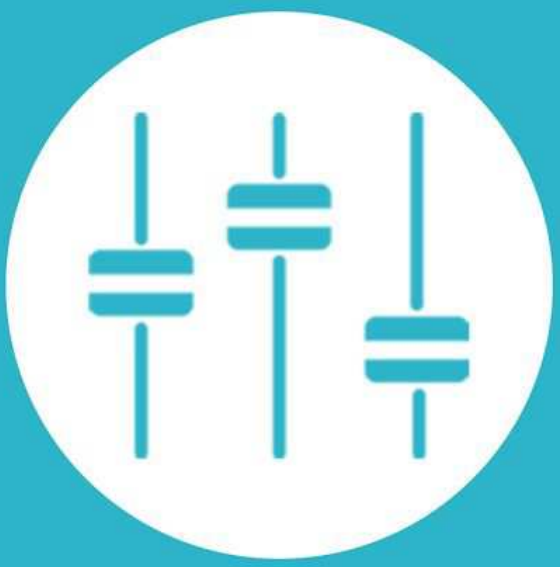
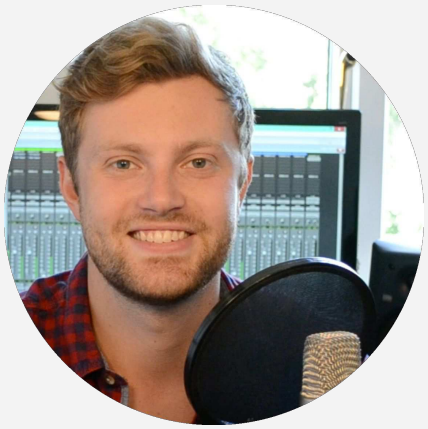
The 6 Types of Compression

That Every Engineer Must Know



Rob Mayzes



Thanks for downloading this free eBook! I'm excited for you to jump in and start learning about compression and improve your mixes.

If you haven't already done so, you can also sign up at www.homestudiocenter.com for free weekly emails about home recording.

Enjoy!

Rob Mayzes

Before we start…

As if compression wasn't difficult enough - there are also various types of compression.

Each one has a distinctive sound, and can impart a completely different tone on to your mix.

Before you start to think about the different compression types, make sure you have a good understanding of compression first.

if you haven't already done so, read my article my popular on compression here:

www.homestudiocenter.com/how-to-use-a-compressor-plus-10-top-tips

Now, on with the show...

The 6 Essential Compression Types

There are five different ways to use compression:

- Normal compression
- Multiband compression
- Parallel compression
- Sidechain compression
- Limiting compression (Limiters)
- Lookahead compression

These 6 different types of compression each have their own uses. It may sound complicated now, but you will come across most of these terms a lot (if you haven't already).

Most people just don't realise that they are all forms of compression.

Now that you have a deeper understanding of how compression works, you can take your knowledge to the next level. Once you have an awareness of these 6 different types of compression, you will truly be a compression expert.

Let's look at each of these types in more detail...

Normal Compression



You know all about normal compression after reading the article, so this doesn't need any explaining.

You can use this form of compression on absolutely any instrument, voice or song that needs it.

Multiband Compression



Multiband compression can be dangerous, so approach with care.

This type of compressor can split the signal in to different frequency ranges and compress them separately.

You could only compress the low end between 50Hz and 200Hz. Or you could chose to compress the high end between 10kHz and 15kHz. It's entirely up to you.

As you can imagine, this type of compression is extremely powerful. And there are lots of uses.

Do you have an irritating ringing on a drum? Find the frequency range (by boosting a narrow band on your EQ and sweeping it around until you find it) and then compress that frequency range.

