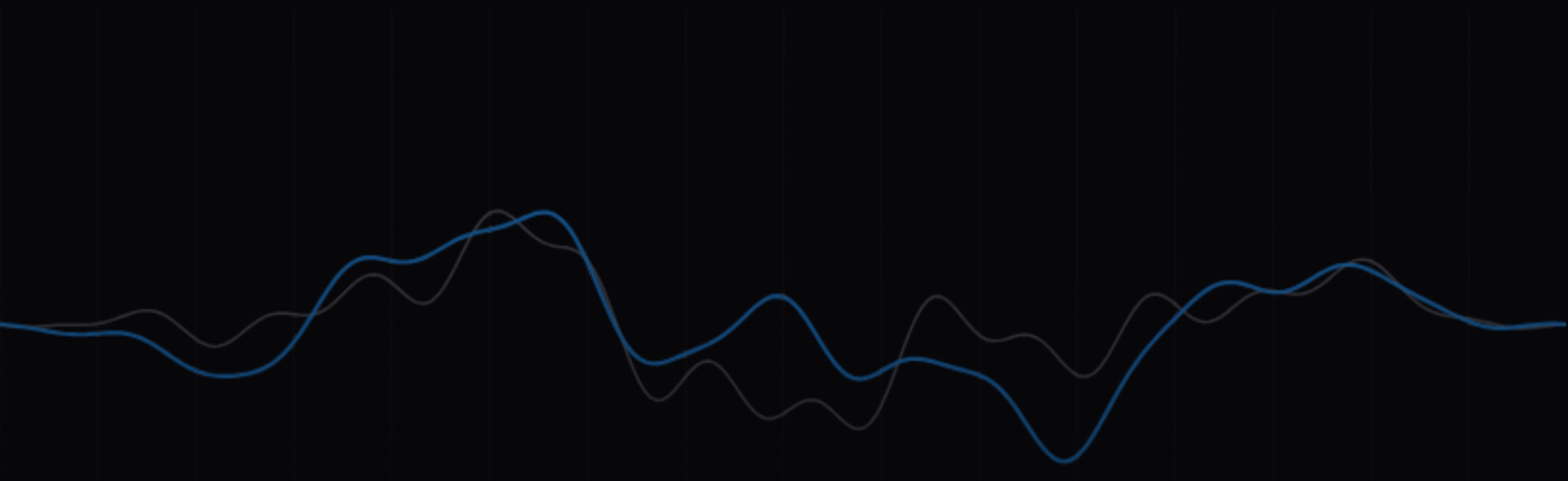
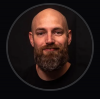
The Mix Academy

FREE GUIDE

The Headphone Mixing Blueprint
Mixes that translate.

The proven system for release-ready mixes on headphones. No expensive monitors. No treated room. Calibration, Frequency Focused Referencing™, and a workflow that travels.





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2026 EDITION
THEMIXACADEMY.COM

THE SYSTEM

Can you actually mix on headphones? Absolutely.

When you pair proper calibration with disciplined referencing. Headphones remove room issues but exaggerate left and right separation, so your goal is to learn how that translates to real-world playback. Once you do, it's a superpower.

Open-back

Natural stereo image and spaciousness. Ideal for most of your mixing decisions.

Closed-back

Isolation and focus. What most engineers reach for when tracking, and better than open-backs for checking your low end.

Pro tip: switch between quiet and loud listening. Quiet reveals balance and harshness, loud shows how your low end and punch translate. Notice what changes. That's your roadmap to mixes that travel.

Quick wins

- **Work quieter than you think, if you can.** Quiet monitoring keeps your judgment honest for longer.
- **Loop 8-12 seconds.** Compare short loops against your favorite reference mixes, not whole songs against memory.
- **Let MIXRef pick the references.** Pinpoint the ones that serve your client's ears and your own, not just the ones you already know.
- **On marathon sessions, switch jobs.** When real breaks aren't happening, move to non-critical work like editing or arranging and let your ears reset.

Why this works

Every playback system is an opinion. A calibrated headphone plus a level-matched reference is a standard. The rest of this guide builds that standard in two moves: flatten what you hear, then compare what you hear against records that already translate.

STEP ONE

Headphone calibration

Calibration evens out the peaks and dips baked into your headphone model, so you mix from a more consistent starting point. Unit variation, pad wear, how well they seal and your own anatomy still move the result, so treat it as a much better starting point rather than a promise of neutrality.

