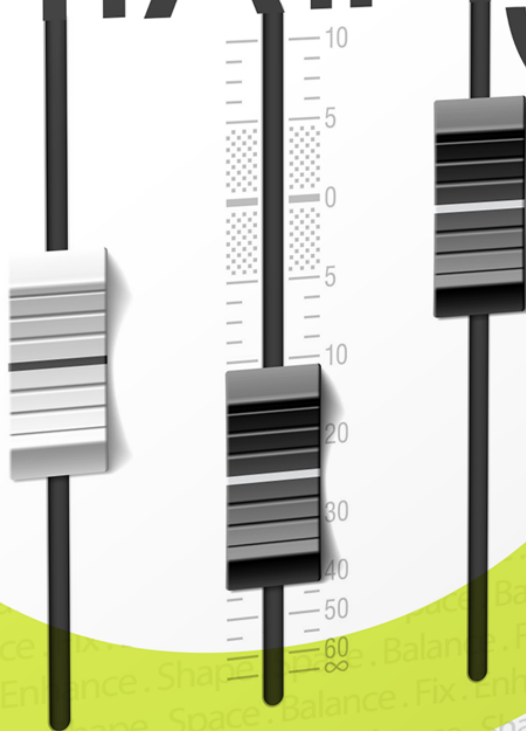


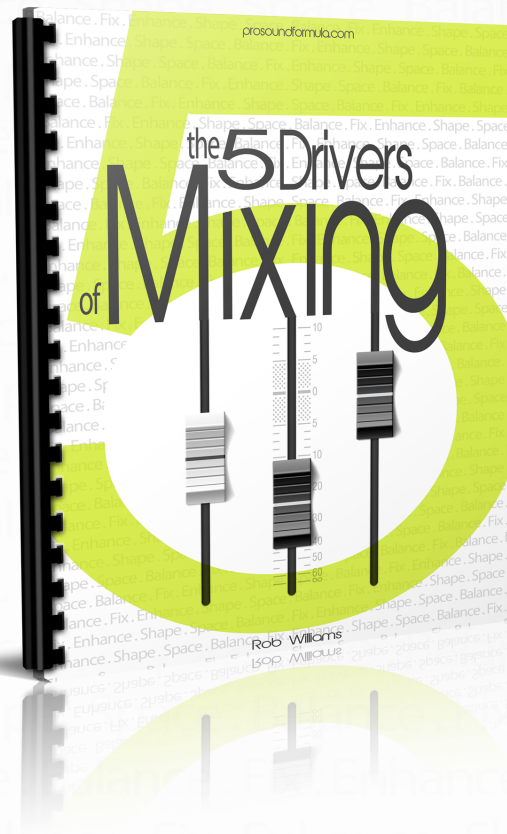
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the 5 Drivers of Mixing



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The 5 Drivers of Mixing

By Rob Williams

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Contents

Introduction	4
How this can help you to get better mixes	6
1. Balance	7
2. Fix	9
3. Enhance	11
4. Shape	14
5. Space	17
Mixing is an Iterative Process	18
Using the 5 Drivers in a mix	20
Reasons Come First	22
Is this REALLY how the PROS mix?	23
Closing Thoughts	25
The 5 Drivers Graphic Overview	26



Introduction

Obviously I don't know exactly where you are in your journey right now, or what you know or don't know about mixing.

But I'm willing to bet that mixing has caused a LOT of confusion and frustration for you, and that having more clarity, understanding, and direction while mixing would really help you to get better sounding mixes at the end of the day.

You want your songs to sound as GREAT as possible.

The better they sound... the more people will enjoy them... the more fans you get... and that's just the beginning.

Even if you know virtually nothing about mixing yet, I'm sure you're well aware that **MIXING is a MAJOR KEY to making your songs sound great.**

The mix can **MAKE** or **BREAK** the record.

The BIG problem: When it comes to mixing, most people have NO idea;

- a. What needs to be done in a mix
- b. When, where, and WHY to use various plugins or processors

If this is you, DON'T feel bad!

