Rave Generation

MASTER BUS PROCESSOR

User Manual

ravegeneration.io

Overview

The Master Bus Processor is a complete glue-and-finishing chain for your mix bus, mastering chain, or any submix. It brings together the stages you reach for at the end of a mix — analog-modeled tone, bus compression, stereo width, multiband loudness and harmonic drive — in a single plug-in, voiced and calibrated so they work together.

The design follows one idea: one knob per job. Every control does a single, musical thing. Turn it up for more, down for less, leave it at zero or centre for neutral. There are no hidden menus of overlapping parameters — what you see on the panel is what shapes the sound. And when you have dialled in a sound you like, a single Amount knob scales the whole processor in and out, so you can find the effect first and decide how much of it you want afterwards.

Under the hood the processor is built from authentic models: a Pultec EQP-1A low band and HF section, MAAG-style body and air bands, an SSL-G-style VCA bus compressor, a 3-band OTT for loudness, and a Sonnox-style Inflator for drive. Each was matched to its reference in code rather than tuned by ear. You don't need to know any of that to use it — this manual is a practical guide to what every control does and how to get the most out of it.

Key Features

- Six processing sections — a multi-stage analog EQ, SSL-style glue compression, harmonic drive, multiband loudness, stereo width, and a master output stage — in one chain.
- One-knob-per-job layout — every parameter is a single control with a clear musical purpose. Neutral is always zero or centre.
- Authentic, calibrated models — Pultec EQP-1A low & HF, MAAG-style body & air, SSL-G glue, Sonnox-style Inflator drive, and 3-band OTT loudness.
- Full L/R · Mid · Side routing — every coloured section can be placed across the whole stereo image, the centre only, or the sides only.
- A single Amount macro — scales the entire processor between neutral and full, smoothly and click-free, with no comb filtering.
- 1× / 2× / 4× oversampling — the whole wet chain runs oversampled so the drive stays clean; latency is reported to your host.
- Section bypass by click — click any section title to switch that stage in or out for instant A/B.
- Honest metering — a gain-reduction meter that reads true reduction (no hidden auto-gain), plus output peak metering.

Getting Started

Insert the Master Bus Processor on your master bus, mastering chain, or any submix (drums, vocals, a stereo group). Out of the box it loads flat: every band at zero, the compressor and effects engaged but doing nothing audible until you reach for a control.

A good first pass:

- Set your level first. Use Input Trim so the signal hits the processor at a sensible level — the compressor reacts to how hard it is driven. Then use Output at the end to match loudness for honest A/B comparisons.

- Add a little glue. In the Glue Compressor, lower the Threshold until the gain-reduction meter shows a few dB on the loudest passages, then bring the level back with the Makeup knob.
- Shape the tone. Nudge Low, Body, Presence and Air to taste. A little goes a long way on a full mix – these bands are voiced for gentle, broad moves.
- Finish. Dial in Loudness and Drive for density and weight, set Width to taste, and leave Ceiling on to catch stray peaks.

Then use Amount as your reality check. Pull it back to hear the unprocessed mix, push it up to hear the full effect, and settle wherever the mix sounds best. The In/Out switch gives you a full true bypass at any time.

A note on the controls: knobs respond to click-and-drag (and the mouse wheel). The small value pills below some knobs – sidechain frequencies, Makeup, Mix, Drive Curve, Width HPF – are drag-and-wheel adjustable too: drag up for more, down for less, hold Shift for fine steps and Alt to reset. The frequency, routing, Ratio and EQ-order pills are click-to-select menus.

The Panel at a Glance

The panel runs left to right across six sections: INPUT, the MULTI STAGE ANALOG EQ, the GLUE COMPRESSOR, DRIVE, LOUDNESS, and MASTER. A title bar across the top carries the plug-in name, the version, and a link to the Rave Generation website.

The knobs are colour-coded by job, which makes the panel quick to read at a glance:

- Blue knobs are the EQ bands – Low, Body, Presence and Air.
- Black knobs are the dynamics and colour – the Glue Compressor, Drive and Loudness.
- White knobs are utility – Input and the Master section (Width, Amount, Output).