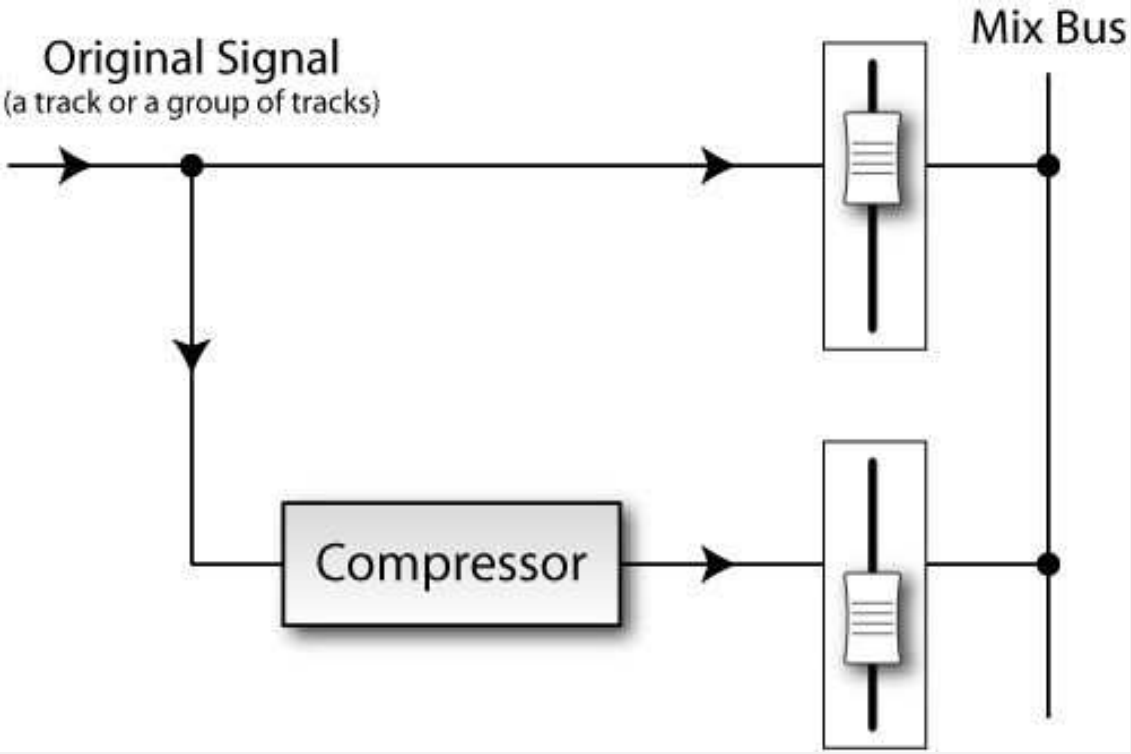
This beats using an EQ cut because you won't affect the rest of the drum sound - the compressor will only kick in and reduce the ringing when it actually happens.

A de-esser is a form of multiband compression. They only compress the frequencies responsible for sibilance in a voice around 5kHz.

Parallel Compression

This type of compression is also extremely useful and widely used by professionals.

Parallel compression is the act of replicating an instrument or voice and applying compression to the new copy. You can then bring up the volume of the compressed version underneath the original.



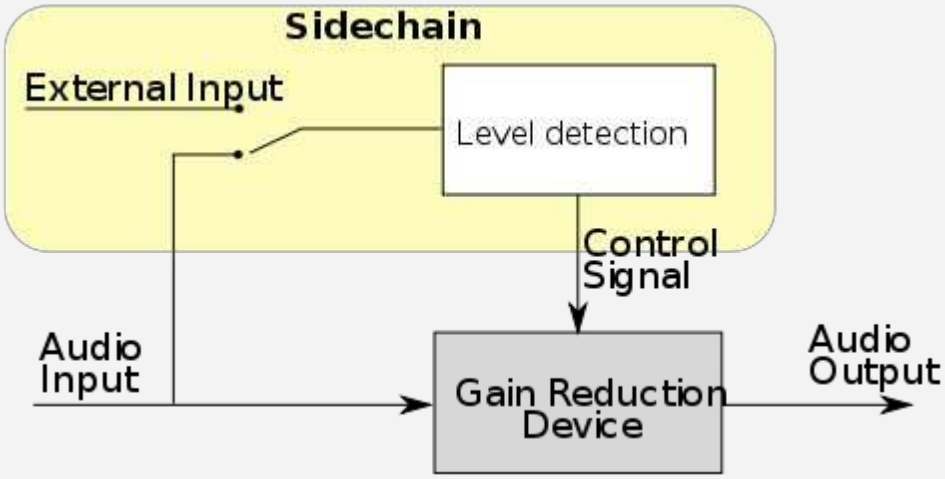
This is great for creating a really subtle compression, as the dynamics of the original track are unaffected.

