

## PANPHONICS SOUND SHOWER SPEAKER INSTALLATION TIPS

In order to maximize the directivity of Panphonics speakers, below 4 points need to be carefully adjusted

### 1. PHYSICAL CHARACTERISTICS OF THE INSTALLATION SITE

If there are hard-surfaced walls, floors, and objects near the footprint of Panphonics speakers, directional audio might be reflected off such surface, weakening the effect of directivity

- Is the floor hard-surfaced? -> Place a carpet to avoid reflection
- Are there windows in the sound zone? -> Use a curtain to avoid reflection
- Desks and other hard objects in the way? -> Move them or cover them with soft textiles

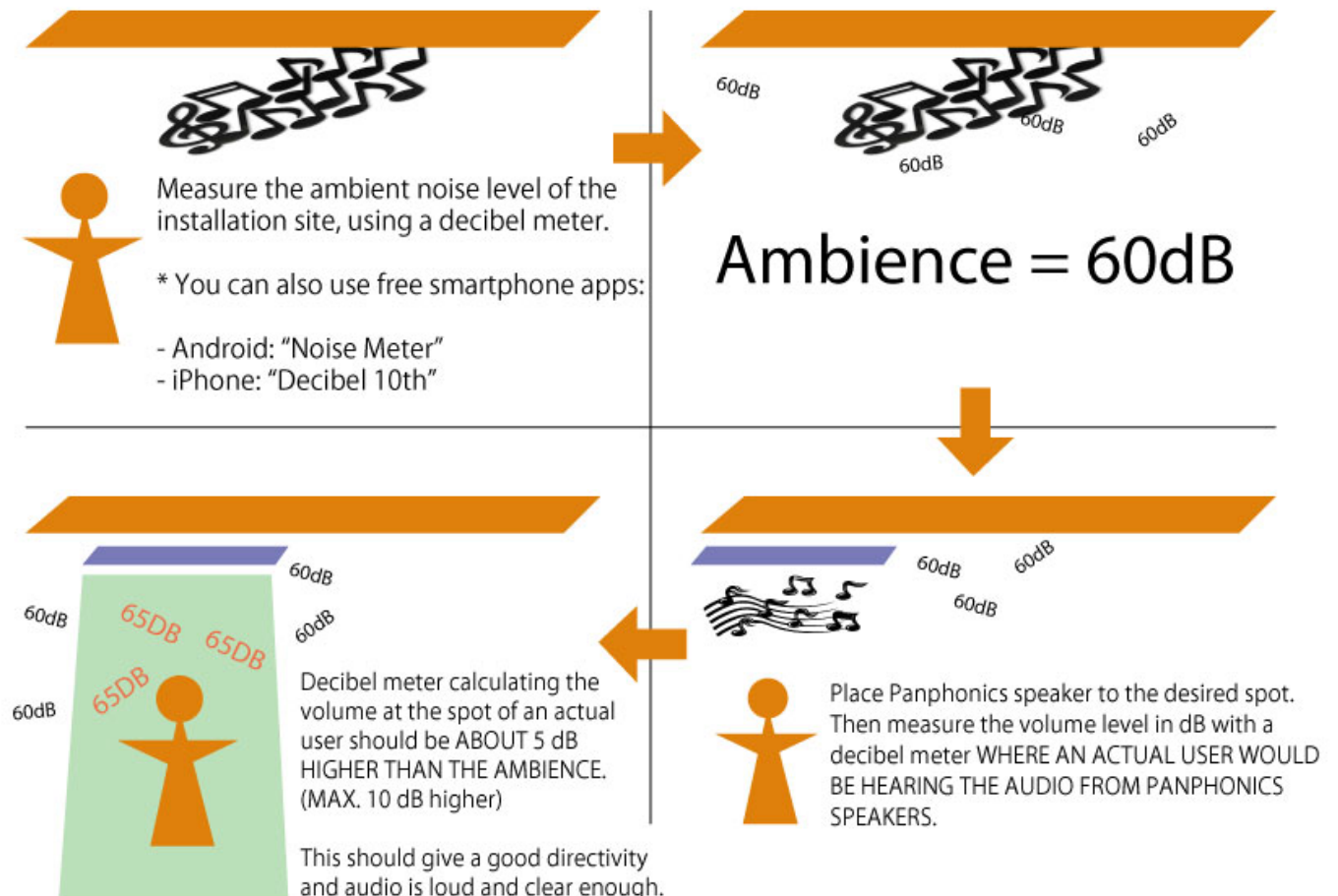


In this installation, even the surface of small bar stools might reflect the audio from Panphonics speakers



In this installation, the surface of shelves in front of screens might reflect the audio from speakers slightly