01 Find your model

The Oratory1990 preset list covers hundreds of popular headphones (Sennheiser, Beyerdynamic, Audio-Technica, Sony, and more): reddit.com/r/oratory1990 → list of presets

02 Convert for your EQ

Most EQ plugins load Oratory values directly. FabFilter Pro-Q measures Q differently, so the printed values give you the wrong curve. The converter on the Blueprint page does that maths for you. Two of David's own .ffp presets ship with this kit: **David Glenn's NS10 Emulation** and **David Glenn's Avantone Emulation**, the two most famous midrange truth-tellers in studio history, folded into Pro-Q curves.

03 Insert it in your chain

Put it on your headphone output only, which is the routing shown below. Keep it away from anything that measures: a correction curve upstream of your LUFS, spectrum or true-peak meters means those meters are reading your monitoring path, not the file you export.

04 Level-match before judging

Toggle bypass and match levels before evaluating. Louder isn't better, just different.

My own Pro Tools routing. The calibration EQ lives on the DG MON headphone path, not the mix bus.

Before you bounce: if your calibration EQ lives on the mix bus, disable it before export. Otherwise your final bounce will include the correction curve.

STEP TWO

The Loudness Ladder

Three buses, climbed in order. Mix A holds the mix together, Mix B supplies the slam, and the master is the last chance to affect the sound. This is how a mix reaches industry loudness before you ever hold it up against a commercial release.

Why this comes before referencing: most mixes arrive at the two bus still too dynamic, because there wasn't enough grip at track level or at bus level. The two bus gets handed a job that should already have been half finished upstream. That's a mixing correction, not a mastering trick. And until it's fixed, comparing a quiet mix to an industry master is apples to oranges. Your magnifying glass is going to lie to you, and there will be cracks in it.

RUNG ONE

Mix A, the stereo bus

A stereo aux, not the Master Fader. Every track feeds it. This is where the mix stops being a stack of parts and starts behaving like a record. Real plugin names below, and any equivalent you already own will do the same job.

- **1. Virtual mix bus.** Slate VMR or your console emulation. Hit it pretty hard. Red-line it, take it to extremes so you can actually hear what it's doing, then back it off. Usually a little more than slightly.
- **2. SSL-style bus compressor.** bx_townhouse or your bus compressor. The heart of the two bus, and the one worth dialling in properly. Full method on the next page.
- **3. Gullfoss** or your dynamic resonance tool. After the compressor, so it's working on a signal that's already behaving.
- **4. Mid and side EQ.** Pro-Q 4 or any mid/side capable EQ. Check the phase modes while you're in here, and listen for whether the difference in quality between modes is the same on the two bus as it's at track level. They aren't the same decision.
- **5. Character, genre dependent.** Studer or a tape emulation. Some songs want it, some don't. A taste call, not a step.
- **6. Match EQ.** Ozone or your match EQ. Dialed in over on the referencing plugin, then moved onto Mix A to live there permanently.

STEP TWO, CONTINUED

The bus compressor dial-in

Most people put a bus compressor on the mix, see two dB of reduction, and call it done without ever hearing what any of the controls do. This is the opposite of that.

01 **Ratio to 4:1, then leave it**

Set it and leave it there while you find everything else. One variable at a time is the whole method. **Four is not the rule.** I use 2:1 as often, I have gone as low as 1.5, and there are songs that want more than four. Four is the number here because it makes the compressor easy to hear while you are still learning what the other knobs do to it.

02 **Drive it 5 to 10 dB of reduction, on purpose**

You're not looking for the final setting yet. You're trying to hear the compressor work. If the needle is barely moving you can't hear what you're choosing between, and every setting will sound like every other setting.

03 **Park the release on auto**

Get it out of the way so it stops being a variable while you dial the attack.

04 **Sweep the attack, slowest to fastest**

Listening to what it does to the kick, the snare and the vocal transients. You're hunting the point where you're genuinely grabbing it and the grab is relevant to the song. It usually lands on the slowest or the second slowest attack. That's not a rule, it's where the useful grip tends to live on a full mix.

05 **Now set the release**

Come off auto. Fastest or second fastest most of the time. A ballad might want the next one up.

FASTEST	SECOND FASTEST	AUTO
Energy, when it works with the tempo of the song.	Sits more in the pocket.	A smear button. Smear heavily and blend that in parallel and you've a trick of its own.

