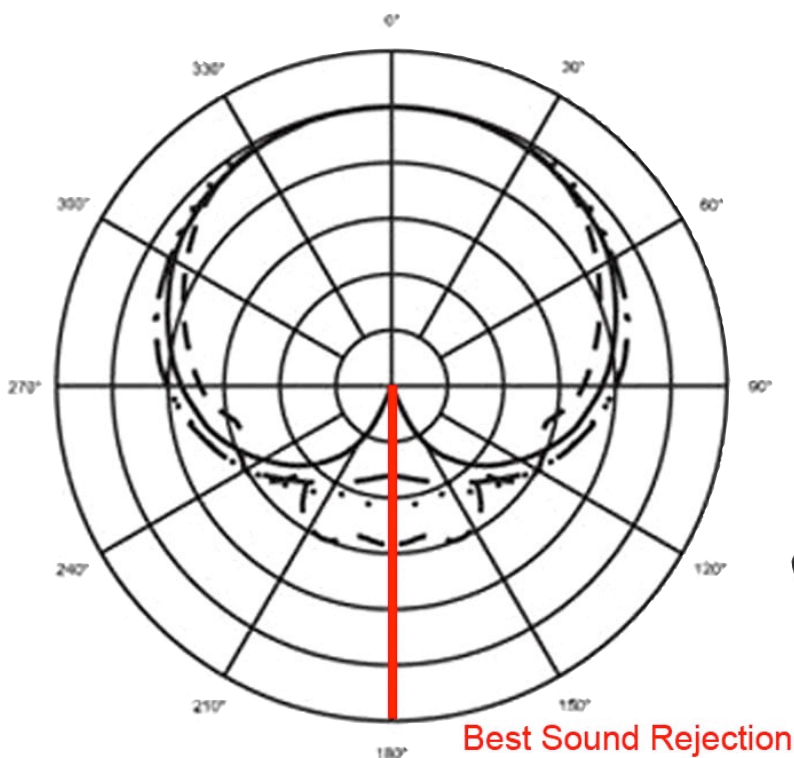
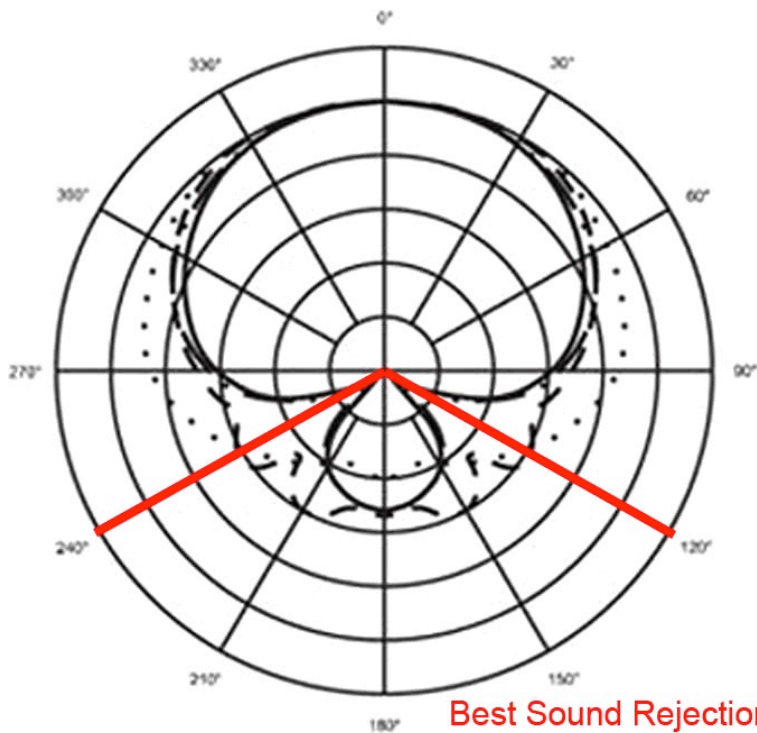


- ▶ Feedback occurs when a microphone picks up sound from a speaker and the audio signal does a full circuit of the system that in turn creates a highly recognisable high-pitched sound or tone. To avoid this we recommend you take the following steps:
- ▶ Turn down the speaker volume so the microphone does not pick up the sound
- ▶ Place PA speakers in front of any microphone and avoid pointing your speakers towards nearby walls as this may reflect the sound
- ▶ Put more distance between the microphones and speakers
- ▶ Select a microphone with a cardioid or a hypercardioid pick-up pattern and face the microphone away from the speakers. Cardioid microphones pick sound up within 120 degrees from the front. Hypercardioid microphones pick sound up within 100 degrees from the front
- ▶ Check the microphone's polar pattern on the specification sheet. It is a representation of how the microphone picks up sound at different angles for different frequencies. Not all microphones are alike, as technology moves on better quality microphone have better polar patterns
- ▶ Place floor monitor speakers so they face the back of the microphone
- ▶ Cardioid microphones have the best sound rejection directly at the back of the microphone, so have the back of the mic directly facing the floor monitor



- ▶ Hypercardioid microphones are slightly different as the polar pattern has the best sound rejection at 60 degrees from the back. So aim this point at the floor monitor for maximum feedback reject



- ▶ Using In-Ear Monitor systems are very helpful as you can remove the monitor speakers all together and any possible feedback they create
- ▶ Place the microphone closer to the sound source; this will increase the volume into the microphone. The PA can therefore be quieter and less likely to feedback. Headset microphones can be better than tie-clip microphones when trying to get closer to a speaker or singer
- ▶ As feedback is only at certain frequencies, using equalization you can tailor the system by turning down the frequencies that are feeding back. "Ring out" a microphone by increasing the microphone's level. When you hear the feedback tone, turn down the relevant frequency. This can be on an EQ section of a mixing desk or graphic equalization unit
- ▶ Automatic feedback eliminators can also be used which perform automatic EQ'ing on the system.