

Gain Staging

Music

Keeping levels sensible from input to master, and why it matters less than it used to.

Every stage where level can change is a chance to add noise or clipping.

1

At the source

Set the preamp so peaks land around -12 dBFS. Never let it clip.

2

On the channel

Trim to about -18 dBFS average before any plugin.

3

Through the plugins

Match output to input, so bypassing does not change the volume.

4

On the bus

Group faders should not need extreme positions.

5

At the master

Leave headroom — peaks no higher than -6 dBFS before mastering.

WHY -18

Analogue gear was calibrated so 0 VU ≈ -18 dBFS

Emulation plugins expect that level

It leaves 18 dB of headroom for peaks

In 32-bit float, internal headroom is effectively unlimited. Gain staging is now about plugin behaviour, not clipping.