The Signal Chain

The panel is laid out for workflow, not strict signal order. Internally the audio flows like this:

Input (Trim · HPF) → Glue → EQ (Low · Body · Presence · Air) → Width → Loudness → Drive → Output · Ceiling

Two things are worth knowing. First, by default the Glue compressor processes before the EQ (the EQ Order switch reads Glue>EQ), even though the EQ sits to its left on the panel – switch EQ Order to EQ>Glue to feed the EQ into the compressor instead. Second, Drive is always last, after Loudness, so its harmonics are added on top of everything and aren't re-compressed or re-filtered. The order is deliberate, and you don't need to manage it – it is mentioned here only so the routing is never a mystery.

Switching Sections In and Out

The four coloured sections – MULTI STAGE ANALOG EQ, GLUE COMPRESSOR, DRIVE and LOUDNESS – can each be switched off by clicking their title. The title dims when the section is bypassed, so you can A/B any stage instantly without losing your settings. The INPUT and MASTER sections are always active, since they handle gain staging and the final output. For a complete bypass of the whole plug-in, use the In/Out switch in the Master section.

L/R • Mid • Side Routing

Under most knobs is a small routing pill with three positions: L/R, Mid and Side. It decides where that section does its work.

- L/R (the default) processes the full stereo signal — both channels, the normal way.
- Mid processes only the centre of the image (what is common to both channels) and leaves the sides untouched. Use it to tighten a lead vocal, kick and bass, or to compress only the centre.
- Side processes only the stereo difference (the width information) and leaves the centre untouched. Use it to brighten or widen ambience, add air to the sides, or drive only the stereo field.

Every coloured section — all four EQ bands, the Glue Compressor, Drive and Loudness — has its own routing pill, so you can, for example, compress the centre while adding air to the sides. Mid/Side moves are most useful on already-stereo material; on a mono source there is no side signal to process.

The Controls

This section describes every control, section by section, in the order they appear on the panel.

Input

The Input section sets the level and low-end going into the processor. It sits before everything else and is not affected by the Amount knob — it is pure gain staging.

INPUT TRIM: Adjusts the level feeding the whole processor (−12 to +12 dB). Because the compressor and the loudness stage react to how hard they are driven, set this first so the input sits at a sensible level. Pair it with the Output knob to keep loudness matched when comparing processed against unprocessed.

INPUT HPF: Sets the corner frequency of the input high-pass filter (15 to 100 Hz, 6 dB/octave). It only does anything when HPF In is engaged. Use it to clear subsonic rumble and DC before it reaches the compressor and drive.

HPF IN: Engages the input high-pass filter (Off / On). Leave it off to pass the full-range signal through; switch it on to clean up the very bottom end.

QUALITY: Selects the oversampling factor for the wet chain: 1×, 2× or 4×. Higher settings run the processing at a multiple of your project's sample rate, which keeps the Drive stage clean and free of aliasing in the highs. 1× is lightest on CPU; 2× and 4× add a little latency, which the plug-in reports to your host so everything stays in time. Use a higher setting when bouncing or when Drive is doing a lot of work.

Multi Stage Analog EQ

Four tone bands — Low, Body, Presence and Air — each modelled on a different classic. Every band is bipolar (±6 dB): turn it up to boost, down to cut, leave it at zero for a clean bypass. Below each knob is a frequency selector and an L/R · Mid · Side routing pill. Click the section title to switch the whole EQ in or out.

LOW: An authentic Pultec EQP-1A low band (modelled with a wave-digital filter). Boost for weight, warmth and a smooth low-end bloom; cut to tighten and clean up the bottom. Set the corner with the frequency selector below.

BODY: A musical, broad bell voiced in the MAAG style. Boost to add fullness, richness and body without sounding boxy; cut to scoop out congestion in the lower mids. The frequency selector chooses where it works.

PRESENCE: The HF section of a Pultec EQP-1A (wave-digital model). Boost for a resonant lift that adds presence and definition at the selected frequency; cut for a gentle, smooth softening of the top. Choose the boost frequency with the selector below.

