

Placing Free-standing Loudspeakers - Tip 2

In general, when positioning a loudspeaker's front baffle further than 30 cm from the wall, a reflection can cause a cancellation in the low frequency response and hence a loss in the bass reproduction quality.

For [two-way monitors](#), low frequency cancellations in the range 40...80 Hz should definitely be avoided. Low frequency cancellations in the 80...200 Hz range should also be avoided where possible, but if this is not technically possible the overall sound quality will still be perceived as good. Translating these frequency ranges into distance recommendations shows that an acceptable response can be achieved at distances from the wall up to 1 m. Beyond that, the 1 m...2.2 m range should definitely be avoided.

Genelec 8000 / 8200 Series bi-amplified loudspeakers placed against a wall should have a minimum gap of 5 cm (2") left behind the loudspeaker for amplifier cooling and rear opening reflex port sound radiation.

Large loudspeakers placed at a distance greater than 2.2 m may suffer from a cancellation in the very low frequency region around their low frequency cut-off, thereby compromising the loudspeaker's low frequency extension. So the lower the low frequency cut-off, the further away the loudspeaker must be placed from this wall.

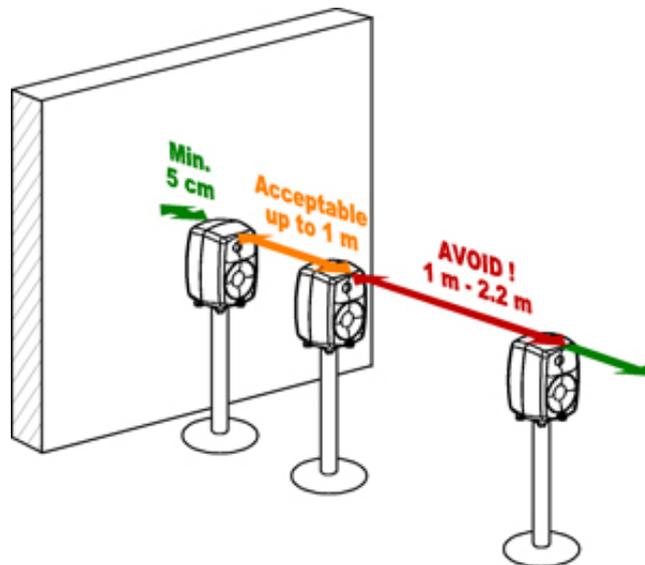


Figure 1 - Distances from a single wall to the front baffle of free standing loudspeakers. Correct (green), acceptable (orange) and avoid (red).

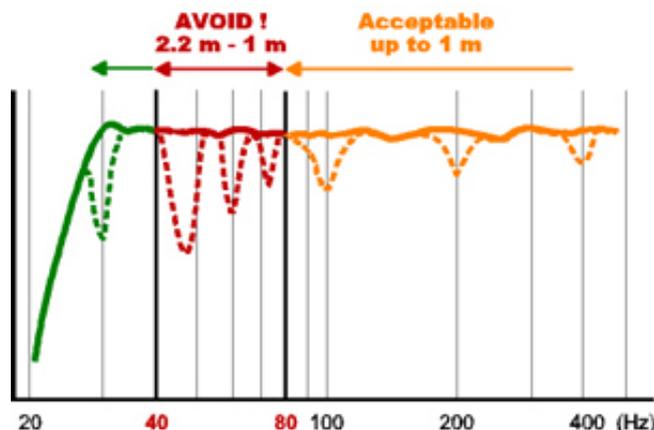


Figure 2 - Frequency domain notches and distances from the single wall behind a free-standing loudspeaker and its front baffle.

Two observations are immediately apparent:

- For larger loudspeakers placed away from the wall the necessary distance is far too long for any practical rooms.
- In such cases, the distances to ceiling and walls are already smaller than the distance to the wall behind the loudspeaker. Reflections from these surfaces are important and might become more significant.

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