VITRIC AUDIO · MUSE HUB EDITION

# Harmonic Multiband Compressor

User guide · version 2.1.0


## What it is

A six-band compressor with saturation wired into it. Drive the detectors only and the bands grab like a slower vintage unit while your audio stays clean, saturate the bands audibly and the compressor squeezes the harmonics with the signal, or excite the summed mix on the way out. Six bands that sum flat within half a dB. VST3, AU and AAX for Windows and macOS.

IN DRIVE pushes a tanh soft clipper on each band after the crossover split. In DET ONLY it saturates only the sidechain feeding that band's detector: the rounded peaks make the compressor ignore micro-transients and squeeze the body of the sound instead, the way slower optical and tube units behave, while the audio you hear stays completely clean. Flip to AUDIBLE and the drive hits the audio path itself, per band, before compression, so the compressor reacts to and squashes the saturated signal, with 2x or 4x oversampling against aliasing and a delay-compensated dry path. OUT EXCITER then works on the summed mix: it isolates just the added harmonics, runs them through a dynamic low pass that stays open around 18 kHz at low drive and closes toward 2 kHz as you push, and blends them back in. COMP auto-matches the level as you drive, so louder never fools your judgement.

Under the engine sits a six-band compressor on a Linkwitz-Riley LR4 tree with allpass compensation applied across the whole tree, verified to sum flat within half a dB at the crossover points themselves. Every band has threshold, ratio, knee, attack, release, makeup and range, a downward or bounded upward

mode, a blendable RMS-to-peak detector and its own sidechain high-pass, plus on, solo and mute. The five crossovers move anywhere from 20 Hz to 20 kHz: drag a divider on the spectrum or type a frequency, and the neighbouring splits set the limits of what you can type.

The display is where the work happens. Live pre and post spectra, draggable crossovers and threshold lines, per-band gain-reduction curtains in each band's own hue, and S and M badges on the bands themselves. Selecting a band re-lights the whole editor in that band's colour and opens its full control row with exact values under every knob. Band status tells compression off from muted from excluded by another band's solo, and upward processing shows a rising curtain with a signed LIFT readout. Lookahead runs to 10 ms and reports its latency to the host, as oversampling does. Mix reaches 200 %, with A/B, Copy, Link All and undo and redo on the toolbar.

Harmonic Multiband Compressor is a stereo unit. The band count is fixed at six with five splits, and there is no per-band mid/side and no linear-phase crossover option. If your work needs those, this is not the multiband for that part of it.

Built and used at a working recording studio. Support: support@vitricaudio.com

## Key features

- The Harmonics Engine: saturation wired into the compressor, in the detectors, bands or sum
- DET ONLY drive saturates only the sidechain the detectors hear; the audio stays clean
- Six bands on an allpass-compensated Linkwitz-Riley tree that sums flat within ±0.5 dB
- Per band: threshold, ratio, knee, attack, release, makeup, range, RMS/Peak detector, det HPF
- Draggable crossovers and thresholds on the live spectrum, with per-band gain-reduction curtains
- Downward or bounded upward compression per band, 2x/4x oversampled drive, lookahead to 10 ms

## Working the display

The spectrum is the editing surface. Drag a crossover divider to move a split, drag a band's threshold line to set it, and watch the gain-reduction curtain for that band come down in its own hue. Double-click a crossover, or press Return on a focused split, to type its frequency in Hz or kHz; the neighbouring splits constrain what the field will accept, and the popup is edit-only, so the wheel and arrow keys cannot walk it past its neighbours. Click a band to select it: the whole editor re-lights in that band's colour and the control row below shows that band's eight compressor controls with exact values under every knob.

The band header states the band's frequency span, its direction and its effective status. COMP OFF means the compressor for that band is off, while audible input saturation may still be processing it; MUTED and SOLO EXCLUDED describe output routing. Upward processing draws a rising curtain and a signed LIFT value. When a control is ignored by the current mode, it says so: detector-only drive disables input oversampling and COMP, and low-latency mode disables input oversampling while lookahead stays active.

## The Harmonics Engine and the utility strip

IN DRIVE, its MODE switch (DET ONLY or AUDIBLE), the OS choice (Off, 2x, 4x), COMP and OUT EXCITER sit in the Harmonics Engine row across the bottom of the machine, with the painted signal flow between

them. Below that, the utility strip carries lookahead, mix and output. Preset, A/B, Copy, Link All and undo and redo live in the toolbar, and any of them closes an open value draft before it changes state.

## Mouse and keyboard

Drag a knob to adjust; Shift-drag is ten times finer (Cmd-drag in Pro Tools). The wheel steps on the parameter's own grid, with Shift for fine steps. Double-click or Cmd-click resets a control to its default (Alt-click in Pro Tools). Click any value to type it: time accepts milliseconds or seconds, frequency accepts Hz or kHz, ratios keep their hundredths. Arrow keys nudge the focused control. The options menu carries tooltips, the reduce-visual-effects switch and the keyboard shortcut sheet.

## Typical uses

- **Drum bus density.** DET ONLY drive makes the compressor lean into the body of the kit instead of snapping at every transient. Vintage-slow response, zero added distortion.
- **Bass that reads small.** AUDIBLE drive on the low bands adds harmonics the compressor then controls, so the bass carries on phone speakers without wrecking the low end.
- **Mastering control.** Tighten a wandering low end on crossovers that sum flat within half a dB, with COMP matching loudness so you judge character instead of level.
- **Air without EQ.** A touch of OUT EXCITER at low drive works like a high-frequency exciter: isolated harmonics filtered around 18 kHz, blended back in behind the mix.