### 2. AMBIENT NOISE LEVEL OF THE INSTALLATION SITE and PANPHONICS SPEAKER VOLUME

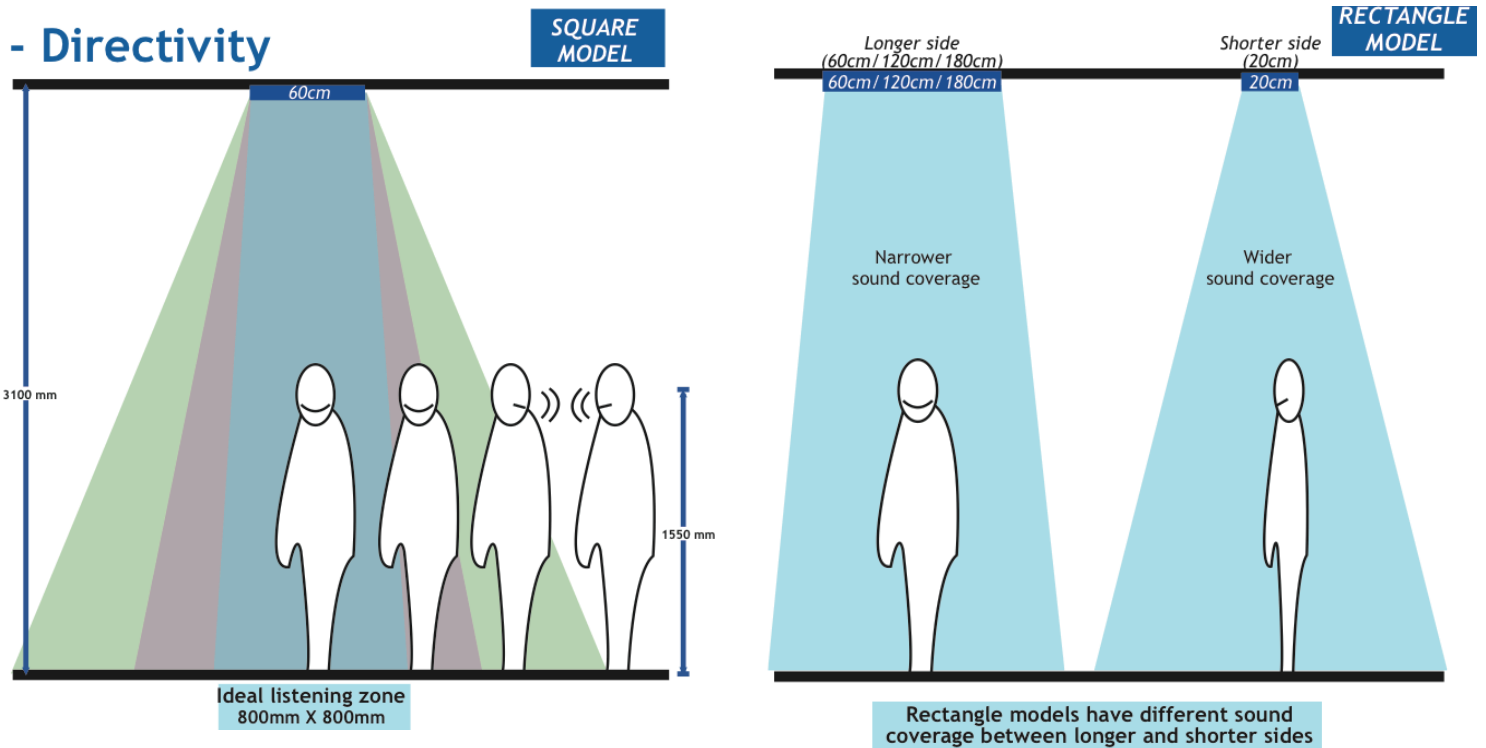


### 3. AUDIO CONTENT

Panphonics speakers and amplifiers are best tuned for human speech contents (about 300Hz - 3,400 Hz). For this reason, the actual directivity of audio coming from Panphonics speakers may vary also depending on the audio content and its frequency level.

Higher frequency travels further (= sounds stronger to human ears), so this might be an interesting way to get an attention of the audience when making audio contents for directional audio!

### 4. FOOTPRINT CHARACTERISTICS OF SQUARE MODEL vs RECTANGLE MODEL



Square model (60X60cm) has an even footprint to all 4 directions. Therefore, most suitable for installations with low ambient noise or with a lot of reflective materials where achieving a high directivity becomes more challenging.

Rectangle models have much wider footprint in 2 directions. This is because the rectangle models were designed for installations such as corridors between retail shelves to cover narrow, but long distances.



## OTHER TIPS and REMINDERS:

- If installed to a ceiling, 3-meters from the floor is a recommended height. 3m - 10m high from the ceiling is an ideal height when hung from a ceiling.
- With 1 pcs of external amplifier AA160e, you can play up to 3 Panphonics speakers. However, if 3 speakers need separate audio content, then you would need 1 amplifier per content.
- Extension cables and Y-splitters are easy to make by yourself. Please refer to other PDF files for connector and cable specification.
- For a cable length of speaker cable (the cable that runs between Panphonics speakers and external amplifiers AA160e) theoretically the length can be even 150 meters long, without causing audio distortion.
- Audio cable length (the cable that runs between our external amplifier AA160e and the customer's media player) should not be too long. 5-10 meters may cause some audio quality loss. If the audio cable length needs to be very long, then please use XLR cables instead of RCA.
- What is included in the package when you buy Panphonics products:
  - SSHP (Sound Shower Passive speaker)- You get a speaker that has a speaker cable hanging from the back side of the panel, and 4 screws you can use to hang the speaker. (HOWEVER, NO WIRE IS INCLUDED).
  - Amplifier AA160e - You get an amplifier itself, ambient microphone, Power supply unit.

Therefore, audio cable and media player need to be prepared by yourself/end user.

If you would like to hang the speaker to a ceiling, you need to buy a wire.

If you would like to install the speaker to a wall, then you can use VESA-100 compatible mounting brackets since all the SSHP speakers have VESA-100 holes on the back side.