

**Speaker**

# Basic installation of BEWITH speakers

Features of BEWITH speakers (Confidence, Accurate, and Reference) are that tweeters, middle range woofers, and subwoofers have the same cone structure, and the voice coils are off-set. Because of the remarkable structures, the installation needs exceptional methods.

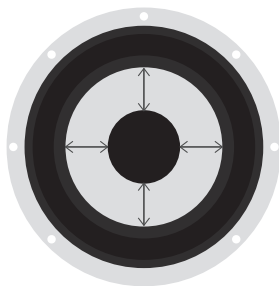
## 1. Installation angles

In a general cone speaker, the sound pressure level on the speaker axis is the highest. And the farther from the axis it gets, the more sound pressure level decreases. Also, in the high frequency range, the level decreases obviously and it shows on every angle in concentric cone speaker.

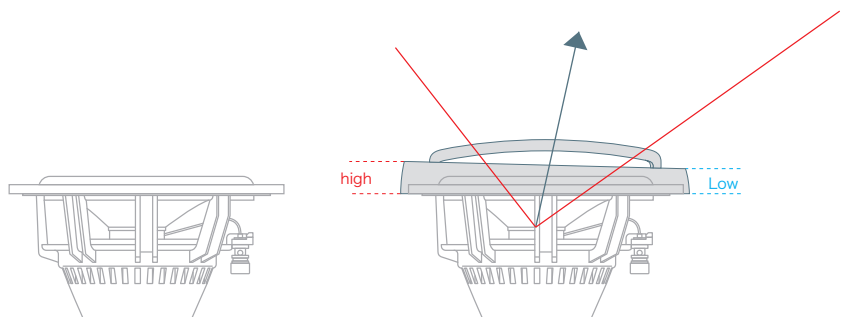
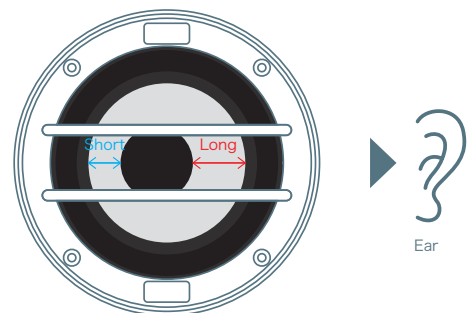
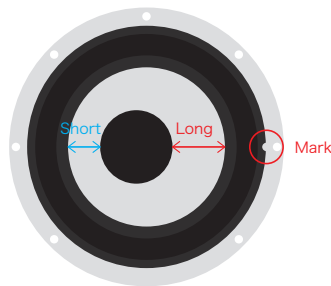
In BEWITH speaker, because the voice coil is off-set structure, the way the sound pressure level decrease is different depending on the direction of off axis.

- Long side : There is a chipped part as a mark on the side of the cone which has longer distance from the center cap to the edge. An angle of this side is gradual than the side of shorter distance of the cone. The sound radiated from the speaker spreads to a long side by centering on a speaker axis. Therefore, it is necessary to direct the long distance side of the cone to the listening point. As to the grille, the part placed on to the long distance side of the cone is thinner than the other side.
- Short side : On the other hand, an angle of the short distance side is steep, and the sound pressure level is decreased more than the long distance side when distanced from the speaker axis. As to the tweeter installation, the reflected sound is suppressed by directing the short distance side to the side window.

General speakers



BEWITH SP



## ■ Example of tweeter installation

### a. Installation on the dashboard

Because a speaker axis is facing up, direct the long distance side to the listening point.



### b. Installation on the A-pillar

It is possible to install the tweeter toward the listener. Install the short distance side toward the side window and the long distance side toward the center of the car. Please note not to make the reflected sound from the side window.



### c. Installation the door

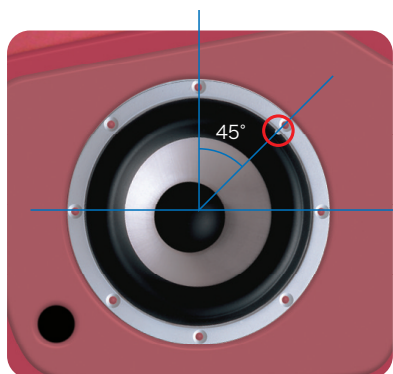
Because a speaker axis faces toward the center of the car, direct the long distance side to the listening point.



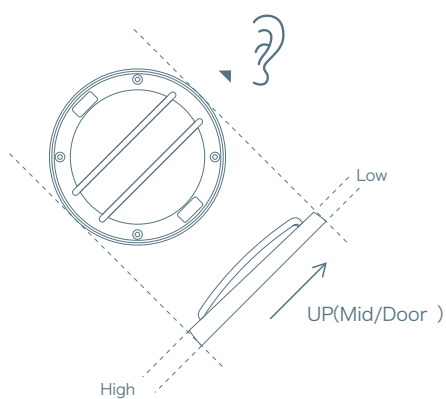
### ■ Example of middle woofer installation

Because the middle woofer is installed on the lower area of the door in general, install the long distance side upward.

Ex) Sample of C-130 installation angle



Ex) Sample of G-130 installation



By installing according to those basics, it is possible to deliver the sound from the speaker directly to the ear and enjoy better sound.