If multiband compression makes your head spin, you’re not alone. Mastering the art of using a classic, single-band compressor is hard enough. Bake a half a dozen of them into a single plugin, and it’s no wonder so many mixers have no clue how to use multiband compression properly!

Here’s the definitive guide to using multiband compression in the mixing process. For information about how to use multiband compression in mastering, I recommend checking out Ian Shepard’s “How to Master with Multiband Compression” course.

**What Is Multiband Compression?**

A multiband compressor allows you to split a track into different frequency ranges (called “bands”) and compress them independently.

You can choose to compress only a certain part of a track’s frequency spectrum, or apply different flavors of compression to several areas of the spectrum.

Why might this be useful? Well, I’m glad you asked…

**Why Should I Use Multiband Compression?**

Imagine you’re mixing a track with a poorly-recorded vocal (not too hard to imagine, eh?). During the recording, the singer was swaying back and forth in front of the microphone. The vocal sounds fine in certain spots, but excessively boom in others. What do you do?
You could try to tame the excessive low end with EQ, but this will change the sound of the entire performance. The words that were too boomy will certainly sound better, but the parts of the performance that were fine to begin with will now sound too thin.

You could try automating an EQ – cutting low end only where it’s needed. But this would take ages. And your client just texted you, asking if he can swing by in an hour to listen to the mix…

The solution is multiband compression. Set it up properly, and it will reduce the low end of the vocal when it’s too boomy, but leave it alone when it sounds fine. The words that were boomy will now be better balanced, and the other parts of the performance will sound great too. Problem solved.

**When Should I Use Multiband Compression?**

When deciding whether or not to use a multiband compressor, ask yourself the following question:

*Am I trying to fix a problem that’s consistent (it doesn’t change over the course of the song) or dynamic (it changes from note to note)?*

If the problem is consistent, EQ will work just fine. If the problem is dynamic, a multiband compressor is often a better tool for the job.

Some mixers like using multiband compression on their mix bus. I think this is a bad move, because splitting up a mix into various frequencies and processing them independently can create more problems than it solves (see “What Are The Downsides Of Using Multiband Compression?” below).
Multiband compression is best used to solve problems on individual tracks. I use it rarely – perhaps in only 1 out of 10 mixes. When I do, it's typically on vocals, but I'll occasionally use it on other tracks as well. Maybe an acoustic guitar is too boomy, but only on certain notes. Maybe a drum overhead is too edgy, but only when the drummer hits a certain cymbal. Got an inconsistent problem that's too difficult to fix with automation? Multiband compression can offer a great solution.

**How Do I Use A Multiband Compressor?**

**Start With One Band:**

If you're using a plugin with a fixed number of bands (like Waves' C4), bypass everything except one band. If your plugin opens with no bands active (like FabFilter's Pro-MB), add one band.

**Adjust The Crossover Points:**

Solo the band while the track is playing. Adjust the crossover points to isolate the problem you want to fix. The band should be wide enough to contain the entire problem, but narrow enough to exclude the good-sounding frequencies around it.

**Adjust The Threshold:**

Un-solo the band. Adjust the threshold so that the band starts compressing when the problem gets too loud.
Tweak To Taste:

Adjust the range and ratio controls until the problem is adequately controlled. You may need to tweak the attack and release times to get the compressor to react appropriately to the dynamics of the track.

What Are The Downsides Of Using Multiband Compression?

A multiband compressor must pass your track through several filters to split it into different frequency bands. These filters can often add undesirable ringing, distortion, and noise to a track. Even linear-phase filters can alter the sound in an unflattering way.

Processing a track’s frequency bands independently can also alter its natural harmonic structure. This can make many instruments sound disjointed and unnatural – particularly those that were recorded acoustically.

For these reasons, multiband compression works best as a specialty tool. Reach for it sparingly, and listen closely for artifacts.

Which Plugin Should I Use?

