Trisquare V1

Trisquare is a free, open-source visual algorithm. V1 was uploaded on github.com in March 2025.

Rooms have three dimensions: Length, Width, and Height. In rooms with spatial bass, three subwoofers (one larger and two smaller) are placed strategically to, "...maximize their independence...,"[1] from each other. The Trisquare algorithm uses three layers (Floor, Shoulder-height, and Ceiling) to optimize the placement of subwoofers, ensuring each subwoofer is working independently.

GET STARTED

To map out subwoofer placement, divide the room into three layers:

1. **Floor**
2. **Shoulder-height** (roughly halfway up the wall)
3. **Ceiling**

Each layer will be mapped onto a 3x3 square grid.

STEP 1 - FLOOR (Larger subwoofer)

The first step is to decide where the larger subwoofer will sit on the floor.

1. **Place the larger subwoofer on the floor.** Choose any location on the floor grid. Mark this box with an F and add a double dot to indicate there is a subwoofer located here, like this **F..**
2. **Fill in the boxes for this subwoofer horizontally:** In all four boxes running parallel and perpendicular to the F.. box, enter **F** (without the double dot)
3. **Fill in the boxes for this subwoofer vertically:** Now, on both the **Shoulder-height Grid** and **Ceiling Grid**, mark the same five boxes with **F**

STEP 2 - SHOULDER-HEIGHT (Smaller subwoofer)

The shoulder-height layer is roughly halfway up the wall (about 1/2 of the wall height). Slight variations are fine. In Step 1 and Step 2, for the best results, place just one of these subwoofers in a corner box.

1. **Place a smaller subwoofer at shoulder-height:** Choose an empty box on the **Shoulder-height Grid** to place a smaller subwoofer and mark this box with **S..**
2. **Fill in the boxes for this subwoofer horizontally:** In all four boxes running parallel and perpendicular to the S.. box, enter **S** (without the double dot)
3. **Replicate the placement on the Ceiling Grid:** On the **Ceiling Grid**, mark the same five boxes with **S**

STEP 3 - CEILING (Smaller subwoofer)

For the ceiling layer, a smaller subwoofer will be placed as high as possible—either on the ceiling or near the ceiling on the wall, both locations will work equally well.

1. **Place a smaller subwoofer at ceiling height:** For the best results, place this subwoofer in a new box where you haven't already placed a subwoofer on the grids in Step 1 and Step 2. On the **Ceiling Grid** choose where to place a smaller subwoofer and mark this spot with **C..**
2. **Fill in the boxes for this subwoofer horizontally:** In all four boxes running parallel and perpendicular to the C.. box, enter **C** (without the double dot)

COMPLETE ALGORITHM

There are **no empty cells** on the **Ceiling Grid.**

1. Geddes, Earl (30 October 2011). "Why Multiple Subs?" (PDF). gedlee.com. Retrieved 28 February 2025.