Audio Cheat Sheet: Room Tones & Ambience Beds

Quick rules

- **Room tone = the room's "silence."** It is built from three things: **mechanical hum** (mains, HVAC, appliances), **air/broadband hiss** (vents, distant traffic, reflections), and **room size** (reverb tail, low-end build-up). Choose all three, not just a noise.
- **Mains hum is regional: 60 Hz** with harmonics at 120/180/240 Hz in North America; **50 Hz** (100/150/200) in Europe, UK and Asia. Fluorescent ballasts add a buzz at 2x mains (**120 Hz** NA / **100 Hz** EU) with whiny upper harmonics.
- **Bigger room = lower, longer, smoother.** Small rooms are dry and mid-forward. Big hard rooms (warehouses, churches) have bass build-up below 150 Hz and long tails.
- **Level guide (perceived):** near-silent studio ~20–25 dBA · quiet library/bedroom ~30–35 · office ~40–50 · restaurant ~60–70 · factory floor ~80–95+. Mix tone so it's *felt more than heard* under dialogue: typically **–45 to –30 dBFS** under speech, louder only when the location is the point.
- **Always loop-check:** use at least 60–90 s of tone so loops aren't noticed. Crossfade under a sound effect or a cut.
- **Never true silence.** Digital zero sounds like a dropout. Even a "dead quiet" room needs a low-level bed.

Room tone matrix: interiors

Frequencies are the *dominant energy* to build or EQ toward, not single pure tones.

Location	Dominant energy	Character & sources	Feel / level	Mix & design tips
Quiet library / reading room	Soft broadband air 200 Hz–4 kHz; faint HVAC ~80–150 Hz	Ventilation hush, distant page turns, chair creaks, faint fluorescent buzz	Very quiet, ~30–35 dBA, slightly live	Keep almost no lows; occasional far-off cough or footstep sells scale
Bedroom at night	Very low broadband hiss; fridge/furnace ~50–120 Hz through walls	Clock tick, house settling, distant car pass, furnace cycling	Intimate, ~25–30 dBA, dry	Roll off above ~8 kHz for "warm darkness"; furnace kicking in = tension cue
Living room / suburban house	60 Hz fridge hum + 120 Hz; mid hiss	Fridge compressor, clock, muffled outside traffic, ventilation	~35–40 dBA, homey	Fridge cycling off = sudden "too quiet" moment for horror
Kitchen	60/120 Hz fridge, 1–3 kHz range-hood fan whine	Compressor, extractor fan, dishwasher wash cycle	~40–50 dBA	Extractor fan whine reads instantly as "kitchen"
Bathroom	Hard-surface reflections 1–5 kHz; fan ~150–400 Hz	Exhaust fan, tile reverb, drip, pipe ticks	Bright, short slap echo	Add short (0.3–0.6 s) bright reverb to dialogue too
Open-plan office	HVAC 80–250 Hz; broadband 500 Hz–4 kHz babble	Air handling, keyboards, distant phones, printer, muffled talk	~45–55 dBA	Keep babble unintelligible (low-pass ~3 kHz) so it doesn't fight dialogue
Private office / boardroom	HVAC 60–200 Hz; fluorescent 120 Hz buzz	Air vent, projector fan, muffled hallway	~35–45 dBA, dry, carpeted	Projector fan ~1–2 kHz whine for meeting scenes
Hospital room / ward	60 Hz electrical + HVAC 100–300 Hz; monitor beeps ~1 kHz	Monitors, oxygen hiss (broadband 2–8 kHz), PA pages, cart wheels	~45–55 dBA, clinical, bright	Oxygen/ventilator rhythm is a powerful tension metronome

