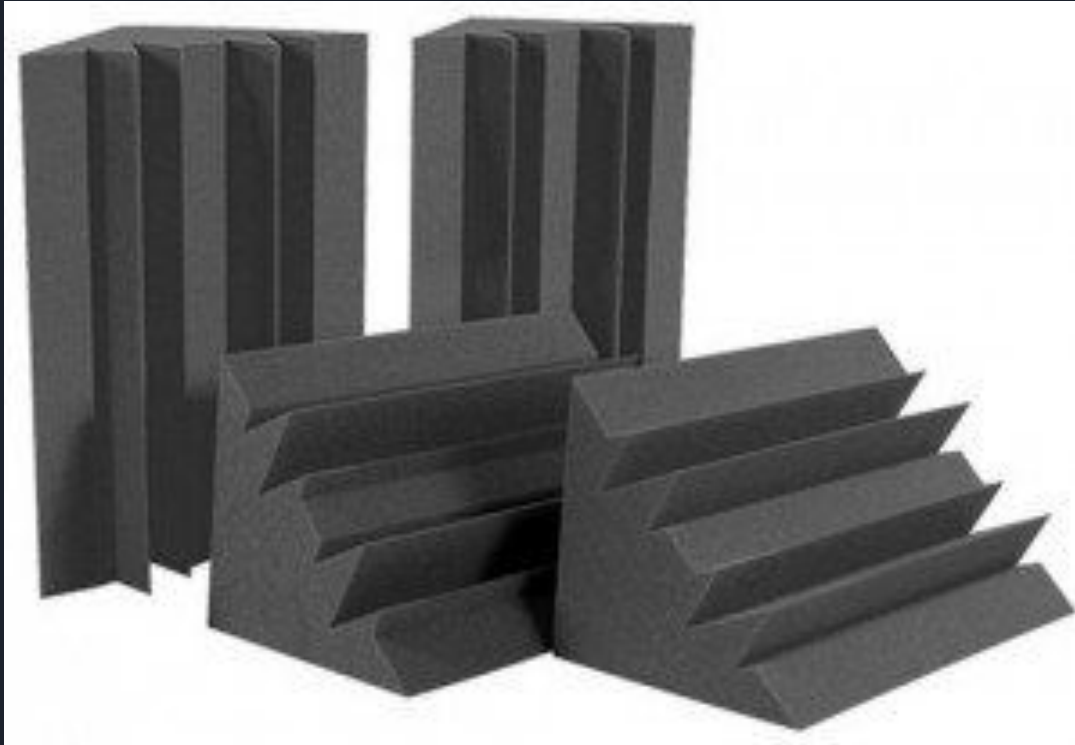




Soundproofing

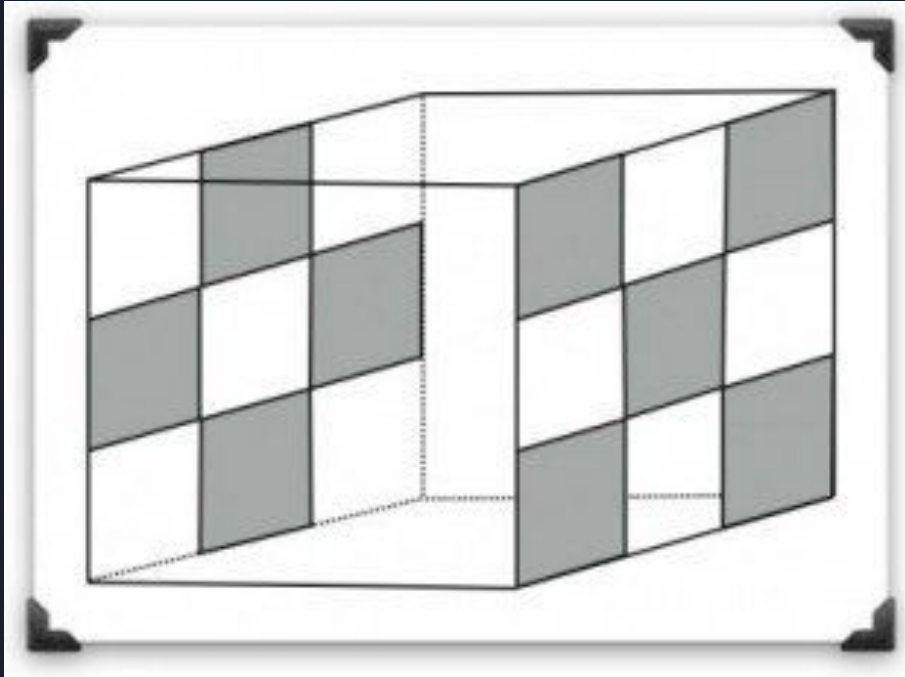
Materials:







Installation: Panels



- The ideal wall coverage could vary anywhere between **20-80%**.
- “When covering an area of one wall, leave its reflection point open on the opposite wall...because one panel is sufficient to kill standing waves in that spot.”



