

FREQUENCY & EQ

Listen first. Use these ranges as starting points.



VOCAL RANGES

Approximate fundamentals; individual singers vary. Harmonics extend higher.

BASS	BARITONE	TENOR	CONTRALTO	SOPRANO
80-350 Hz	110-490 Hz	130-520 Hz	170-780 Hz	250-1,046 Hz

SOURCE	BODY / WEIGHT	CLEAN UP IF NEEDED	CLARITY / DETAIL
KICK	50-80 Hz: thump	250-400 Hz: boxiness	2-5 kHz: beater attack
SNARE	150-250 Hz: body	400-800 Hz: boxiness	2-5 kHz: crack
HI-HATS / CYMBALS	Use HPF to reduce spill	3-6 kHz: harshness	8-12 kHz: shimmer
BASS	60-120 Hz: weight	200-400 Hz: mud	700 Hz-1.5 kHz: definition
VOICE	120-250 Hz: warmth	250-500 Hz: mud	2-4 kHz: intelligibility
ACOUSTIC GUITAR	100-250 Hz: body	200-400 Hz: boom	3-6 kHz: pick / presence
KEYS / PIANO	100-250 Hz: warmth	250-500 Hz: muddiness	2-5 kHz: definition

HPF = high-pass filter. Raise it until unwanted lows clear; back off if the source loses body.

MIXING BOARD

**INPUT**
Mic, line or DI: use the right input.

**GAIN / TRIM**
Set input level during the loudest part.

**HPF + EQ**
Remove rumble, then shape the tone.

**DYNAMICS**
Control peaks with compression.

**AUX SENDS**
Feed monitors or effects; check pre/post.

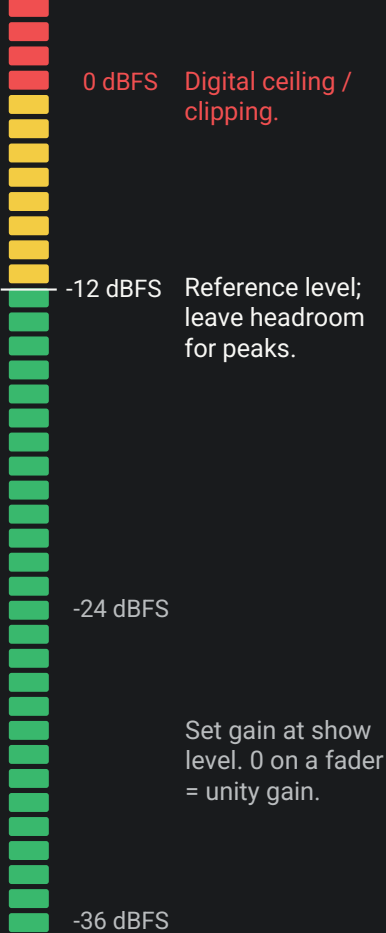
**PAN**
Place the source in the stereo field.

**MUTE / SOLO**
Mute silences; solo/PFL helps you listen.

**FADER**
Balance this channel in the main mix.

Signal order and routing vary by console.

GAIN & LEVELS



COMPRESSION

Even out peaks while keeping the performance alive.

THRESHOLD
Level where gain reduction begins

RATIO
How strongly peaks are reduced

RELEASE
How quickly gain reduction recovers

KNEE
How gently compression starts.

MAKEUP GAIN
Match loudness after compression

ATTACK
How quickly gain reduction responds

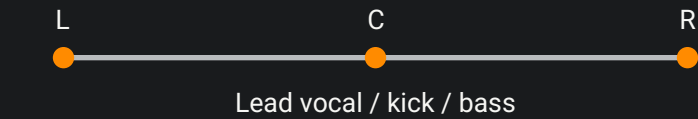
GENTLE VOCAL START

Attack 10-30 ms / Release 80-150 ms
Lower threshold for about 3-6 dB of reduction on peaks. Adjust by ear; bypass and compare at equal loudness.

Ratio 2:1-3:1

BALANCE & PANNING

KEEP THE FOUNDATION CENTERED



Spread supporting parts gently. Check the room and mono feed so every seat hears the essentials.

BUILD AROUND THE MESSAGE

Bring the lead voice forward; fit the band around it.

MAKE SPACE BEFORE ADDING LEVEL

Lower competing parts or use small EQ cuts.

KEEP EFFECTS SUPPORTIVE

Add reverb and delay until helpful, then check clarity.