RAVE generation

OTTX

Multiband Dynamics Processor

User Manual

Overview

OTTX is a multiband dynamics processor combining aggressive upward and downward compression with per-band waveshaping. Features include two waveshaper curves (modelled and smooth), a mix knob for parallel compression, Smart Clip for 0dB ceiling limiting, and a Recon switch that chooses between the classic split-and-sum reconstruction and a phase-clean one.

Signal Flow

Input → In Gain → 3-Band Split (Low/Mid/High) → Per-Band Compression → Per-Band Waveshaping → Sum → Out Gain → Mix with Dry → Smart Clip 0dB

Note: **SC HP** and **Comp Smooth** don't appear in the main signal flow because they affect the detection circuit (sidechain), not the audio path itself.

The crossover splits your signal at two frequencies (Low/Mid and Mid/High). Each band gets independent upward and downward compression, then optional waveshaping via the Curve controls. That flow describes Stadium. In Tight the audio is never split: the band gains are applied as shelves across the whole signal instead.

Main Controls

Depth	Master amount of compression effect (0-100%). At 0%, compression is bypassed. Higher values increase both upward and downward compression intensity.
Attack	Scales attack time for all bands (0-200%). 100% = default timing. Lower = faster attack, higher = slower.
Release	Scales release time for all bands (0-200%). 100% = default timing.

In Gain	Input gain before processing (-24 to +24 dB). Use to drive the compressor harder or softer.
Out Gain	Output gain after processing (-24 to +24 dB). Compensate for level changes.
Upward	Amount of upward compression (0-200%). Brings up quiet parts. 100% = default.
Downward	Amount of downward compression (0-200%). Pushes down loud parts. 100% = default.

Per-Band Controls

Gain & Threshold

Low/Mid/High Gain	Makeup gain per band (-40 to +6 dB). Adjust the balance between bands after compression.
Low/Mid/High Thresh	Threshold offset per band (0-200%). 100% = default. Lower values make compression kick in earlier.

Curve & Ratio

Low/Mid/High Curve	Waveshaping amount per band (0-100%). Adds harmonic density and loudness without traditional clipping. The shape depends on the Curve Type switch: Modelled is the accurate curve with more colour, Smooth is the cleaner alternative.
Low/Mid/High Ratio	Downward compression ratio per band (0-200%). 100% = default ratio. Higher = more aggressive limiting of peaks.

Crossover

Low/Mid Freq	Crossover between low and mid bands (28-148 Hz). Default 88 Hz works well for most material.
Mid/High Freq	Crossover between mid and high bands (2000-3000 Hz). Default 2500 Hz.

Utilities

SC HP	Sidechain high-pass filter (0-200 Hz). Filters low frequencies from the compressor's detection circuit to prevent pumping caused by sub-bass content. Set to 0 to disable.
Comp Smooth	On/Off. Enables RMS detection and soft knee compression for a smoother, more transparent sound. Ideal for mastering or when you want less aggressive compression.
Curve Type	Modelled/Smooth. Chooses the shape the Curve knobs use. Modelled is the accurate curve, with more harmonic colour and saturation, and is the default. Smooth is an alternative that is more transparent and aliases about 26 dB less, but it is not the modelled shape.
Mix	Wet/dry blend (0-100%). At 100% you hear only processed signal. Lower values blend in dry signal for parallel compression.

Smart Clip 0dB	On/Off. Enables soft-clipping followed by hard-limiting at 0dB to prevent output from exceeding digital full-scale.
Recon	Stadium/Tight. Stadium splits the audio through the crossovers and sums it back, which is magnitude-flat but phase-rotated, and is the classic sound. Tight applies the band gains as shelves and never splits the audio, so there is no phase rotation and Mix 0 returns the input untouched. The Curve knobs take their bands from whichever mode is active, so the two shape differently.

Meters

The Low GR, Mid GR, and High GR meters show gain change per band in dB with peak hold. Positive values indicate upward expansion (quiet parts brought up), negative values indicate downward compression (loud parts pushed down). Peaks are held briefly then release slowly for easy reading.

Quick Start

Classic sound: Set Depth to 30-70%, leave everything else at defaults.

Parallel compression: Depth at 100%, Mix at 20-50%. Blend to taste.

Cleaner processing: Enable Smart Clip 0dB to prevent clipping on loud peaks.

Add weight: Increase Low Gain, maybe add some Low Curve for saturation.

Saturation trick: Set all Curve knobs to 100%, then blend in the effect with Depth (and Mix if needed) for rich harmonic saturation.

Support

For technical support, updates, and additional information:

Website: ravegeneration.io

Email: support@ravegeneration.io