Location	Dominant energy	Character & sources	Feel / level	Mix & design tips
Server room / data centre	Dense fan noise 200 Hz–6 kHz; whine 4–10 kHz	Hundreds of fans, AC units, hard drive chatter	Loud (~70–80 dBA), relentless	Narrow resonant whine (6–10 kHz) = sterile tech dread
Lab / clean room	HVAC laminar flow, broadband 300 Hz–5 kHz; 120 Hz equipment hum	Fume hoods, centrifuge spin-up, refrigeration	~50–60 dBA, sterile	Centrifuge spin-up is a great rising-tension riser
Working factory / machine shop	Heavy 30–150 Hz machinery rumble; 1–4 kHz metallic clank; 60/120 Hz motors	Presses, conveyors, compressors, pneumatic hiss, forklifts, beepers	Loud, 80–95+ dBA, dense	Layer: low rumble bed + rhythmic machine cycle + random metal hits. Dialogue must be shouted
Empty warehouse	Room modes below 150 Hz; long tail (2–4 s)	Distant wind, roof ticks, sodium-lamp buzz, pigeons	Cavernous, low-level but huge	Use reverb on tone, not just dialogue; lone drip or chain = horror gold
Boiler room / basement mechanical	20–80 Hz rumble; 60 Hz motor hum; pipe knocks	Furnace burner roar, pumps, water hammer, hissing valves	Oppressive, ~60–75 dBA	Sub rumble (25–40 Hz) creates physical unease
Parking garage	Concrete reverb, broadband 200 Hz–3 kHz; exhaust fans ~100 Hz	Distant cars, tire squeal echo, ventilation, fluorescent buzz	Echoey, hollow	Long bright concrete reverb on footsteps sells it
Church / cathedral	Very low air movement < 100 Hz; reverb tail 4–8 s	Distant traffic muffled by stone, creaks, candle hush	Huge but quiet, ~30–40 dBA	The *tail* is the tone. Keep it soft and dark
School classroom / hallway	HVAC 80–200 Hz; fluorescent buzz 120 Hz	Clock tick, chairs, distant voices, lockers in hall	~40–50 dBA	Bell or PA tone ~1–2 kHz for punctuation
Restaurant / café / bar	Broadband babble 300 Hz–3 kHz; espresso machine hiss/ steam	Cutlery clinks 2–6 kHz, kitchen through doors, background music	55–75 dBA, lively	Cut babble at 1–3 kHz to make room for dialogue; keep clinks for detail
Retail store / mall	HVAC 100–300 Hz; large reverb	Muzak, escalator hum, distant crowd, scanner beeps	~55–65 dBA	Escalator motor hum ~100 Hz is a strong mall signature
Gym / indoor arena	Big reverb, low HVAC; impacts 100–500 Hz	Weights clank, sneakers squeak 2–5 kHz, treadmill motor	60–75 dBA, reflective	Treadmill belt rhythm + squeaks = instant gym
Prison / jail corridor	Hard reverb, buzzing lights 120 Hz, metal resonance	Distant shouts, door buzzers, gate slams, echoing steps	Harsh, 50–65 dBA	Metal gate clangs with long tail = isolation
Interrogation / police room	Dry; fluorescent buzz 120 Hz + harmonics; HVAC	Ticking clock, chair squeaks, faint hallway	Uncomfortably quiet, ~35 dBA	Boost the fluorescent buzz slightly to make the silence itch
Elevator	50–150 Hz motor hum; cable/ rail rumble	Hum, floor dings, door rumble	Small, enclosed	Sudden stop = cut hum + clunk
Recording studio / soundproof booth	Almost nothing; very low broadband < –60 dBFS	Faint gear fan, own breathing	Dead, ~20 dBA	“Pressure” feel: tiny low-end (~40 Hz) bed + no reflections

