Understanding Compression

So many people have a hard time understanding what compression does. If the compressor is doing its job the way it should you do not know it is there. It is when someone is using his or her compressor wrong that it starts to stand out.

A compressor reduces the dynamic range of your audio file. This means it reduces how loud some notes are and it also shrinks the difference between the loudest and softest notes in your audio.

This will even out your performance. Image a rock singer dancing around on stage. He is swinging the microphone wildly as he dances around sometimes singing right into the microphone and other times the mike may be a foot away.

Compression is the perfect tool for this job lowering the singing when he is right into the mike and raising it when the mike is far away.

We will look at common settings to help your understanding of the correct way to use compressors.

Threshold: When your signal rises above a preset point the compressor begins to work. When the signal goes below this point the compressor stops working. The compressor only compresses when the signal goes above this preset point. The rest of the time it just sits there doing nothing.

Hard Knee/Soft knee: If the compressor kicks in suddenly as soon as the threshold is met it is known as hard knee compression. If the compressor starts gradually you have soft knee compression. Most compressors will have a switch to let you choose which type you want. Most of the time soft knee will sound more natural.

Ratio: This setting will show you how much effect the compressor has on your signal. Your ratio choice means that for every decibel your audio goes over the threshold it will be reduced by a certain amount. If your audio goes 4 decibels over your threshold setting your output from the compressor will only be 2 decibels louder. This would be a 2:1 ratio.

This only works when your signal goes above the threshold setting. If you are below this setting the compressor will just sit there.

Attack: The attack setting controls how fast the compressor starts working when the signal goes above the threshold.

Release: This setting controls how fast the compressor will let go when you go below the threshold.

Compression is one the most misused tools in your recording tool kit. Most software compressors have great presets. I almost always start at one of the presets and adjust slowly and listen the whole time to what the changes are doing to the sound of the audio.

Less is better when it comes to compression Avoid changing those settings too much. Get a handle on compression and your audio files will sound more professional than they ever have.

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