Try using parallel compression for subtle compression on vocals, or use heavy parallel compression on a drum bus to add power to your mix.

Some plugins have the built in ability to mix the compressed and uncompressed signal. This is extremely useful!

Sidechain Compression

Sidechain compression takes another track to use as it's reference for reducing the volume.



For example, if you used a vocal track as the sidechain on a guitar, the guitar would drop in volume when the vocal got loud.

Another great way to use sidechain compression is to sidechain your kick drum to the bass guitar. When the kick drum hits, the bass guitar will drop in volume slightly, giving the kick more room and the song more bounce.

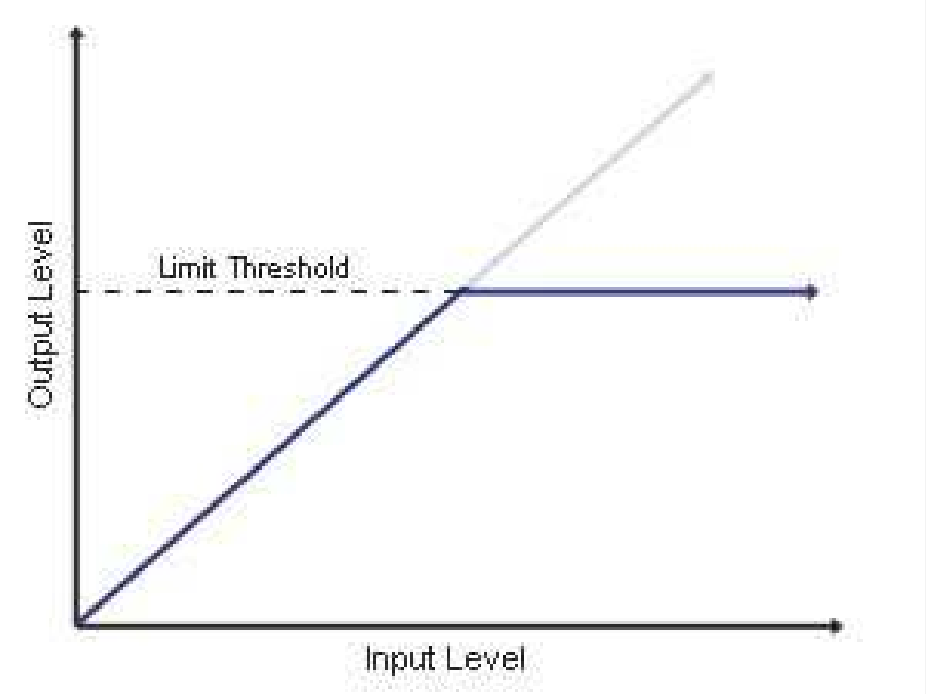
Limiting Compression

Limiters are a form of heavy compression.

If you turned up the ratio *really* high on a compressor (50:1 or higher) it would become a limiter.

Instead of the compressor reducing the volume of any signal over the threshold by a small amount (for example, at 4:1 a compressor would reduce every 4dB's over the threshold to 1dB), a limiter will reduce the volume by an *extreme* amount.

Usually to the point where the volume doesn't go above the threshold *at all.* This is called 'brickwall' limiting.