For YEARS (even AFTER studying sound) I stumbled through mix after mix never totally sure what I was supposed to be doing or not.

The other problem is that all the things we typically turn to – tutorials, tips, tricks, techniques, new plugins or gear, etc. – NONE of these really go to the root of this problem, because without understanding WHY you're doing something in the first place, you're really just GUESSING aren't you?



This book (and the videos that go with it) are not going to teach you all about the tools and techniques used in mixing (don't worry, that's still coming... :)

What they are going to do is help solve the two main problems I just mentioned above by teaching you the very **CORE of mixing** – the 5 things that are the essential drivers behind **EVERY great mix**.

These 5 elements drive **EVERY single decision made in a mix**, and are thus aptly named: “The 5 Drivers of Mixing”.

The 5 Drivers are:

1. **Balance**
2. **Fix**
3. **Enhance**
4. **Shape**
5. **Space**

These are the **ONLY 5 things** we are doing (or SHOULD be doing) in any mix. Period.

You'll find that EVERY single mixing technique fits into one, or more, of these 5 Drivers.

*“The 5 Drivers form the basis for **EVERY SINGLE DECISION** that is made in a mix”*



How this can help you to get better mixes

It's quite simple really – **Every decision we make starts out with a QUESTION**, thus at least half of mixing is about **ASKING THE RIGHT QUESTIONS**.

But how do you ask the right questions when you may not even be exactly sure what you're supposed to be doing??

This is where the 5 Drivers come in.

The 5 Drivers form the basis for **EVERY SINGLE QUESTION**, and thus the starting point for **EVERY DECISION**, that we make while mixing.

This framework will help you to understand everything that we should be doing during a mix, and make sure that you cover **ALL** your bases.

In summary, the 5 Drivers will:

1. Give you a **FRAMEWORK** to use while mixing your tracks as well as some of the **KEY QUESTIONS** to ask for each of the 5 Drivers.
2. Bring you greater clarity and understanding, and make sure that you don't leave anything out during a mix, by showing you the **ONLY 5 REASONS** we do anything in a mix.
3. Help you to understand the **REASON and PURPOSE** behind every plugin or process you choose to use in a mix.

*“Half of mixing is simply learning to ask the **RIGHT QUESTIONS**... The 5 Drivers gives you a framework to mix in by focussing your attention on the **ONLY 5 REASONS** we do **ANYTHING** in a mix”*



1. Balance

The Balance is **the very ESSENCE of mixing**, and long before all the fancy gear we have today came along, mix engineers were known as “Balance Engineers” and their job was simply to **BALANCE** the levels of the various instruments.

Balance does **NOT** mean to make everything the SAME level... It's about **choosing the focal points of the song** and setting the various levels in a way that **best brings out the emotion, energy, and message of the song**.

Often we can get so caught up in all the different gadgets and plugins we have at our fingertips, that we forget that **BALANCE** is the most fundamental part of mixing.

Seems simple though doesn't it?

– I mean, all we have to do is turn the faders up or down! – Right?

Well, anyone who's spent more than a couple of hours trying to get the various instruments in a song to balance knows that it's not as easy as it first seems. (I'm sure this is bringing up memories of late nights staring at your mix session wondering whether it will EVER sound right! ;)

There are MANY reasons why it's so difficult to get the levels right, and a lot of it has **NOTHING to do with level at all – each of the other four drivers all play a KEY role in getting the various instruments to 'sit' in the mix**, and we'll touch on this in the coming pages.

But for now, the main thing to remember is that if the mix doesn't sound well balanced, the song's never going to sound as good as it could.



It's not just the main instrument levels that need balancing, we also need to check **ALL inputs and outputs as well as any sends, returns, and busses**.

Fortunately digital audio is MUCH more forgiving than analog gear, and so as long as it's not clipping, you don't need to worry about the levels too much.

However, keep in mind that most plugins are dependent on the level of the input, so making this too soft or too loud can change the way that they process the signal.