06 **Stay hot while you decide**

Still 5 to 10 dB or more. You're getting a feel for the thing, not committing to it.

Step seven: Slam and Settle

The move this whole guide runs on, and the one that has a name because you'll use it everywhere.

SLAM AND SETTLE

Cross the line, then retreat

Now dial it back and find the sweet spot for the mix as it actually stands. Exaggerate until you can hear it, then retreat until only the good part is left. **You can't find a line you've never crossed**, and you won't learn what these tools do by tickling them.

Often it settles at tickling the needle a dB or two. But some songs want gripping, for that Andy Wallace SSL vibe, and then it's 4, 5, 6 dB or more and the compression stops being control and becomes part of the tone.

There's a mix knob on most of these. I usually save it.

The same move, under the same name, is how you find the blend on the Vocal Crush bus in The Vocal Mixing Checklist.

The sidechain high-pass, the kick versus snare balancing knob

I mix low end heavy on the kick, so the compressor hears the low end first and makes most of its decisions on it. Left alone, the kick ends up driving the whole two bus and the snare barely gets a vote.

The sidechain high-pass fixes that. It filters **what the detector listens to**, not what you hear. Raise it and the kick stops dominating the decision, so the compressor delivers an even amount between the kick and the snare. That matters because kick and snare drive most of my mixes. On a vocal forward song, that weight shifts to the vocal and you dial it accordingly.

30 TO 40 HZ

Sometimes enough, when the low end is already behaving.

70 TO 100 HZ

Where it usually ends up.

120 HZ

When the kick is really driving everything.

The test is visual: watch the needle while the song plays. You want to see it move with the kick **and** with the snare. If it's only twitching on the kick, keep raising the filter until the snare starts pulling it too.

STEP TWO, CONTINUED

Mix B, then the master

Mix A is sent pre-fader to Mix B as a complete copy. Both of them land on the master.

RUNG TWO

Mix B, the parallel slam

The routing is the trick. Mix A feeds Mix B pre-fader, so Mix B is untouched by Mix A's fader. That's what lets you mute Mix A entirely and still hear the slam alone at full volume.

What goes on it. A copy of the same bus compressor, or an 1176-style compressor or your fast FET compressor. Full signal. No mix knob. Slam to taste.

Stack them. Often a slow attack, then a medium behind it, gripping the mix in stages. Sometimes 2 to 3 dB each. Sometimes 10 dB each. It depends on the song and how much energy it needs. Sometimes there's a limiter on the parallel path too.

What you're chasing is a pleasant sounding, way over-compressed signal. The question you're answering isn't "is this too much". It's **"how can I slam this mix and still make it sound good?"**

The audition move. Mute Mix A and play Mix B alone at full volume. Get it sounding great by itself, not merely acceptable, because if it sounds bad alone it won't magically become useful blended. Then pull the Mix B fader to zero, unmute Mix A, and blend Mix B back in to taste. Usually not much. Sometimes quite a bit. It depends on the song, how loud you're going, and whether you're complementing character or purely chasing level.

RUNG THREE

The Last Chance

Kazrog K-Clip or your clipper. On from the first bar, not saved for the end. Shave the peaks before the limiter ever sees them. Sometimes a little, sometimes a lot, and this is where a great deal of the density actually comes from.

Pro-L 2 or your limiter. Straight after the clipper and on from the first bar. I mix through it, pushed two or three dB in without watching the number, so everything above is written into a signal that's already limited. Not the last stage. The room I'm mixing in. **What finishes the record is a separate question:** sometimes that same Pro-L 2, sometimes the AOM Invisible Limiter V2, but since IRC5 arrived it's usually Ozone's Maximizer on modern material. I go hot with a lot of low end, and the control it has down there helps the mix sit.

A late look through Ozone or your mastering suite. Near the end, not the start, to see whether it improves on what I already have. The EQ usually goes off, sometimes dialed back a touch. The imager almost always goes off; it pulls the mix in and does things I don't like. Then the harmonic exciter, dialed.

STEP TWO, CONTINUED

Where it lands, then level matching

Numbers, so you know whether the ladder is working. These are integrated LUFS, measured across the whole song.

-14 to -11

Where people show up. Still too dynamic, and it's an upstream problem rather than a limiter problem.

-10 to -9

Where most of them end up once they start gripping. Respectable, and it holds up.

-9 to -7

Where I want you able to go easily. Not where every song has to sit.

