



Quick Guide

Down & Dirty Compression



What is Compression?

Compression is an operation that reduces the volume of **loud sounds** or amplifies quiet sounds thus reducing or *compressing* the dynamic range of an audio signal. In other words, loud signals are turned down, while quiet signals are turned up.

Attack & Release

Fast vs Slow



Fast Attack

A fast attack helps control transients or “peaks” in the audio signal. A fast setting helps contain percussive and dynamic instruments, providing a more “consistent” audio level.

Slow Attack

A Slow attack allows transients through, providing a “punchy” sound. A slow setting can add “attack” and “thump” to instruments.

Fast Release

A fast release allows the compressor to “snap back” to catch the next audio signal over the threshold. This works well for limiting and heavy parallel compression.

Slow Release

A slow release can add sustain to audio. A slow setting can add length and sustain to percussive and melodic instruments.

A great way to think about compression, is thinking about what kind of sound you are looking for.

Are you wanting a punchy drum sound? Perhaps you need the bass guitar to sustain a little longer? Or maybe the vocalist has powerful peaks on certain notes or words?

You can experiment with fast and slow settings on each attack and release. Over compress a track (15dB to 20dB reduction) and turn the attack and release settings to their min and max separately. Use your ears and listen to the difference in each extreme. Understanding the sonic qualities of compression can help you to understand what you are controlling at lower gain reductions. Here are a few attack and release settings to try:



Fast Attack + Fast Release

Use this for controlling an overall mix. This is commonly used for limiters to contain or add “pumping” to a mix.

Fast Attack + Slow Release

This can help contain and “fatten” a track. Try using on a snare drum, to add more tail while controlling the snap.

Slow Attack + Fast Release

This can add “punch” and “snap” to signals. Use this to add attack to signals

Slow Attack + Slow Release

This can be used to control program material. Good for overall control and leveling of a stereo mix.

Types of Compressors

There are three distinct styles of compressors that you may run across in your audio adventures.

FET Style Compressor

This style of compressor is usually known for its extremely fast attack and release speeds. FET (Field Effect Transistor) compressors are great for taming transients or dynamic source material. Great for taming drums, guitar, and vocals. The Urei 1176 is the gold standard for that FET style.

VCA Style Compressor

This style of compressor is a standard for most audio gear manufacturers. VCA's (Voltage Controlled Amplifier) can be found in stand-alone form, or built into some of the most famous mixing desks. This type of compressor is an all-around go-to for all types of source material. One iconic sound is the "paht, paht" sound from an SSL on snare.

Optical Style Compressor

This style of compressor is considered by some as the most "Musical" compressor. It is known for a soft and smooth attack and release, lending itself to be used on vocals and bass. The Teletronix LA-2A comes to mind when considering optical style compression.



Vari-MU Style Compression

Vari-Mu style compressors (Famously known as a FairChild) are set in a league of their own. Using tube circuitry to control dynamics, they tend to have a “creamy” or “smooth” sound. Even more so than the previously mentioned Optical style. This style of compression tends to have a harmonically rich, a saturated sound to them. This style is great for overall source material. (think mix bus or leveling of a stereo file.) Also, due to the way in which Vari-Mu style compressors work, they can usually handle a lot more compression, before producing unwanted distortion, noise, or an “over-compressed” sound.





So... What Should I Use?

When reaching for a compressor, ask yourself what you are trying to accomplish. Are you taming transients or a dynamic source? Perhaps you need to level out a performance of a singer or acoustic guitar? Or maybe you want to add some punch to that bass or drum track? Hopefully this guide will help you understand and make informed decisions on the next mix you start working on.

Quick Tip! Do not be afraid to experiment or mix and match compression! Stacking multiple compressors of different styles and attack/release settings can add color, dynamics and glue to a source. (this is known as serial compression). This is used consistently by engineers and producers around the globe. Start trying this form of “compression stacking” in your mixes!