Throughout the mix, I'm constantly questioning whether the balance is right or not, here are some of the questions you can ask:

Questions to ask

- ✓ What's **too loud**?
- ✓ What's **too soft**?
- ✓ What **can't I hear**?
- ✓ Can the **vocals and lyrics** be clearly heard?
- ✓ Are the main **focal points** of the song loud enough?

Primary tools for Balancing:

- ✓ Faders / knobs
- ✓ Automation

*"Balance does **NOT** mean to make everything the **SAME** level... It's about choosing the **focal points** and setting the various levels in a way that best brings out the **emotion, energy, and message** of the song"*



2. Fix

The fix could be the **MOST** important aspect in making sure that your mix sounds **PROFESSIONAL**.

Think about it, one of the most defining factors of a professional production is that you **can't find anything WRONG with it**.

There are so many different ways to mix and produce a track, and we may like certain styles and dislike others, but it's this "LACK of error" that universally brands a production as "professional".

The flip-side is equally revealing.

It often takes just **one or two things that give away an amateur recording** and make you instantly lump the entire track (and artist!) into the "demo" category.

Mixes where there's nothing glaringly wrong can be just as bad.

I've mixed countless songs where just **one or two 'bad tracks' make the entire mix sound off**.

A good analogy for this can be found in the kitchen...

Let's say you were to bake a cake – hypothetically of course – If you were to add just **ONE** ingredient that is 'off', it'll make the ENTIRE mix taste a little funky.

It may be really subtle, and most people won't say; 'the eggs in this cake are off,' they'll just say; 'I don't like this cake!'

In the same way, most people will probably not pick up that it's the backing vocals that are singing out of tune, they'll just say; '**I don't like this SONG**'.

So it goes without say that we want to make EXTRA certain that we've fixed anything that may sound wrong, out of place, or simply distracting in the mix.

Here are some of the questions to ask and things to listen out for...



Questions to ask:

- ✓ Is something sounding too **harsh**?
- ✓ Do any tracks sound too **boomy**?
- ✓ Does the mix sound **muddy**?
- ✓ Do any tracks **hurt your ears** when you turn it up?
- ✓ Is there something **out of tune**?
- ✓ Are there **timing issues**?
- ✓ Are there any **noises**? – Clicks, pops, hums, etc.

Primary tools for Fixing:

- ✓ EQ
- ✓ Gate
- ✓ Autotune
- ✓ Noise reduction
- ✓ De-esser
- ✓ MUTE BUTTON (Don't underestimate the power of this tool!)

*“When making a meal, just **ONE** ingredient that’s ‘off’ can make the **WHOLE** dish taste off... the same principle applies to mixing”*



3. Enhance

An enhancement is simply **ANYTHING that makes the song sound better**.

Q. How do you know whether you've enhanced something?

A. You listen to it and say "That sounds cool!"

Q. But what if someone else doesn't like it?

A. Well sorry for them!

Seriously though... this is the most **SUBJECTIVE part of mixing**. EVERYONE has a different opinion of what sounds best, and while there are certain 'boundaries', there really isn't a right or wrong.

– Don't you just hate it when someone gives you the whole "Well there's really no right or wrong way to do it so just do what sounds best" ?!

I remember getting really frustrated by this because **I DIDN'T KNOW** what a **GREAT** bass, or vocal, or guitar – or anything, was **SUPPOSED** to sound like in the mix, and so I didn't know whether the 'enhancements' I was making were right or not. I'm sure you've had this experience once or twice!

So what's the solution?

Well, unfortunately there's no quick fix for this, and it really just comes with time, practice, and experience.

The good news is that this can be **one of the most FUN aspects of mixing** to learn.

Personally, the enhancement has always been my favorite part of mixing because you get to transform an often bland sounding instrument into one that sounds **GREAT**.

This is also a LOT easier to learn than it use to be, the Internet is filled with tutorials on how to enhance everything from drums to vocals in a hundred different ways, and it's really just a matter of trying different methods and **experimenting until you find what works for you**.



Keep in mind that what may be **an enhancement in one song, could sound TERRIBLE in another song.**

For example, making a vocal sound really edgy and aggressive may work great in a rap or rock song, but would RUIN a light acoustic ballad, so you'll obviously need to pick the enhancements that work best for the particular song that you're working on.

