

The Mud-Free Mix Card

The settings behind the 5 steps. Starting points I actually use on worship and gospel mixes, so you're not guessing.

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Gain staging

Set every track's level before a single plugin. Use the clip gain or input trim, not the fader.

TARGETS IN dBFS (PRE-FADER)

Source	Peaks	Average	Tip
Lead vocal	-8 to -6	-18	Ride clip gain on loud lines
BGVs	-10	-20	Group them, gain the group
Kick	-6	-18	Measure the hit, not the tail
Snare	-6	-18	Rimshots peak higher, allow it
Bass	-8	-18	DI + amp: match levels first
Keys / piano	-10	-20	Stereo pair: same gain both sides
Guitars	-10	-20	Doubles: match them exactly
Pads	-14	-24	They sit behind, keep them low

Why it matters

Plugins (especially analog-modelled ones) behave differently with hot input. Around -18 dBFS average is where most are designed to sit. Get this right and your faders end up near 0, with room to move.

High-pass + problem zones

Cut what each source doesn't need. Always sweep up until it thins, then back off a little.

HPF STARTING POINTS

Source	HPF start	Watch
Kick / bass	30–40 Hz	Don't kill the weight
Toms	50–60 Hz	
Snare	80–100 Hz	
Lead vocal	80–100 Hz	Male lower, female higher
BGVs / choir	120–180 Hz	Lets the lead sit on top
Acoustic gtr	90–120 Hz	
Electric gtr	80–100 Hz	
Piano / keys	40–80 Hz	Left hand still matters
Pads / synth	150–250 Hz	Huge mud culprit
Overheads	150–300 Hz	If the kick is mic'd

PROBLEM FREQUENCIES

Range	Sounds like	Fix
200–400 Hz	Mud, boom	Cut 2–4 dB on keys, gtrs, pads
400–800 Hz	Boxy, cardboard	Small cut on vocals, toms
800 Hz–1.5 kHz	Honky, nasal	Narrow cut, find it by sweeping
2–5 kHz	Harsh, edgy	Cut on guitars before boosting vocals
5–8 kHz	Sibilance (S's)	De-esser, not EQ
10 kHz+	Air, shine	Gentle shelf on vocals, overheads

Compression starting points

Dial these in, then use your ears. Gain reduction is the number that matters most.

Source	Ratio	Attack	Release	GR
Lead vocal	3-4:1	5-15 ms	50-100 ms	3-6 dB
BGVs	4:1	10 ms	Auto	4-6 dB
Kick	4:1	10-30 ms	50-80 ms	3-5 dB
Snare	4:1	5-15 ms	80 ms	3-5 dB
Bass	4:1	20-30 ms	100 ms	3-6 dB
Acoustic gtr	3:1	15 ms	100 ms	2-4 dB
Piano	2:1	20 ms	Auto	2-3 dB
Mix bus	2:1	30 ms	Auto	1-2 dB

- Slow attack**

Lets the hit through: punchier drums and bass.
- Fast attack**

Grabs the front: smoother, flatter, less punch.
- Too much?**

If it sounds small or breathes and pumps, back the GR off by half.
- Two stages**

On vocals, two gentle compressors (3 dB each) beat one squashing 6 dB.

Build order + pan map

Build the mix in this order, with faders only. Aim for 80% of the mix before any EQ or compression.

- 1

Kick + bass
Get them peaking around -10 dB on the master. This is your foundation.
- 2

Snare + drums
Snare sits just under the kick in loudness.
- 3

Lead vocal
Bring it up until every word is clear, then 1 dB more. In worship, the words are the point.
- 4

Keys + guitars
Fill around the vocal. If you lose a word, they're too loud.
- 5

BGVs + choir
Tuck them under the lead. They support, they don't compete.
- 6

Pads + FX
Last and lowest. Mute them: if you miss them, they're at the right level.

PAN MAP

Centre	Wide (L/R)	In between
Kick, snare, bass	Overheads	Toms (as the kit looks)
Lead vocal	Double gtrs	Keys (stereo, not hard)
Bass DI + amp	BGV pairs	Percussion

Vocal chain recipe

The order matters as much as the plugins. This chain works on almost every worship vocal.

- 1 Clean up**
Clip gain loud words down, cut breaths that are distracting (keep natural ones).

- 2 HPF + cut EQ**
High-pass 80–100 Hz. Notch any honk or boxiness you hear.

- 3 Compressor 1**
Fast attack, 3–4:1, catches peaks. 2–4 dB GR.

- 4 Compressor 2**
Slower, 2:1, smooths the body. 2–3 dB GR.

- 5 De-esser**
5–8 kHz. Just enough that S's stop jumping out.

- 6 Tone EQ**
Gentle shelf around 10 kHz for air, small lift 2–3 kHz for presence if needed.

- 7 Sends**
Reverb and delay on sends (aux), never on the vocal insert.

Rides beat plugins

Automate the fader through the song. A 1–2 dB ride on the quiet lines does more than any compressor.

Reverb + delay cheat sheet

Space makes it feel like worship. Too much makes it feel like a cave.

REVERB

Use	Type	Decay	Pre-delay
Lead vocal	Plate	1.2–1.8 s	20–40 ms
BGVs / choir	Hall	1.8–2.5 s	20 ms
Drums	Room	0.6–1.0 s	0–10 ms
Keys / pads	Hall	2–3 s	30 ms
Ballad lead	Hall	2.2 s	60–80 ms

DELAY

Delay	Time	Feedback	Use
Slap	80–120 ms	0–10%	Thickens lead vocal
1/4 note	Tempo synced	15–25%	Ballad tails
1/8 dotted	Tempo synced	20–30%	Up-tempo, guitars
Throw	1/4 or 1/2	30–40%	Automate on the last word only

The trick

EQ your returns: high-pass at 300 Hz and low-pass at 6–8 kHz. Your reverb stops muddying the low end and fizzing the top.

Final translation check

Before you send it anywhere, tick every box.

- | | |
|--|--|
| ☐ Mono | Sum to mono. Vocal still clear? Nothing disappears? |
| ☐ Quiet | Turn it right down. Can you still hear the words and the kick? |
| ☐ Phone | Play it on a phone speaker. Is the bass still implied? |
| ☐ Car | Drive with it. Car is where most people will hear it. |
| ☐ Earbuds | Check panning and harshness up close. |
| ☐ Reference | A/B with a song you love, matched in loudness (louder always sounds better). |
| ☐ Fresh ears | Sleep on it. Listen first thing next morning before changing anything. |
| ☐ Export | 24-bit WAV at session rate. Leave peaks under -1 dB. For streaming, around -14 LUFS is a good reference. |

You're ready.

Pin this next to your screen. These are starting points: your ears get the final say.

NEXT · SHEET 3 OF 5

The 7-Day Voice Reset

A day-by-day plan to sing stronger, with a habit tracker and a self-review scorecard.

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