-5 to -4

Reachable with low end massaging and more aggressive gripping. Reachable isn't the same as right.

My honest position: I don't love sitting at -4 or -5. I'm a fan of dynamics and equally a fan of glue and impact, and those two argue constantly. The song, the artist, the vision and what the instruments are giving us decide. Not every song should go that hot: plenty sound terrible that loud and want a dB or a handful more open. Aim at your end goal, not mine, and decide honestly whose loudness this is: yours, the client's, or what A and R told them they need. All three are legitimate answers.

And only now, level matching

Two different jobs share the word loudness, and running them together is why level matching goes wrong for so many people.

- **Building your loudness** is everything above. Saturation, bus compression, a parallel slam, clipping into a limiter. It's a tone decision, and it changes the mix on purpose.
- **Matching the level** is a measurement decision. Clean gain only, or pull the reference down to meet you. Nothing that changes tone.

The moment you reach for saturation, parallel compression or a limiter to close the gap, you've changed the thing you were trying to measure and it stops being a controlled comparison. **Build first. Match second. Then judge.** Skip the match altogether and you'll pick the louder one every single time, and call it taste.

Read the trade-off honestly: if the reference is at -6 and you're at -8, the kick pulse is going to look more in check on theirs. Level match the two and you'll think they're bigger and fuller. Both can be true at once: genuinely bigger and fuller, and also just louder. Learning to tell them apart, on the same A/B, is the actual skill.

STEP THREE

Frequency Focused Referencing™

FFR takes A/B referencing further. Instead of comparing entire mixes, you take a magnifying glass to one frequency zone at a time and reverse engineer what's happening against a mastered release.

1. Choose smart references

Referencing is one practice, not a stage. What changes is the job you're asking of it.

From the first minute to the last: vision and direction

A reference shapes the picture in your head so you can make decisions along the way. Arrangement. Drum tone. Finding samples. Establishing guitars. Useful at the very beginning of a mix and still useful at the end.

Only once the two bus is working: levels, balance, sonics

Trustworthy only once your mix is already at industry loudness, which is what The Loudness Ladder is for. Before that, your magnifying glass lies to you.

Build a reference set, not a reference

Start with a handful. Four or five. Ten isn't too many while you're still discovering what the song wants to be, and flipping between them is part of being inspired rather than indecision. Then narrow: by the time you're matching levels and balances you want the two or three that genuinely match this song, not the ten that inspired it.

Match on tessitura, where the vocal actually sits and lives, not the key on the chart. Match on arrangement and instrumentation, on drum tone, and on male versus female vocal. A song being in G tells you almost nothing about how much low end is in the record or where the voice sits inside it.

Interrogate the reference you were handed

A reference isn't an answer, it's the beginning of a question. Ask what **specifically** they like about it. The drums? The weight of the vocal? The polish? People hand you a song meaning one narrow thing about it, and if you give them the whole song back they'll tell you it's wrong and neither of you'll know why.

The one I hit constantly: I get handed CCM references, Bethel, Elevation, The Belonging Co, for a song that's really black gospel. Give them exactly what they asked for and nine times out of ten they come back wanting the gospel snare and the gospel kick. Catching that mismatch before you mix to the wrong target is part of the job.

2. Zoom in by frequency

Load FabFilter Pro-Q, or any EQ with steep slopes, after your limiter. Use high-pass and low-pass filters at 48 dB per octave or higher to isolate zones, then A/B between your mix and the reference. One range at a time.

ZONE	FOCUS	LISTEN FOR
30-70 Hz	**Kick / sub-bass**	Weight, tightness, sub clarity
100-250 Hz	**Bass body**	Warmth vs. mud
400-800 Hz	**Low mids**	Presence without boxiness
2-5 kHz	**Presence range**	Vocal bite, snare snap
8-12 kHz	**Air / brilliance**	Open shimmer vs. harshness

One honest thing about these five: they're diagnostic spot-checks, not full coverage. There are real gaps between them. 70 to 100 Hz, 250 to 400 Hz, 800 Hz to 2 kHz, 5 to 8 kHz and everything above 12 kHz sit in none of the brackets, so getting all five to match doesn't prove your whole spectrum matches. These five are where problems hide most often, which is why they're worth checking first. Then bracket whatever else the song is asking about.

Work one range at a time. Once your low end, mids, and top end feel balanced like the reference, remove the filters and re-listen full-range. You'll instantly hear how your mix translates across systems.