Here are a couple of questions we can ask when enhancing the mix:

Questions to ask:

- ✓ What instruments could be made **warmer**?
- ✓ What could be **brighter**?
- ✓ Could something be **more edgy or aggressive**?
- ✓ What could be **bigger**?
- ✓ Would **analog gear or emulation** work well in this track?
- ✓ What **effects** could enhance this song? – Reverb, delay, chorus, flanger etc.
- ✓ What could enhance the **overall mix**?

Primary tools for Enhancing:

- ✓ EQ
- ✓ Compressor
- ✓ Limiter
- ✓ Expander
- ✓ Analog gear or analog emulation
- ✓ Any effects – Reverb, delay, chorus, flanger



You may find it useful to enhance any given instrument while listening to it in solo – this is fine, AT FIRST.

However, once you've made the general adjustments and got it close to where you want it to be, it's **ESSENTIAL** that you tweak it in **CONTEXT of the MIX**.

This brings us to the next Mix Driver, SHAPE.

*"An enhancement is simply **ANYTHING** you do that makes the **song sound better**"*



4. Shape

It's all very well making the various instruments sound great by themselves, but the fact is, it doesn't matter how good an instrument sounds in solo, **all that matters is how it sounds in the final MIX** – because this is all the end listener – your fans, get to hear.

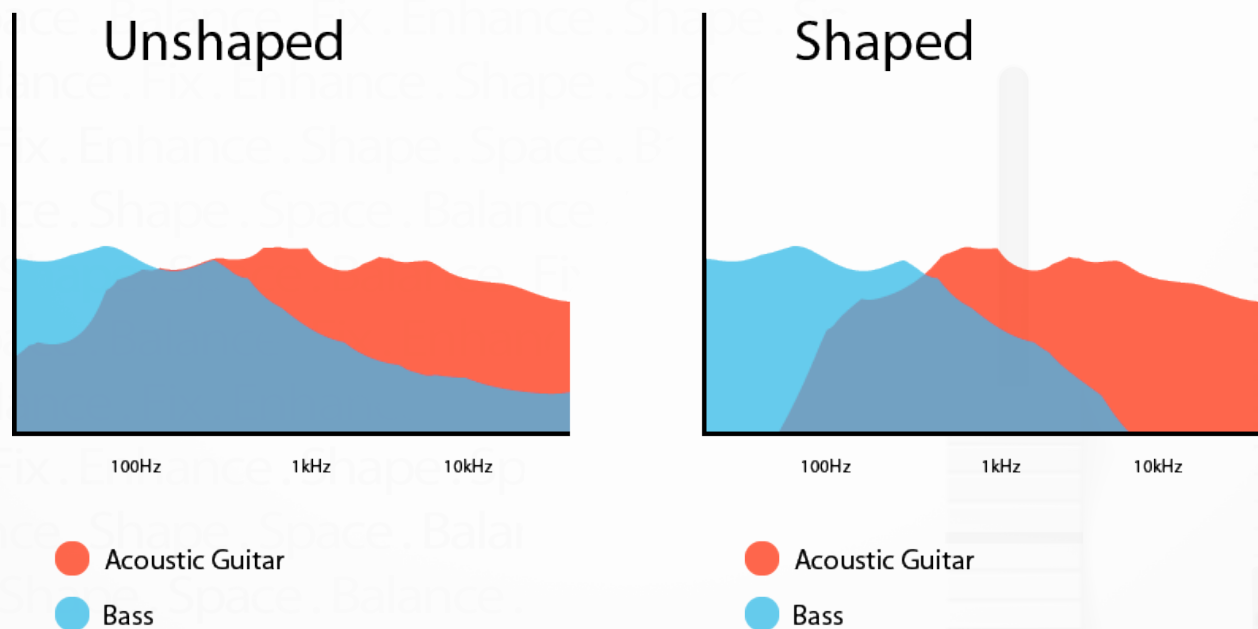
So once we've made the individual instruments shine on their own, we need to make sure that they sound great in **CONTEXT** of all the other instruments.