Room tone matrix: vehicles & transport interiors

Location	Dominant energy	Character & sources	Mix & design tips
Car interior (moving)	Road rumble 30–200 Hz; wind 1–4 kHz rising with speed	Tire roar, engine drone, indicator ticks	Tire roar changes with road surface; filter outside world heavily
Car interior (parked, engine off)	Near silence, muffled exterior	Ticking cooling engine, rain on roof, distant traffic	Muffle exterior with low-pass ~2 kHz
Airplane cabin	Broadband pink-ish roar 100 Hz–2 kHz, peak ~200–500 Hz	Engines, air vents, seatbelt chimes, cart rattles	75–85 dBA; dialogue sits on top. Chimes ~1–2 kHz
Train / subway car	Rhythmic wheel clacks; rumble 40–200 Hz; brake squeal 2–6 kHz	Rail joints, door chimes, PA	Clack rhythm sets pace; tunnel = more low-end, tighter reverb
Bus	Diesel drone 60–150 Hz; air brake hiss	Kneeling hiss, bells, rattling windows	Air-brake hiss marks stops
Ship / submarine interior	Engine drone 20–100 Hz; metal creaks; ventilation	Hull groans, pipes, sonar pings ~1–3 kHz	Low drone + creaks = claustrophobia
Spaceship / sci-fi interior	Designed: steady drone 40–120 Hz + filtered air 2–6 kHz	Life support, computer bleeps, reactor hum	Base on real HVAC + server rooms, pitch down ~1 octave

Exterior & large-space beds (non-obvious only)

Location	Dominant energy	Key detail
City at night (distant)	Low wash 30–300 Hz	Distant traffic rumble, far sirens, occasional dog; no close detail
City daytime street	Broadband 100 Hz–5 kHz	Traffic, buses, footsteps, crosswalk beeps, voices
Highway nearby	Constant broadband roar, peak 500 Hz–2 kHz	Doppler passes; trucks add low end
Rural night	Very low broadband; insects 3–8 kHz	Crickets/frogs regional; distant highway or train adds realism
Desert / open plain	Wind only, low and gusty < 500 Hz	Near-silence is the point; add sparse insects
Snowy forest / winter	Extremely quiet, high-frequency damped	Snow absorbs highs; roll off above ~4 kHz
Underground cave	Drips, long irregular reverb, sub drone	Water drips with 3–6 s tail
Under water	Low-pass ~500 Hz–1 kHz; muffled pressure	Bubbles, heartbeat, distant hull or engine thrum
Rooftop / high-rise	Wind 100–800 Hz; distant city below	City wash muffled; HVAC units nearby

Mood modifiers (apply on top of any location)

Goal	Adjustment
Dread / horror	Add sub drone 25–45 Hz; slowly detune or pitch-drift a hum; remove expected sounds (fridge cuts out)
Tension building	Narrow-band tone slowly rising in level or pitch (e.g. fluorescent buzz or HVAC whine); compress the bed tighter

Goal	Adjustment
Calm / safe	Gentle broadband with rolled-off highs; soft room warmth 150–300 Hz; slow, irregular natural detail
Isolation / loneliness	Bigger reverb on everything, very sparse detail, distant sounds only
Disorientation / shock	Tinnitus ring 3–8 kHz, low-pass the world, drop the room tone out entirely
Comedy beat	Cut the room tone to near-silence for the awkward pause; a lone cricket or clock tick reads as a joke
Sci-fi / alien	Take a real room tone, pitch down 1 octave, add slow phaser or ring-mod
Flashback / dream	Low-pass ~3–4 kHz, add long soft reverb and slight wow/flutter

Quick build recipe (any scene)

1. **Base tone** (hum + air), 60–90 s, looped and crossfaded. Sits around –45 to –35 dBFS.
2. **Location signature** (the one sound that names the place: espresso hiss, monitor beep, escalator hum).
3. **Sparse detail** every 5–20 s at random (creaks, distant voices, clinks). Pan them away from dialogue.
4. **Space**: put tone and detail through the same reverb as the dialogue so everything lives in one room.
5. **EQ for dialogue**: gently dip the bed at 1–4 kHz under speech; high-pass the bed if lows are muddy.
6. **Mood modifier** from the table above, if the scene needs one.