



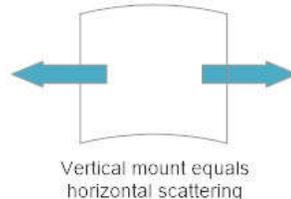
## PolyFlex Installation Guide

**Thank you for your purchase!** PolyFlex diffusers are a great addition to most any room. They can make the room sound larger, add sparkle and air, enhance the soundstage, improve timbre, and diminish specular reflections.

Unlike number theory type diffusers, PolyFlex diffusers are effective even 90 degrees off axis, don't have an effective convergence distance, don't scramble phase, are tunable, and are much wider in effective bandwidth.

### Tips

- a) Once the reverberations times are under control, you can add diffusers with little concern of adding too many. Just avoid more than three in sequence (break them up by depth, orientation, stagger spacing, etc.). Randomness is good, but keep left and right symmetry.
- b) Typically, you want to orient the diffuser to scatter horizontally in the room, but when using at a wall/ceiling or wall/floor junction, you want to scatter up and down. On the ceiling, you typically scatter front and back.



### Suggested Priority of PolyFlex Application

1. At first order reflection points. This is where they will be most effective.
  - a. If the room is already has a lot of absorption, use them at the front 1<sup>st</sup> order reflection points for the front speakers. There will be a point for each speaker on each wall and ceiling to treat.
  - b. Use them at the 1<sup>st</sup> reflection points of the surround sound speakers. Treat the near walls and ceiling for each surround speaker.
2. Sound congregates in corners, so the tri and bi-corners of the room are efficient places for diffusers to increase the scattering of sound energy back into the room.

### How do you find first order reflections? *(You will need an assistant, a flat hand mirror, and some masking tape)*

First order reflections are geometric relations that can be drawn between the source drivers, the room boundaries, and the listener. There is a first order reflection for each speaker, on all six surfaces of the room. With one person seated in the listening position and the other person at the boundary surface of interest holding the mirror flat against the surface at about tweeter height, run the mirror around until the listener sees the tweeter centered on the mirror. Mark this spot with tape. That is the first reflection spot on that surface, for that speaker. Repeat this process for the opposite channel speaker on the same surface. Repeat for the other surfaces of interest.

### Acoustical Specifications:

Effective Frequency Range- 630 Hz. on up. As you narrow (deepen) the PolyFlex the low frequency extension will rise slightly.

Effective Coverage of Incident Angles- 150°. As you narrow (deepen) the PolyFlex the effective coverage angles will increase slightly.

### Mounting (Tools needed: bubble level, pencil, drywall screws, drill w/#2 Phillips head)

1. Determine PolyFlex orientation and center over marked location indicated by mirror reflection.
2. Level PolyFlex using a bubble level and mark fastening hole locations with pencil.
3. Install supplied drywall screws on one side first, then squeeze the other side to the desired depth (2"-4"), and fasten.

**Painting:** Acrylic PolyFlex- use acrylic-based paints or inks. Metal PolyFlex- any paints for metal. Follow manufacturer's directions.

*See examples of installations at: [avroomservice.com/diffusers](http://avroomservice.com/diffusers).*