



Setup of a 2D – FOA system with four cardioid small diaphragm condenser microphones

When you are new to ambisonic, then this might be a little bit special, but you can still use it and enter a new world of ambiance and sound.

A little remark about the shown gear: This is our own gear and we bought it with our own money. If you like the gear and want to buy it, we provide a “shopping list” on our website.

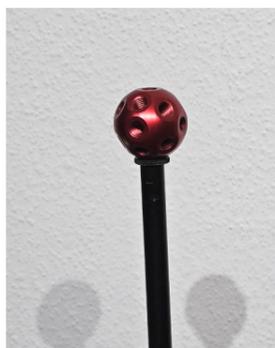
You may buy this gear, but any other gear is fine as well. It is not a question of good or better, its just a question of what is available for you.

Okay! Let's start with a regular microphone stand. Or course yours may look different. No problem.



Now, make sure that you have everything you need on hand. You may want to check the provided shopping list to do so.

Now let's attach the “red ball” to get started.



We need four of the 10 cm long pipes, which we screw into the red ball at an angle of 90° to each other.



Now mount and screw the pipe-to-microphone adapters onto the tubes. It is easiest if they are quite far along the end of the pipe, because that is where we will need them.

It's not necessary to tighten the screws yet, as we might move them back and forth a little bit.

Now, let's attach the thread adapters. The process may vary depending on the diameter of your microphones. This setup works well for diameters between 18 and 22 millimeters, which is a common range.

Whether or not you mount them clockwise doesn't really matter. The important thing is knowing which microphone is connected to which channel, so make some notes about it. But you may also mount them clockwise as well. It's up to you





Here you can see the microphone clamps mounted and aligned to the center and each at an angle of 90° to each other.

You may need to loosen the nut on the pipe-to-microphone adapters slightly in order to align the clamp accordingly and then tighten it again slightly. It is best to use a suitable open-end wrench or pointed pliers for this.

When everything looks fine we start mounting the microphones.



Now comes an important, yet not so obvious, point.

All of the microphones' membranes must be aligned on an imaginary vertical axis through the microphones. The diaphragms are not directly connected to the outer housing but are typically positioned a few millimeters behind it.

It helps to check this with a powerful flashlight on your own microphones. On our microphones, the diaphragm is located at the level of the middle gap. This varies from model to model. Finally, check that the microphones are mounted at a 90° angle to each other.

The microphone cables have been installed. Here, we present a solution in which four female XLR connectors are fed into a box with an RJ4 connector on the other side for connecting a CAT 6 cable. Alternatively, you can use four XLR cables or any other four-channel multicore cable. We wrapped the cables around two pipes and a red ball. This prevents the weight of the cable from pulling on the sensitive microphones.



The four XLR cables are plugged into the microphones. If the cables do not have colored markings, as shown here, you can either use colored tape or a colored clothespin. Before you start recording, you should do a quick line check. Switch all tracks on the recorder to record mode and gently tap the microphones. You should now hear the tapping in exactly the channel where you expect it. Everything okay? Then have fun and record something amazing.

