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## FEEDBACK ON VOICE AMPLIFICATION An Explanation and Solutions.

Feedback occurs when the microphone picks up the sound from the amplifier speaker and then amplifies the sound again. It starts an increasing chain loop of amplification which results in a screeching feedback sound. Feedback will be a problem anytime a microphone is used to pick up sound and then play on another speaker. However, using good equipment and using good practices feedback can be minimized.

Did your amplifier screech at you loudly? You can test to see if your sound was feedback by setting your system up exactly as you had it before when you had feedback. If it makes the loud sound again then move the speaker further away from the microphone. If the sound stops then you know it was feedback.

A good voice amplifier will have feedback reduction logic built in. The older amplifiers on the market do not have very good feedback reduction logic built in. For an example of older technology see the old black 6 watt radio shack voice amplifiers, the newton voice amplifier, and the hisonic amplifier. All of those amplifiers have feedback reduction logic but it is twenty year old technology. Some amplifiers, like the white 2 watt radio shack mini sound amplifier, have no feedback reduction at all. That amplifier does not come with a microphone and is meant only to amplify sound not voice. Hence the title "Mini sound amp".

The VoiceBooster (Aker) voice amplifiers have the best feedback reduction on the market. They are designed to work without feedback when worn on your belt.

The feedback logic works on two principles. First, the time it takes sound to travel. There is a certain distance at which that logic will start working. The second principle is a derivative control that reduces sound amplification when feedback is detected. Still, the most important factor is distance. The second factor is speaker and microphone direction.

**Here are options for minimizing feedback** (this assumes you are using an VoiceBooster amplifier).

1. Make sure your microphone is facing your mouth and that you are using a directional microphone. The VoiceBooster microphone has a white line that should face your mouth. Then make sure the voice amplifier speaker faces away from your body and not towards the microphone opening.
2. Move the amplifier further away from the microphone. The amplifier works best on the belt or in the back armor. The amplifier not work as well in the chest sometime because the amplifier is too close to the microphone. The sound will travel right up your chest and into the microphone in your helmet.
3. Reduce the volume. Obviously this is not the best thing to do since volume is what we all want.
4. Block the sound reaching the microphone with some sort sound damping foam. For example, if a TK puts the amp in the front chest armor the sound escapes at the neck and travel right into the helmet. Which results in feedback. So a layer of foam at the neck in the chest armor will help reduce the feedback.

Please let me know the details of your system like where you have your amp placed and what type of microphone that you are using. Then I can help you troubleshoot better.