The primary tool used for shaping is an EQ, and what we're trying to do is take away **UNNECESSARY** frequencies that are clashing with other instruments in the mix.

The rule of thumb is: The less important it is, the more you can take away.

The opposite is also true – the main elements in the mix, such as vocals for example, will be shaped the **LEAST**.

Take a look at the following image illustrating the frequency spectrum of an acoustic guitar (red) and bass guitar (blue):



The image on the left is BEFORE any shaping has been done. You can see the bass guitar has more low end energy while the acoustic has more top end, however, there's quite a bit of overlap happening there.

The problem with this overlap is that it can lead to a **muddy and cluttered sounding mix**, as everything is **competing in the same frequency range**, and there's a lot of redundancy.

For example, a bass guitar generally doesn't have anything useful over 10 kHz.

An acoustic guitar doesn't need loads of low end if you already have a bass guitar performing that role in the mix.

– And this is only TWO instruments, can you just imagine what's going on when you have 30 or even 50+ different tracks all competing?! A mess!

So by using just ONE simple high pass filter on the acoustic guitar, and ONE low pass filter on the bass, you can see how we've **minimized the overlap** on the righthand side image.

The bass is now performing it's primary role – BASS, and the acoustic is most dominant in the upper frequency ranges. This is a prime example of shaping two instruments to **COMPLEMENT each other and blend together in the mix**.

Now that you have an idea of what shaping is doing in the mix, what are some of the questions we can ask?

Here are some of the main ones:

Questions to ask:

- ✓ Does it sound like things are '**clashing**' in the mix?
- ✓ Does the mix sound **muddy**?
- ✓ What can I **take away** that won't be missed in the mix?
- ✓ Are some tracks **masking** other instruments?
- ✓ Are there several tracks **competing in the same frequency range**?
- ✓ Are there instruments getting **in the way of the vocals**?
- ✓ What sounds too '**thick**' or **full** in the mix?
- ✓ Does something sound like it's **dominating but shouldn't be**?



Primary tools for Shaping:

- ✓ EQ
- ✓ Dynamics

"It **doesn't matter** how good an instrument sounds in solo, all that matters is how it sounds in the final **MIX**"

5. Space

Creating 'Space' is about giving your mix a sense of **DEPTH and DIMENSION**.

Have you ever listened to a song and just marveled at how each instrument sounds as if it has its own 'space' in the mix? – Of course, this is more noticeable in certain styles than others, but there's just something about professional productions that sound almost '3D'.

It doesn't just sound like all the instruments are on top of each other, there's things out to the left and right, and you can hear that the drums are further away than the singer.

This is what we're going for when creating a sense of Space in the mix.

Here are some questions we can ask:

Questions to ask:

- ✓ Is there **depth** in the mix?
- ✓ What kind of space/s will work well **for this song**?
- ✓ Do I want the space to sound '**larger than life**' or very **close & intimate**?
- ✓ Do I want a **wide or narrow stereo image**?
- ✓ How can I use pan and reverb to **create more separation in the mix**?

Primary tools for creating Space:

- ✓ Pan
- ✓ Reverb
- ✓ Delay
- ✓ EQ

*"Creating Space is about giving your mix a sense of **DEPTH and DIMENSION**"*



Mixing is an Iterative Process

After spending several MONTHS trying to break mixing down into a series of steps that could be followed, I finally came to the conclusion that it's simply not possible.

Mixing isn't a set of steps or actions that you take and then it's done, mixing is really an **ITERATIVE PROCESS**.

What does this mean?

The simplest definition I could find states:

Iteration is the act of repeating a process with the aim of approaching a desired goal, target or result.

The goal: **A great sounding mix.**

The process: **The 5 Drivers.**

So what we're doing is working through these 5 Drivers repeatedly as we get closer and closer to the result we're after.

Each time you go through them you could think of that as an 'iteration'.

It doesn't matter how many times you go through them, the point is, it takes **multiple cycles** – or ITERATIONS, to get the mix to where we want it.

