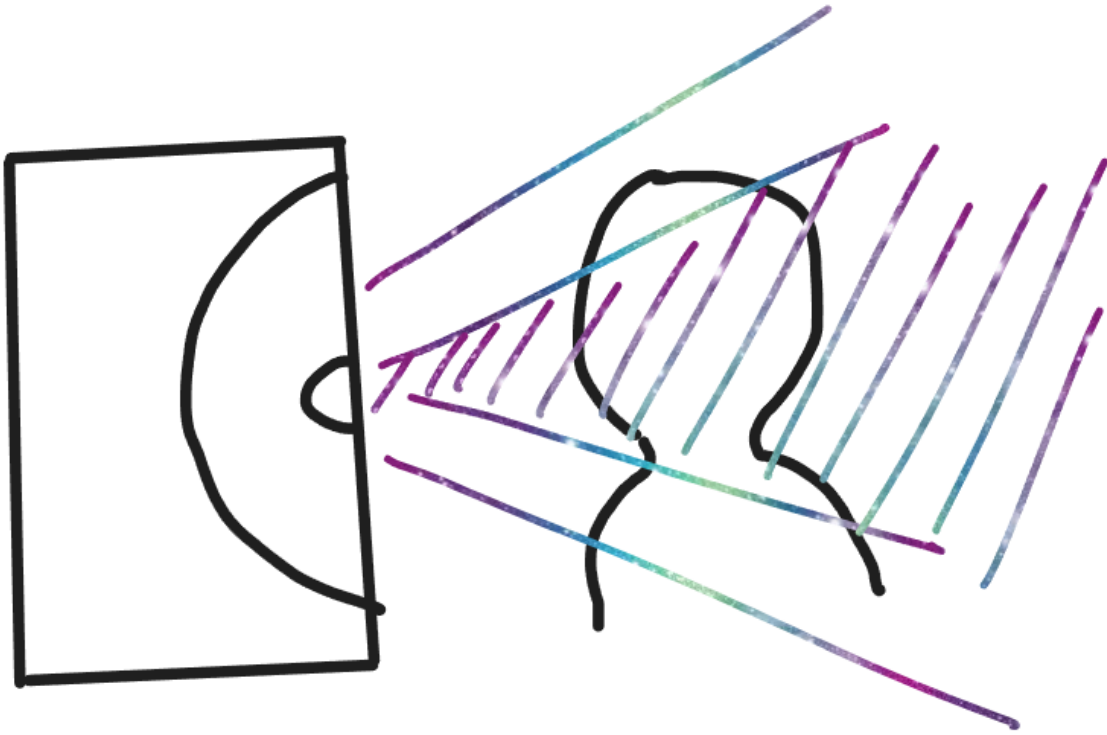
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### 3-Way



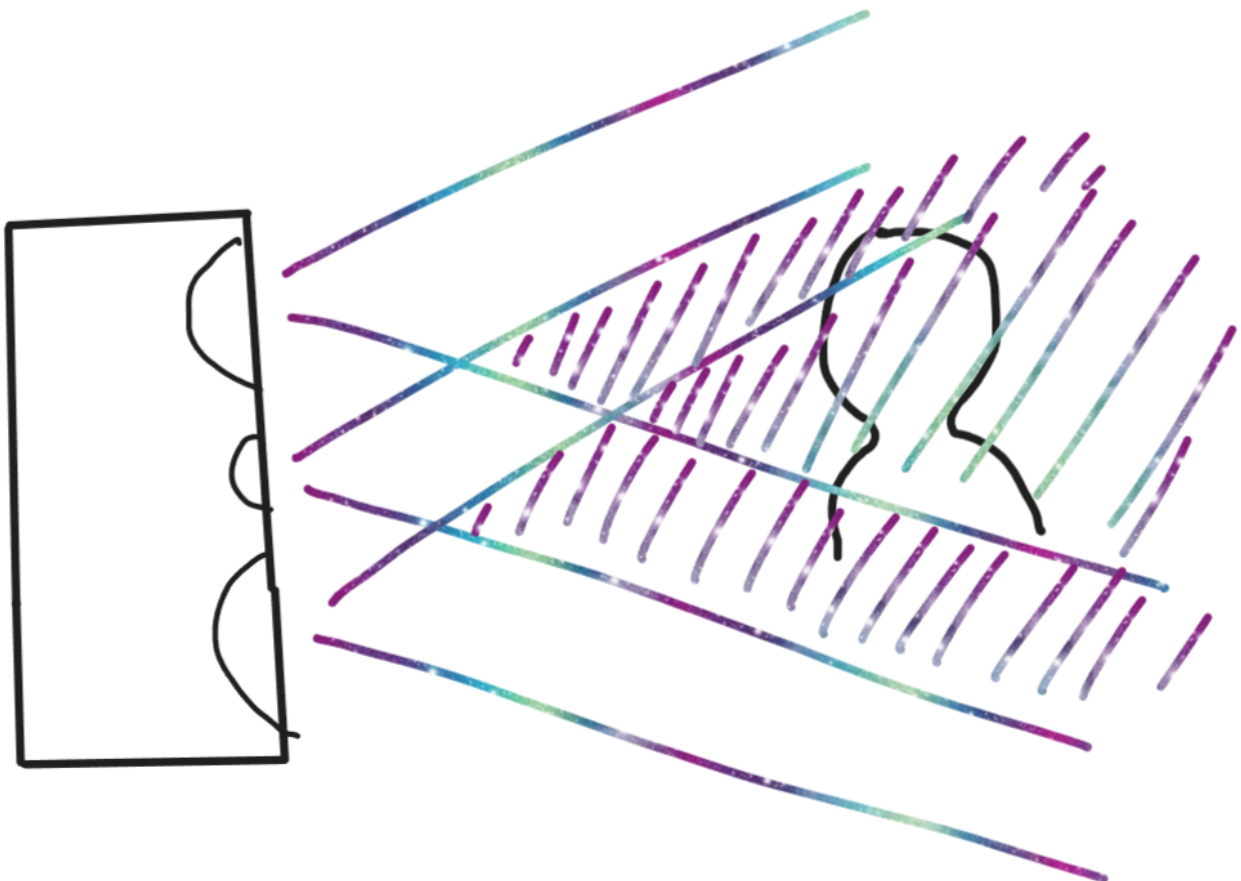
3-Way

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## MTM, 2.5-way



MTM    2.5-way    2-way    가    .

# Reference

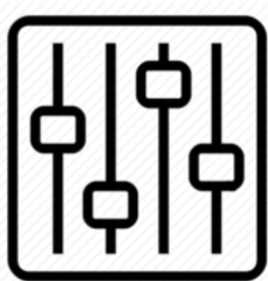
- <https://www.genelec.com/correct-monitors>
- <https://audiojudgement.com/speaker-lobing-polar-response/>
- [https://en.wikipedia.org/wiki/Acoustic\\_lobing](https://en.wikipedia.org/wiki/Acoustic_lobing)

1)

Optimal range of Listening distance

2)

가 3kHz    10cm    ,    1/4    2.5cm    .    가



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