

## Sound System Distortion.

Whenever I here an individual complain about sound distortion, they almost always believe it's speaker distortion. Probably not the case!

More often, what they're hearing is preamplifier overload. A microphone or instrument signal path goes through a number of "processors" long before it ever reaches a power amplifier or the speakers, and those processors are adjusted by the "gain" or "trim" knobs at the top of each channel strip on the mixer. If those adjustments are boosted too much, that signal is then distorted and continues all the way to the speakers in that distorted, or overloaded form.

Frankly, distorting today's mid or high quality speakers is not easy to do. **When initially adjusting volume levels,** make sure not to boost the "gain" or "trim" levels until the slider (at the *bottom* of the channel strip) is set at "unity", or about 3/4 of the way up the slider path. That then gives you plenty of room to boost or decrease volume levels without overloading the channel.

## Phantom Power:

The term ***phantom power*** to many novice mixing console operators is often a mystery, but it's easy. Regular dynamic microphones are passive, but most condenser microphones are "active" which means they require a certain amount of power on their own to function, and that's what ***phantom power*** is.

The mixer (equipped with phantom power ) sends a low voltage signal back to the microphone through the 3rd wire in the microphone cord to provide the needed power to the microphone. With the phantom power switch turned off, the condenser microphone will not function, often making the mixer operator believe the microphone is broken. Always check to make sure the **phantom power switch is turned on**. It can even be on using a dynamic (passive) microphone and won't damage or affect that microphones' performance in any way.

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