The reason for this is that **EVERY action performed affects EVERY other instrument in the mix.**

Turning the level of one instrument up is effectively the same as turning ALL the other instruments down, and making one instrument brighter makes all the other instruments sound relatively more DULL – Does that make sense?



This is why it's impossible to 'set and forget' anything, and why we need to improve the mix in 'layers', with each set of changes bringing us closer to that end result, a great sounding mix.

*"Mixing is an **ITERATIVE PROCESS**... To iterate simply means to **REPEAT** a process (**The 5 Drivers**) until you get to your desired result (**a great mix**)"*

Using the 5 Drivers in a mix

So if the 5 Drivers aren't steps, then surely the order doesn't matter – right?

Well, actually they are in a specific order for a reason, but the order is only really important on your 'first iteration' (the first time you're going through the 5 Drivers in a mix).

Let's have a look at a typical example of a mix and how we'd use each of the 5 Drivers:

BALANCE is first, because the first thing we generally do in a mix is set a GENERAL balance just to hear everything and to get a sense for the song (especially if you're mixing someone else's track).

The balance is ALWAYS changing, almost every plugin you put on affects the levels and so you'll automatically keep adjusting this as you move on through the mix.

Next we want to **FIX** anything that may sound wrong or distracting. Trying to make the mix sound good when there are a bunch of problems is simply counter productive.

Once we've done that, we can then start to **ENHANCE** each of the individual tracks. By using various processors and effects we can really bring out the best in each instrument.

(Again, the balance will have changed with each instrument you've enhanced, and so you'll be adjusting the levels as you go.)

Now that we've enhanced the instruments individually, we must **SHAPE** them so that they blend and fit together in the CONTEXT of the mix.

The reason Shape comes after Enhance is because when we enhance an instrument we may change everything from the dynamics to the frequency range, and so it would be **counter productive trying to SHAPE the various instruments to fit together if they're not at least CLOSE to the final sound that we're going for.**



Finally, we need to create **Space**. This is where we're giving the mix both depth and width. The reason I've made this one last, is because I've found many people (including myself!) try to use pan and reverb to create separation in their mixes, but this is like given Aspirin to someone with a broken leg – It may disguise the problem initially, but it's not fixing the SOURCE of the issue which is that the instruments haven't been SHAPED properly to fit together.

Once you start panning and adding reverb, it can make it a lot more difficult to shape the instruments effectively, so I prefer to mix in mono, and without too many effects, until the mix starts taking shape (pun intended).

Trust me, **if you can get your mix to sound great in mono, it'll sound REALLY GREAT in stereo.**

So now that we've gone through each of the 5 Drivers once, we'll simply keep going through them, each time asking the kinds of questions I've listed for you in this book.

As mentioned, the order isn't important after 'the first round', and it's simply a matter of doing whatever needs to get done.

As the mix evolves, new issues and opportunities will come up.

For example, the vocals may have sounded fine initially, but once you start enhancing them by adding some top end for example, they may sound too sibilant. This wasn't an issue when you went through 'Fix' for the first time, but you should catch the problem as you go through a new iteration.



Reasons Come First

One last thing, you may be wondering what to do if something falls under more than one Driver – For example, adding reverb to a vocal could;

- a. **FIX**: Help to disguise a pitching problem – Obviously it's not as effective as autotune, but it does help.
- b. **ENHANCE**: Make the vocal sound bigger and simply nicer to listen to.
- c. **SPACE**: Give the vocal a sense of depth in the mix.

The fact is, many things could be attributed to more than one of the 5 Drivers, and this is perfectly fine.

– BUT –

Understanding WHY you're using something in the first place DOES affect the tools you choose and the decisions you make.