AIR: A MAAG-style air band — a broad high-shelf that opens up the very top. Boost for silky, effortless air and sheen; cut for a darker, more rolled-off top. The frequency selector sets the corner.

FREQUENCY SELECTORS: The pill under each band picks its centre or corner frequency: Low 20 / 30 / 60 / 100 Hz · Body 200 / 300 / 500 / 700 Hz / 1k / 1.5k / 2k · Presence 3k / 4k / 5k / 8k / 10k / 12k / 16k · Air 5k / 10k / 15k / 20k / 40k.

PER-BAND ROUTING: Each band has its own L/R · Mid · Side pill (see "L/R · Mid · Side Routing" above), so you can place each tone move where it belongs — for instance, Low and Body on the centre, Air on the sides.

The EQ's position relative to the compressor is set by the EQ Order switch in the Glue Compressor section — see below.

Glue Compressor

An SSL-G-style VCA bus compressor — the classic "glue" that pulls a mix together. It is stereo-linked, with the familiar SSL detents for attack and release. A gain-reduction meter shows what it is doing. Click the section title to switch it in or out.

THRESHOLD: Sets the level at which compression begins (−40 to 0 dB). Lower it to compress more of the signal; watch the gain-reduction meter and aim for a few dB on the loudest moments for gentle glue, more for an obvious pump.

RATIO: Chooses how firmly the compressor acts above the threshold: 2:1 for gentle, transparent glue, 4:1 (the default) for classic bus compression, or 10:1 for a firm, controlled grip.

ATTACK: How quickly the compressor responds, in milliseconds (0.1 ms / 0.3 ms / 1 ms / 3 ms / 10 ms / 30 ms). Slower settings (10–30 ms) let transients punch through before the compressor clamps down — usually what you want on a bus. Faster settings catch the transients themselves for a tighter, more controlled sound.

RELEASE: How quickly the compressor lets go, in seconds (0.1 s/ 0.3 s/ 0.6 s/ 1.2 s), plus an Auto setting. Auto follows the programme material and breathes naturally, and is a safe default; the fixed settings give you precise control over the pump and pace.

MAKEUP: Manual make-up gain applied after the compressor (0 to 24 dB). There is no hidden auto-gain in this compressor: it reduces level honestly and you bring it back by hand, which is why the gain-reduction meter always reads the real reduction. Set your threshold, then raise Makeup to match loudness.

MIX: Blends the compressed signal against the dry signal for parallel ("New York") compression (0 to 100%, default 100% fully compressed). Lower it to mix the uncompressed signal back in — you keep the transients and punch while still adding density underneath. The blend is phase-coherent, so there is no comb filtering.

GLUE SC: A high-pass filter on the compressor's detection path (0 to 500 Hz; 0 = off, default 90 Hz). It stops heavy bass from triggering the compressor, so the low end doesn't

make the whole mix pump. Raise it if a strong kick or bass line is driving the compression too hard.

EQ ORDER: Sets where the EQ sits relative to the compressor. Glue>EQ (the default) compresses first, then equalises the compressed signal. EQ>Glue equalises first and feeds the result into the compressor, so the compressor reacts to your tonal moves. Either way the compressor stays loudness-neutral.

GAIN-REDUCTION METER: The vertical meter shows how much the compressor is pulling the level down, from a touch at the top to around 20 dB at the bottom. Use it to gauge how hard the compressor is working and to set the Threshold and Makeup.

GLUE M/S: Routes the compressor to L/R, Mid or Side. Mid-only compression glues the centre while leaving the stereo image open; Side-only compression controls the width.

Drive

A Sonnox-style Inflator — a harmonic-density processor that adds loudness, warmth and perceived punch without simply turning the volume up. It is always the last stage in the chain, after Loudness, so its harmonics survive intact rather than being re-compressed. It is calibrated to a real Inflator, so even at maximum it stays musical rather than tipping into harsh overdrive. Click the section title to switch it in or out.

DRIVE: Sets how much density and saturation is added (0 to 100%). Low amounts add subtle weight and presence; higher amounts thicken the sound and bring up the perceived loudness. The character stays clean across the whole range.

