



A/V RoomService, Ltd.

metu First Order Reflection Instructions for Wall/Ceiling & Diffuser Panels

metu panels from A/V RoomService are high performance, affordable and attractive panels in any situation. metu panels have a wider bandwidth than typical panels and are effective in controlling 1st order reflections, room modes and reverberation, resulting in increased resolution, intelligibility, spatial cues, soundfield size, dynamics and tonality.

In order to help you figure out what to order and get the most performance value from your metu panels, please follow these simple instructions, which are listed alphabetically in order of general importance.

Tools needed: an assistant with masking tape and a hand mirror

1. **Mark all 1st order reflections**

Each speaker will have a 1st order reflection point on each wall, the ceiling and the floor. By locating a metu panel at these locations, you will control your major reflections while also reducing reverberations in the room.

- a) *Sit down in your primary listening spot. Have an assistant hold a large hand mirror flat against the left sidewall and move it along until you see the reflection of the **Left** speaker tweeter. Mark this spot on the wall with a piece of masking tape. Moving back towards the rear wall, mark the reflections of the **Center channel** (if applicable) and the **Right** speaker. Repeat this process on the right wall.*
- b) *Repeat for the ceiling.*
- c) *Repeat for the front wall looking for what would be the back of the tweeter.*
- d) *Repeat for the rear wall, with your head facing the rear wall, at same position.*

2. **Center your metu panel over the tape mark to hang.** (See installation instructions)

TIPS:

- Depending on room size and speaker layout, you may discover that a single horizontal 2'x4' metu panel can address two or even all three L,C & R reflections on a single surface.
- Mounting 2'x4' metu panels vertically can offer both a good look and more absorption.
- Thick throw rugs with non-slip padding in front of the L,C & R speakers will help 1st order reflections on floors without carpet.
- Metu Diffusers can also be used to control 1st order reflection points of the L,C & R speakers in rooms which may already have too much absorption.
- Metu Corner Traps dramatically improve room mode problems, reverberation times and soundstage size.
- Check for slap echo by having an assistant clap their hands in front of the L,C & R tweeters while your in your listening position. This echo may occur between two parallel surfaces. Often one can be heard at the side walls and can be treated with a single metu Wall Panel or Diffuser located on only one side wall. It's location is usually up towards the ceiling, between the listener and the nearest 1st order reflection. It can be located by draping a blanket (folded to about 2'x2') over a broom and propping it up against the wall in area identified. Mark the location of the blanket where the echo is no longer heard. Treat this location with metu.