In the example we just used above, **the TYPE of reverb you choose to use may very well differ depending on the PRIMARY reason you're using it**, here are some examples:

- a. **FIX**: A medium to large reverb with not much pre delay will work best to disguise tuning issues. A longer reverb tail helps to 'smear' the notes together making any pitching issues less obvious.
- b. **ENHANCE**: A bright sounding plate reverb with about 50 ms pre delay often sounds great on vocals. The pre delay serves to keep the vocal upfront in the mix while still adding some nice sustain.
- c. **SPACE**: A medium sized room may help to push the vocal back into the mix slightly and make it sound as if it's in a similar space to the band. The plate reverb mentioned above may not create this sense of space as the pre delay will make the reverb sound more like an effect than an actual space.

In each case, the **REASON** for using the reverb changes the type of reverb we use.

Do you see now why it's SO important to understand WHY you're using a given plugin or process? :)



Is this REALLY how the PROS mix?

Now you may be thinking to yourself – “Well this is a cool idea but is this REALLY the way the PROS mix records??” (And if you weren’t thinking of this before then I’m sure you are now!)

Firstly, everyone has a different style of mixing, and even the mix engineers who are the best in the world have VERY different approaches and even OPPOSING opinions on many aspects of mixing.

But the fact is, EVERY SINGLE PERSON doing EVERY SINGLE MIX, is using the 5 Drivers in one way or another, whether they realize it or not.

Actually... that’s not true... but every **GREAT** mix **MUST** include the 5 Drivers.

EVERY great mix must be **balanced**.

EVERY great mix must have any problems **fixed**.

EVERY great mix must be **enhanced** to bring out the best in each of the instruments.

EVERY great mix must be **shaped** so that the various instruments blend together.

EVERY great mix must have a sense of **space**, of depth and dimension.

The only difference is that the ‘pros’ have had so much experience that they’re doing this automatically and unconsciously.

They also tend to jump between many different things all at once, because they’ve just done it so many times that they know exactly what they’re looking for.



So as you become more experienced, you may just throw up all the faders and start balancing them, then fix one or two things, then start to enhance and shape different instruments while at the same time creating a sense of space in the mix – you get the picture.

This simply comes with experience, and you WILL get there!

But when starting out I'd recommend using this framework as a guide as it will help you to **focus on the different aspects without getting overwhelmed.**

This is no different from learning to drive a car – especially if it was a stick shift! At first it seems impossible – you've got to steer, work the clutch, change gears, apply the brake, press the accelerator, AND keep checking in the mirrors – all at the SAME TIME??!

Yet anyone who's been driving for a while can recall an experience where they drove from A to B and were so caught up in their thoughts that they couldn't even remember how they got there! Has that happened to you?

This is because it's just become so ingrained that it's second nature to you, and you no longer have to think about it.

So the point is, although this may seem really difficult at first, with time it DOES get easier, I can promise you that.



Closing Thoughts

While I fully realize that this is nowhere near a comprehensive guide to mixing (I'm still working on that!), I hope that this has at least given you some **CLARITY and DIRECTION** as to what you need to be doing in your mixes.

I wouldn't be surprised if this book has brought up more QUESTIONS than answers for you – and that's the point, because **asking the right questions is always the first step in improving.**

If nothing else, now that you know the essential 5 CORES of mixing, you can be confident that you've at least **covered all your bases when doing a mix.**

I encourage you to try using this framework and the questions listed as you go through your next mix.

The fact is, you're ALREADY doing most of these things, but this will just help you to become more intentional about it, and also make sure that you don't leave anything out.

Remember, every trick or technique, every plugin or piece of gear, every action taken while mixing, **should ALL start with a REASON**, and the 5 Drivers are the basis for all those reasons.

Without a clear reason and purpose, the decisions we make are RANDOM... and no one wants a random sounding mix... Unless you're Napoleon Dynamite perhaps.

Finally, I just want to say that it's very easy to get caught up in all the technical stuff and different things you think you're 'supposed' to be doing while mixing.

At the end of the day, **it's really just about having fun and making some cool sounding music...** don't forget that :)

My hope is that this framework will help guide you through your mixes so that you can focus on what's most important – making your songs sound great.

I wish you all the best with your music, and I'll talk to you soon,

– Rob



The 5 Drivers Graphic Overview

THE 5 DRIVERS of MIXING:

Balance. Fix. Enhance. Shape. Space.