The best multiband compressor is FabFilter’s Pro-MB. There are several reasons for this:

- Instead of using a fixed number of bands like many other multiband compressors, the Pro-MB allows you to create bands at whatever frequency ranges you want to work on. This makes it more flexible than most other multiband compressors – especially for more complex processing.
- In addition, the Pro-MB’s dynamic phase mode sounds more transparent than any other multiband compressor I’ve tried.

More information about FabFilter’s Pro-MB is available on their website. I highly recommend watching their tutorial videos, which are incredibly educational and informative (regardless of whether you use their plugins or not).

**General Tips For Using Multiband Compression**

**Avoid Fast Attack Times**

Fast attack times are seductive.

They cause multiband compressors to clamp down quickly, which can make tracks sit evenly in a mix with minimal fuss. For this reason, many mixers dial in fast attack times by default.

So what’s the problem?

Fast attack times destroy transients.

These are the short bursts of sound at the beginning of notes—the bright pluck of a pick hitting a string, the thwack of a drumstick on a snare, the consonants in a vocal performance. Transients add energy and life to music. Removing them can make a mix sound flat and unexciting.

This is likely why Grammy-winning mixer Bruce Swedien avoids compression altogether. To him, the risk of sacrificing the transients isn't worth the benefits.
But there’s no need to throw the baby out with the bathwater. Instead of avoiding multiband compression, just slow the attack time down. This will cause the compressor to let the transients pass through unharmed.

The result?

You'll get all the benefits of the compression, while retaining the punch and impact that makes music compelling.

Always Tweak In Context

When you’re tweaking a multiband compressor, it can be hard to hear subtle changes.

To hone in on difficult decisions, many mixers solo the track they're working on.

This makes changes easier to hear. Without the distraction of other tracks, you can be more discerning. The right choices seem more obvious.

So what’s the problem?

The solo button removes the context you need to make good mixing decisions.

In solo, you'll be guided towards choices that make tracks sound better on their own. But these decisions often don't hold up in context. At best, they'll need additional tweaking. At worst, they'll lead you down the wrong path.

For example, tracks often need a lot more compression than you’d ever apply in solo. Excessive soloing can lead to under-compression, which can make tracks sound shaky and unstable in a mix.
It doesn’t matter how a track sounds in solo. All that matters is how it fits within the rest of your mix.

Avoid the solo button while using multiband compression. Force yourself to make decisions in context, with the rest of the tracks playing. This can be difficult at first, but it will lead to better decisions.

**Don’t Put It On Everything**

I like ketchup. In fact, I like it a lot.

But some people *love* ketchup. And their passion for ketchup extends beyond burgers and fries.

They put it on *everything*. Eggs, bacon, onion rings…

Multiband compression is not ketchup. Put it on every track, and you’ll end up with a small, lifeless mix.

The secret?

Always have a reason for using it. And don’t be afraid to leave things alone. Many tracks—including distorted guitars, drum samples, and virtual instruments—will sound fine without it.

If it ain’t broke, don’t fix it.
Additional Resources

Hopefully this cheatsheet has given you a solid understanding of how to mix with multiband compression. If you’re looking for more information, I highly recommend watching the videos below. Both feature vocals, but the concepts and techniques covered can be applied to a variety of different tracks.

Watch Now: Top Mixing Engineer Tony Maserati on Multiband Compression for Vocals

Watch Now: Why Use Multiband Compression?
Discover The Keys To Crafting Radio-Ready Mixes That Sound Clear, Punchy, And Professional.

Mix By Design is an online training course that will teach you how to mix like a pro. You’ll discover a simple, step-by-step system you can use to break through overwhelm, sink into the creative flow, and make your best mixes yet.

“I went from having a mix I was constantly needling and nitpicking to a mix that I was like — YES, that’s where I want to be. That mix sounds big...that mix sounds pro.” - Christopher Woudstra

“I just finished a new song that is my best work to date by using Jason’s system.” - Brian Watts

Ready to get on the path to pro mixes?

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