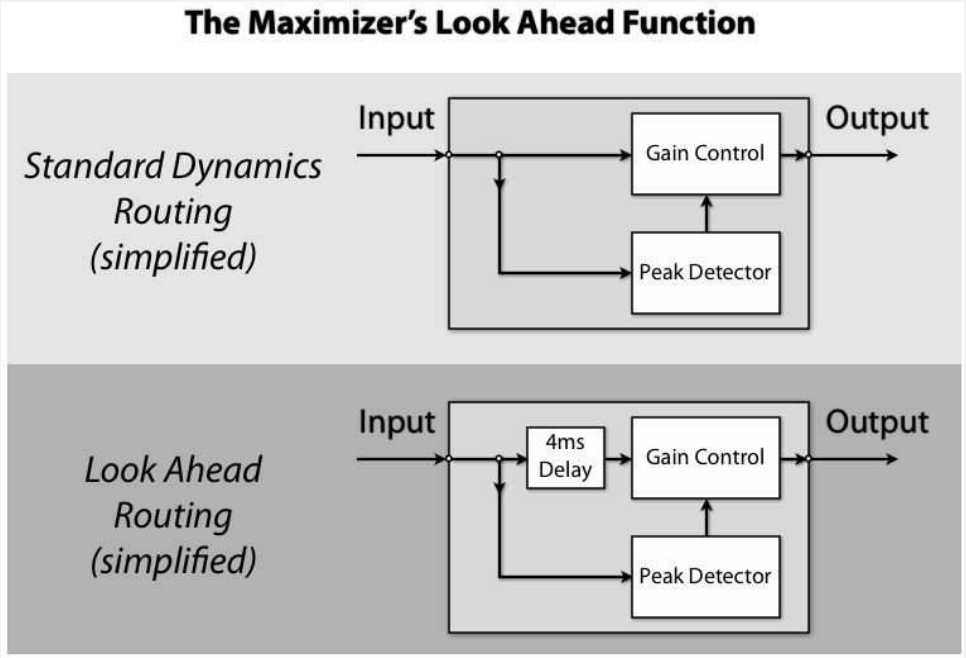
Essentially, you are placing a brickwall above the audio and saying 'never go louder than this' when you set the threshold.

Mostly used in mastering, there are very few applications on single tracks. Instead, they are used on the stereo output to raise the volume of the whole mix.

Lookahead Compression

The clue is in the name here. Lookahead compression 'looks ahead' to prepare for oncoming transients.

The easiest way to do this is to replicate a track, move it back slightly, side chain it to the original track and make sure the attack time is fast enough to compress the transients of the original track before they happen.



Sounds complicated, I know. Essentially, you are giving the compressor a bit of warning so that it can reduce the transients as they happen, rather than acting retroactively (after the transient happens).

This form of compression can be really useful for fast, loud transients. Think snare drums, heavily picked guitar or aggressive vocals (especially plosives).

Action Steps

That's it! You now know more about compression than the majority of engineers out there. Congratulations! But this knowledge is useless unless you take action and put it in to practice. Here are some action steps for you to complete:

Action Step 1 - Load up a project in your DAW of choice. If you don't have any old projects to open, import a song from your music library.

Action Step 2 - Choose an instrument or vocal to focus on. Something that plays a key role in the song.

Action Step 3 - Listen to the loudest section of the song on repeat with the full mix in and focus on your chosen part.

Action Step 4 - Apply normal compression. Experiment with different settings and listen to how they affect the sound.

Action Step 5 - Load up a multiband compressor. Don't have one? Here's a free one you can download. Experiment with compressing the lows, mids and highs. Then try and target a narrow frequency range and listen.

Action Step 6 - Bypass the multiband compressor and create a new track. Use an effects send/buss to send the original track to this new one. Bring down the volume of the new track, pit a compressor on it and heavily compress the incoming signal (5:1 ratio, -35dB threshold). Bring up the volume of the new compressed track.

Action Step 7 - Go back to the original track. Load up a new compressor and sidechain it from a different instrument. Play with the settings and listen. Watch how the compressor ducks in and out when the other track fluctuates in volume.

Action Step 8 - Duplicate the track, nudge it back slightly and add a compressor on the new track. Use heavy compression and experiment with the attack time control to find different sounds.

Action Step 9 - Tell your friends about this eBook and the article! It helps us to grow and keep the lights on. Simply use the sharing button below or direct a friend to this webpage.


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