CURVE: Shapes the harmonic character of the Inflator (−50 to +50, centre is neutral). It shifts the balance of the harmonics the drive generates — move it either side of centre to make the saturation softer and rounder or harder and brighter to taste.

DRIVE M/S: Routes the drive to L/R, Mid or Side. Driving the sides only can add density and excitement to the stereo field while leaving the centre clean.

Loudness

A 3-band OTT — upward-and-downward multiband compression — blended in parallel with your signal. It evens out the balance across the spectrum, adds density and brings up loudness. It is mixed in (not a full insert), and includes a static make-up so the level rises naturally as you dial it in. Click the section title to switch it in or out.

LOUDNESS: Sets how much of the parallel OTT is blended in (0 to 100%). At 0 the section is completely bypassed; as you raise it the sound becomes denser, more even and louder. A little adds polish; more gives the aggressive, in-your-face character OTT is known for.

OTT SC: A high-pass filter on the OTT's low-band detection (0 to 200 Hz; 0 = off). It stops the sub from being over-compressed and pumped by the multiband action. Keep it low — around 60 Hz or below is usually enough to protect the bottom end while leaving the loudness effect intact.

LOUD M/S: Routes the OTT to L/R, Mid or Side. Side-only loudness can thicken and energise the stereo field; Mid-only keeps the density focused on the centre.

Master

The Master section handles stereo width and the final output. It is always active — there is no title bypass — and the Amount and Output knobs here govern the whole processor.

WIDTH: Adjusts the stereo width using Mid/Side processing (0 to 200%, unity at 100%). Below 100% the image narrows toward mono; above 100% it widens. The low end is kept mono below the Width HPF corner so widening never weakens or unfocuses the bass.

WIDTH HPF: Sets the frequency below which the stereo width is collapsed to mono (50 to 800 Hz, default 150 Hz). Everything under this corner stays centred and solid; everything above it is widened by the Width knob. Raise it if you want a tighter, more mono low-mid; lower it to widen further down.

AMOUNT: The master intensity control (0 to 100%). It scales every effect in the processor toward neutral at once — EQ, compression, drive, loudness and width all dial back together. At 100% you hear the full processing; at 0% the plug-in is transparent. It is not a dry/wet mix of two signals, so there is no comb filtering, and it moves through zero cleanly with no click. Use it to find a sound at full strength and then decide how much of it the mix wants.

OUTPUT: The final output trim (−12 to +12 dB). Use it to match the processed and unprocessed levels, or to set your final output level.

CEILING: A gentle soft-clip ceiling on the output (Off / On, default On). When on, it catches stray peaks just below 0 dBFS so the output stays clean. Switch it off if you want the raw, un-clipped output — for example when feeding a dedicated limiter further down the chain.

IN/OUT: The master bypass (Off / On, default On / active). Switch it off and the plug-in passes your audio through completely untouched, for a true A/B of the whole processor.

Alongside these, the Glue Compressor's gain-reduction meter shows compression at a glance, and the processor reports output peak levels (Peak L / Peak R) so you can keep an eye on the final output.

Using the Master Bus Processor

A few starting points. None of these are rules — they are quick ways into the most common jobs.

Gentle Mix Glue

Set Ratio to 2:1, Attack to 10 or 30 ms and Release to Auto. Lower the Threshold until the meter shows 1–3 dB on the loudest sections, then bring the level back with Makeup. Leave the EQ near flat. This is the classic "pull it together" bus move.

Loud and Finished Master

Add glue as above, then bring up Loudness for density and Drive for weight and perceived level. A small Air boost keeps the top open under the loudness processing. Leave Ceiling on, match levels with Output, and check the result against bypass with the In/Out switch.

Parallel (New York) Glue

Use a firmer Ratio (4:1 or 10:1) and a lower Threshold so the compressor really grabs, then pull the Mix knob down to around 50–70%. You get the density and control of heavy compression with the transients and life of the dry signal underneath.

Width Without Mud

Raise Width past 100% for a wider image, then set Width HPF so the bass stays mono – 120–200 Hz keeps kick and bass solid and centred while everything above opens up. For extra sparkle on the sides, set the Air band's routing to Side.