Bass Traps

1. **Porous Absorbers** – that work using a dense material such as foam to absorb sound waves.
2. **Resonant Absorbers** – that work using a diaphragm to absorb specific bass frequencies through sympathetic vibration.

Porous Absorbers

- **Porous absorbers** are the *first-line-of-defense* when tackling general problems with room acoustics.
- Materials are typically:
 - acoustic foam
 - Fiberglass
 - rockwool
- The reason they're so versatile is they offer excellent broadband absorption, meaning they work well across the entire frequency spectrum.





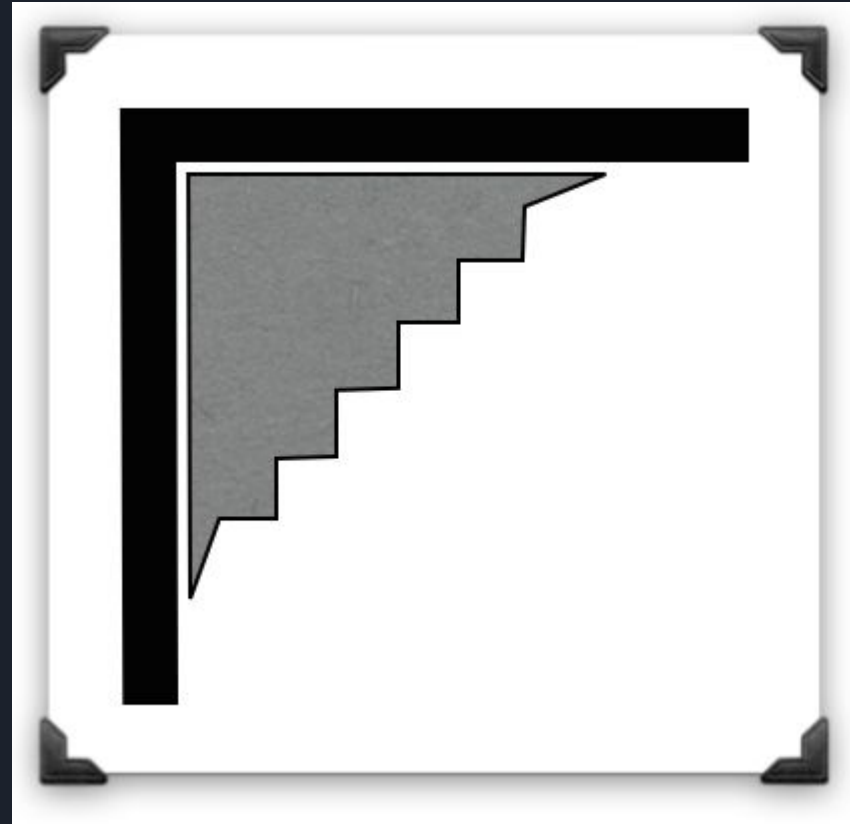
Steps to Soundproofing

- **Prepping the room for the project**
 - **Clear off all floor space**
 - **Take everything off the walls**
 - **Remove anything that vibrates**

We may not be able to clear it out completely, but anything that can be removed, should be removed.