One more pass, and one David will admit he doesn't make often enough: load the NS10 preset, then the Avantone, then something like VSX or another modelling solution, and run the same range through each for a different perspective. Check the reference through them too, and take notes.

3. The Critical Listening Survey

FFR hands you the magnifying glass. The **Critical Listening Survey** tells you what to look at through it. Fifty nine questions, section by section: which instruments are actually playing in the intro versus the final chorus, where the kick fundamental sits, how much bottom end sustain it has, what frequency the snare crack is coming from, whether that's a room or a plate, how wide the overheads are panned, where the lead vocal lives. The point is that you stop saying "it sounds bigger" and start writing down numbers you can go and look for in your own mix.

It fills in on the page: the survey is on the Blueprint page, it saves as you type, and it prints clean if you'd rather have it on paper next to the desk. themixacademy.com/the-headphone-mixing-blueprint

4. Translate and trust

After balancing each range, test your mix on multiple systems. The goal is translation, not imitation. When it feels balanced and emotionally consistent everywhere, you've done your job.

Headphones
Calibrated. Your first truth.

The car
Where low end goes to confess.

Earbuds
How most people will hear it.

Monitors
The room's second opinion.

Watch it live: a real mix on camera, covering calibration, FFR™ and the whole climb up the Loudness Ladder, Mix A through the main outs, is on the Blueprint page. It was recorded a while back so a few plugin picks have moved on, but the routing and the method are the same: themixacademy.com/the-headphone-mixing-blueprint

PRACTICE

Blueprint Labs: lock it in

Three quick missions to make translation second nature.

MISSION 1

Build your reference arsenal

Pick 5-10 great masters across your genres. Loudness-match them and keep them ready in every session.

- [ ] 2 modern pop or rock
- [ ] 2 intimate vocal
- [ ] 1 bass-forward
- [ ] 1 big space

MISSION 2

Diagnose with FFR™

Loop 8-12 seconds, level-match, compare by frequency zone, make a single decisive move, re-check.

- [ ] Low: kick and bass glue
- [ ] Low-mid: mud and box
- [ ] High-mid: presence and edge
- [ ] Air: sheen vs. sharp

MISSION 3

Ship and review

Bounce a pass, listen on 2-3 real-world systems, note the deltas, and iterate once. Then get feedback on it in the Control Room.

- [ ] Headphones, calibrated
- [ ] Car or earbuds
- [ ] One speaker, in mono
- [ ] One honest outside ear

THE NEXT STEP

Where mixers go pro, together

The Blueprint gives you the system. These are the rooms and tools where it compounds.

DO IT YOURSELF

MIXPrep

The Mac app that gets sessions ready to mix. Naming, organization and gain, automatic, done before you hear a note. Not for you if your problem is the mix itself: this fixes prep, not decisions.

mixprep-proxy.vercel.app/founders

LEARN IT

The Control Room

Everything I teach, plus MIXPrep. Weekly live mixes built from scratch on real songs, member-priority critiques on your own mixes, and a private community that cares about musical excellence. Not for you if you want it done for you: this is the craft, and it takes work.

themixacademy.com/control-room-sales-page

HAVE ME ON IT

Multi-Platinum Mixing Services

Mixed and mastered by me. Or I mix it with you, on camera, teaching every move: Mixing Discipleship. In between, the Mix Mastery Blueprint, one to one on your own mixes. Not for you if the recording isn't there yet. I will tell you straight.

themixacademy.com

See you in the mix, David

Questions? Reply to any email from me. It's really me on the other end.

The FFR™ Mission Card

The Mix Academy

THE FIVE ZONES · SPOT-CHECKS, NOT FULL COVERAGE · 48 DB/OCT

ZONE	FOCUS	LISTEN FOR
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THE LOOP

Loop 8-12s
the money section

Level-match
fair fight only

Isolate a zone
filters up

One decisive move
then re-check

Full range
remove filters, listen

THE ARSENAL · 5-10 MASTERS, LOUDNESS-MATCHED

- [ ] 2 modern pop or rock
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- [ ] 1 big space

SHIP & REVIEW

- [ ] Headphones, calibrated
- [ ] Car or earbuds
- [ ] One speaker, in mono
- [ ] Iterate once, then ship

Print me. Tape me to the desk. Full system: themixacademy.com/the-headphone-mixing-blueprint ·