## Full specification

- Harmonics Engine: dual-stage saturation wired into the signal path, in and out
- IN DRIVE: tanh soft clipper, 0 to 100 %, per band after the crossover split
- DET ONLY mode: saturates only the detector sidechain, so the audio path stays clean
- AUDIBLE mode: pre-compression saturation on the audio path that the compressor then reacts to
- 2x or 4x oversampling on audible saturation, with a delay-compensated dry path
- OUT EXCITER: post-sum harmonics, isolated, filtered and blended back in
- Exciter smart filter: a dynamic low pass from about 18 kHz of air at low drive to about 2 kHz of warmth at high drive
- COMP: automatic level matching as you drive, separate from the exciter's own matching
- Six bands on a Linkwitz-Riley LR4 crossover tree
- Allpass compensation across the whole tree: flat sum within plus or minus 0.5 dB, verified at the crossovers
- Five crossover splits, each 20 Hz to 20 kHz, draggable or typed with the neighbouring splits as limits
- Per band: threshold -60 to 0 dB, ratio 1:1 to 20:1, knee 0 to 12 dB
- Per band: attack 0.1 to 200 ms, release 10 to 2000 ms, makeup plus or minus 36 dB
- Per band: range 0 to 60 dB, capping the gain change; upward processing is capped at 30 dB
- Per band: downward or bounded upward mode, with a signed LIFT readout when it lifts
- Per band: blendable RMS-to-peak detection and a sidechain high-pass from 0 to 400 Hz

- Per band: on, solo and mute, with status that separates compression off, muted and solo-excluded
- Lookahead 0 to 10 ms, with latency reported to the host automatically
- Low-latency mode, which disables input oversampling while lookahead stays active
- Pre and post spectrum analyzer: 4096-point FFT with display tilt
- Draggable crossovers and threshold lines on the live spectrum
- Per-band gain-reduction curtains in each band's own hue; selecting a band re-lights the editor
- Mix 0 to 200 %, output trim plus or minus 24 dB
- A/B with Copy, Link All, undo and redo
- Six factory presets: Default, Vocal De-Ess, Bass Tightener, Mastering Gentle, Presence Control and Pumpy Multi
- Typed values on the continuous controls: Return commits, Escape cancels, invalid input keeps the old value
- Shift for a fine drag, wheel steps on the parameter's grid, double-click or Cmd-click to reset
- Options menu with tooltips, reduce visual effects and the keyboard shortcut sheet
- Freely resizable window, 924x660 up to 1680x1200
- 92 automatable parameters, with old sessions migrated to the current parameter IDs
- State saved and recalled exactly with your session
- VST3, AU and AAX, Windows and macOS

## Installation on Muse Hub

This Muse Hub edition opens and runs directly: there is nothing to enter, nothing to unlock and no purchase pointer inside the plugin, and the status chip reads MUSE HUB. Muse Hub handles the purchase, the installation, updates and removal. On Windows the plugin installs as VST3 and AAX. On macOS the installer places VST3, AU and AAX builds in the standard system plugin folders. If the plugin does not appear in a host, rescan plugins, confirm the host is 64-bit, and in Audacity enable it in the Plugin Manager.

Requirements: Windows 10 or later (64-bit) or macOS 11 or later, Intel or Apple Silicon. Settings and presets are the same as the edition sold at vitricaudio.com, so projects open in either edition.

## Frequently asked questions

**What is the Harmonics Engine?**
A dual-stage saturation and excitation system built into the compressor's signal path. Harmonics IN saturates each band before compression, either the detector sidechain only or the audible signal. Harmonics OUT excites the summed mix through a smart-filtered exciter. It replaces the saturator plugins engineers chain around their compressors.

**Why put saturation before a compressor?**
Because the compressor hears it. Harmonics round the transient peaks the detector reacts to, so the compressor ignores micro-transients and squeezes the body of the sound, behaving like slower optical and tube units. DET ONLY mode gives you exactly that response change with no audible distortion.

**Why do multiband compressors smear the sound?**

Most split the spectrum serially, and each split adds phase shift that the other bands never receive, so the bands refuse to sum back to the original. This unit applies every split's allpass across the whole tree, so the bands recombine flat within half a dB, verified at the crossover points themselves.

**Is it good for mastering?**
Yes. The crossovers sum flat, the dry path is delay-compensated under oversampling, and COMP auto-matches loudness as you drive so you judge character, not level.

**Does it add latency?**
Only when per-band oversampling or lookahead is engaged, and that latency is reported to your DAW automatically so everything stays aligned. With both off it runs at zero added latency.

**Can a band compress upward?**
Yes. Each band has a Down or Up mode. Upward processing is bounded, capped at 30 dB of lift, and it draws a rising curtain with a signed LIFT readout so you can see what it is adding.

**Can I type a crossover frequency?**
Yes. Double-click the divider, or press Return on a focused split, and type it in Hz or kHz. The neighbouring splits set the limits, so a typed value can never cross its neighbours.

**What formats and DAWs does it support?**
VST3, AU and AAX on Windows 10+ and macOS, Intel and Apple Silicon. That covers Pro Tools, Logic Pro, Ableton Live, Cubase, Studio One, FL Studio, REAPER and every other major host.

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Support: support@vitricaudio.com · Product page: https://vitricaudio.com/multiband-compressor · Vitric Audio, Cleveland, Ohio. This guide describes Harmonic Multiband Compressor 2.1.0 as distributed on Muse Hub.