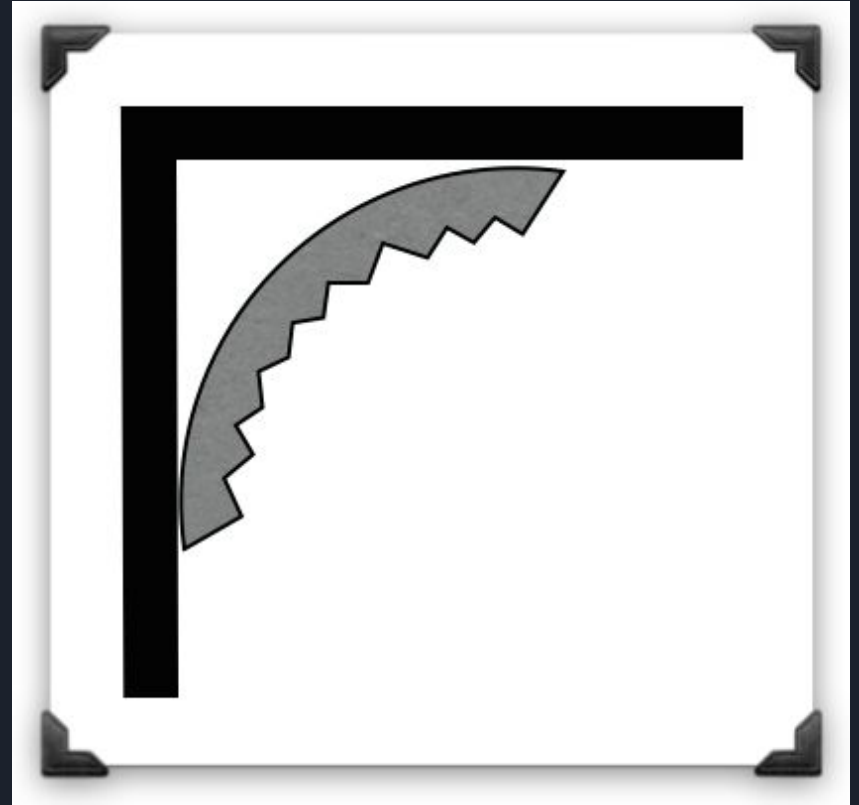
Step 1

- The first step in setting up an acoustic treatment is to mount a bass trap at each of the tridhedral corners.
- Since bass traps offer the widest range of broadband absorption it makes sense to put them in the areas where they can have the greatest impact.



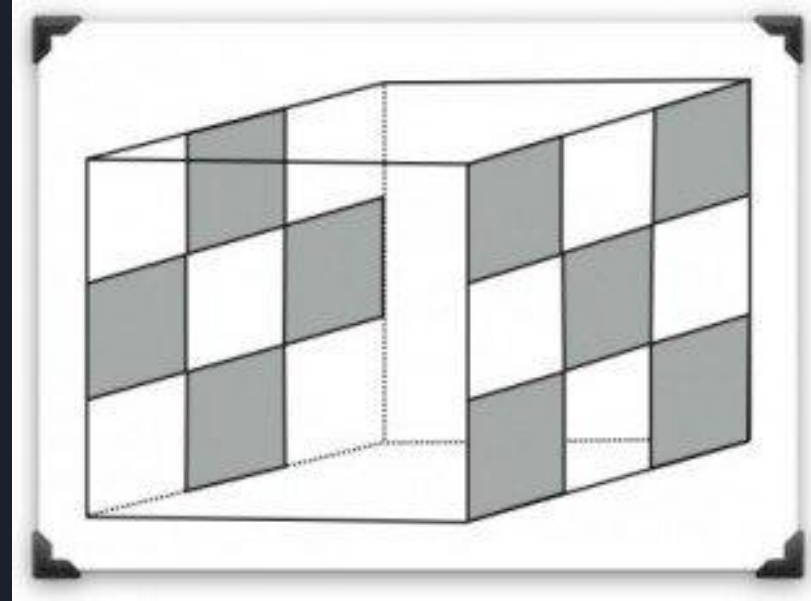
Step 2

- The next step is to fill in the remaining corners with acoustic panels.
- To cover the dihedral corners, simply bend them around the edge *as shown in the picture*
- Be sure to leave an air gap for maximum low-end absorption.



Step 3

- Whenever two opposing walls are parallel to each other, sound waves have a tendency to reflect back and forth in the same spot. This causes some frequencies to be amplified, and others to be cancelled-out.
- To avoid this problem, mount acoustic panels flat on the walls, and be sure to spread them evenly throughout the entire room.
- To get maximum effectiveness from a limited number of panels, avoid placing panels on BOTH points of opposing walls...and instead, stagger their positions as shown in the above picture.



Step 4

- The standard locations to put them are the ceiling/the upper portion of the walls in rooms with high ceilings.
- Add to that, the fact that commercially-made diffusers are *expensive*, and it's no surprise that most home studios skip it entirely.
- Because of our budget and Ms. Nikkolas' Room, we will most likely not be using difusers