Mid/Side Tone Shaping

Put the Body and Low bands on Mid to firm up the centre, and the Presence and Air bands on Side to brighten the ambience without making the vocal harsh. Compressing on Mid (Glue M/S = Mid) glues the centre while leaving the width open and breathing.

Cleanest Possible Finish

Set Quality to 2× or 4× so the Drive stays free of aliasing, keep the moves gentle, and use Amount to back the whole thing off until it is just doing enough. For the most transparent low end, engage the Glue SC and OTT SC high-passes so neither the compressor nor the loudness stage pumps the bass.

Troubleshooting & FAQ

I don't hear any effect

Check the In/Out switch in the Master section is On (active). Then check Amount – at 0% the whole processor is neutral by design, so raise it. Finally, make sure the section you expect to hear isn't switched off: a dimmed section title means that stage is bypassed; click it to switch it back on.

A knob doesn't seem to do anything

The most common cause is Amount being low or at zero – it scales every effect at once, so with Amount down even large knob moves are subtle or silent. The other cause is a bypassed section: if the section title is dimmed, click it to switch the stage back on. (Input Trim, Output and the Quality and Ceiling switches always work, since they sit outside the Amount-scaled chain.)

The gain-reduction meter moves but I don't hear compression

That is expected. This compressor uses honest, manual make-up: it lowers the level when it compresses and does not add gain back automatically. Raise the Makeup knob to restore the level, and you'll hear the compression clearly. The meter is showing you the real reduction the whole time.

The level drops – or jumps – when I turn something up

Compression without make-up will lower the level: raise Makeup to compensate. If you turn Loudness up and the level feels off, remember it is a parallel blend with its own static make-up – use Output to match overall loudness for a fair comparison. Matching levels with Output before you A/B is always worth it.

The low end pumps or distorts

If a strong kick or bass is making the whole mix pump, raise the Glue SC high-pass so the compressor stops reacting to the bass. If the sub feels squashed or pumped when Loudness is up, engage the OTT SC high-pass (kept low, around 60 Hz) so the loudness stage leaves the bottom end alone. To keep a wide image from thinning the bass, raise the Width HPF so the low end stays mono.

Why is there latency?

Oversampling adds a small, fixed delay. At 2× and 4× the wet chain runs at a multiple of your sample rate to keep the Drive clean, and the resulting latency is reported to your host so it stays in time. Set Quality to 1× for zero added latency when tracking; use 2× or 4× when mixing or bouncing.

The output is clipping

Leave Ceiling on — it soft-clips just below 0 dBFS to catch peaks gently. If you've switched it off (for example to feed a downstream limiter), pull Output down so the raw signal stays below your target.

Specifications

SECTIONS: Input · Multi Stage Analog EQ · Glue Compressor · Drive · Loudness · Master (6 stages).

EQ: Four bipolar bands (±6 dB) — Pultec EQP-1A low, MAAG-style body bell, Pultec EQP-1A HF presence, MAAG-style air — each with frequency select and M/S routing.

COMPRESSOR: SSL-G-style VCA bus compressor; 2:1 / 4:1 / 10:1; attack 0.1–30 ms; release 0.1–1.2 s plus Auto; manual make-up; parallel Mix; sidechain HPF.

DRIVE: Sonnox-style Inflator with Curve control; final stage in the chain.

LOUDNESS: Parallel 3-band OTT with blend control and detection-only sidechain HPF.

WIDTH: Mid/Side widener (0–200%) with adjustable bass-mono corner (50–800 Hz).

ROUTING: L/R · Mid · Side on every EQ band, the compressor, drive and loudness.

OVERSAMPLING: 1× / 2× / 4× on the full wet chain; latency reported to the host.

MASTER: Amount (global intensity, click-free through zero), Output trim, soft-clip Ceiling, In/Out bypass.

METERING: Gain-reduction meter; output peak metering (Peak L / Peak R).

CHANNELS: Stereo (mono compatible). Mid/Side processing requires a stereo signal.

VERSION: 1.0.0.

For technical support, updates, and additional information: ravegeneration.io