



# Gravity Channel

## User Manual

GANUE Audio

Version 1.0

Free – no iLok, no activation

Restraint, by design.

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## 1. Overview

Gravity Channel is a free channel-strip plugin by GANUE Audio. It brings together the everyday tools of a mixing chain – input trim and polarity, a high-pass filter, a three-band EQ, a smooth compressor, a harmonic “BLOOM” stage, and a clean output trim – in one restrained, precise front panel.

It is designed to sit on any track and do the ordinary jobs well: shape tone, control dynamics, add weight or air, and set level, all without leaving the strip.

Key facts:

- Formats: VST3 and Standalone; Audio Unit (AU) on macOS.
- Free. There is no license key, no iLok, and no online activation.
- Runs on macOS and Windows.
- On-screen text is plain ASCII for maximum host compatibility.

This manual documents Version 1.0.

## 2. The sound

Gravity Channel is built around a clean, modern signal path. Left at its defaults it stays neutral and transparent – it lets the source speak rather than stamping a sound on it. Color is something you add deliberately, in measured amounts, when the material calls for it.

**A clean core.** The input stage and EQ aim for an open, uncolored tone with fast transients and a flat frequency response, so the strip is equally at home as a precise corrective tool or as a character device.

**Transformer-style harmonics (BLOOM).** The BLOOM stage adds gentle second- and third-harmonic coloration in the spirit of classic Class A transformer output stages. Two voicings tilt the harmonics:

- **Body** adds warmth and weight in the low and low-mid range.
- **Air** adds sheen and sparkle in the highs.

Even with BLOOM off, the output stage keeps a very faint transformer character; Air and Body add audible harmonics on top. The effect is program-dependent and musical – easy to reach for and easy to overdo, so a little goes a long way. Amount sets the intensity.

**A musical EQ.** The three-band EQ is voiced to be easy on the ear and intuitive: broad, gentle shelves for LF and HF (each with two switchable corners) and a swept mid bell, +/-12 dB per band. The mid uses a proportional Q – gentle moves stay broad and musical, larger moves grow more focused – and the shelves have a subtle opposite-polarity dip just inside each corner for a smooth, sweet curve. It is made for shaping tone by feel, not for clinical correction.

**Smooth dynamics.** The compressor is a natural, smooth VCA design with RMS detection – a fixed 2:1 ratio, a soft knee, and a fixed 20 ms attack that lets transients through cleanly, with release, threshold, and makeup under your control. It steadies level without squeezing the life out of a performance.

**Clean low-end control.** The high-pass filter tightens the low end without thinning the sound, clearing rumble and mud before the rest of the chain.

**In use.** Gravity Channel suits vocals, instruments, drums, bass, and buses – anywhere you want a clean, modern front end with optional analog-style character on tap.

**Under a plugin analyzer.** If you like to inspect plugins in an analyzer (Plugin Doctor and friends), everything you will see is deliberate:

- Inserting Gravity Channel is meant to feel like patching into a console channel, not a bit-transparent bypass. Even with BLOOM off, a faint always-on “iron” remains: roughly 0.6% second-harmonic content on a hot (-6 dBFS) signal and a gentle easing of the extreme highs of about 0.5 dB at 18 kHz. This is the same design idea as classic console-channel emulations; bypass the plugin when you need a fully clean path.
- BLOOM’s harmonic signature is identical at 44.1, 48, and 96 kHz.
- At the default 2x oversampling, worst-case aliasing products stay around 63 dB below the fundamental even at extreme BLOOM settings.
- Reported latency matches the measured delay to within a sample. The oversampling filters are minimum-phase IIR, so the phase trace bends near Nyquist instead of being linear-phase – normal for this filter class, and the price of the lowest possible latency.

## 3. Quick start

### 3.1 Install

Copy the plugin to the standard folder for your system and format, then rescan in your DAW.

**macOS** – copy the bundle into the matching folder (system-wide, or the `~/Library/...` path for the current user only):

- **VST3** – Gravity Channel.vst3
  - /Library/Audio/Plug-Ins/VST3/
  - ~/Library/Audio/Plug-Ins/VST3/
- **AU** – Gravity Channel.component
  - /Library/Audio/Plug-Ins/Components/
  - ~/Library/Audio/Plug-Ins/Components/
- **Standalone** – Gravity Channel.app, anywhere (for example /Applications).

### Windows

- **VST3** – copy Gravity Channel.vst3 into `C:\Program Files\Common Files\VST3\`
- **Standalone** – run the executable from anywhere.

### 3.2 First sound

1. Insert Gravity Channel on a channel (or run the Standalone and choose an audio input/output).
2. Play audio through it. With the defaults the strip passes signal almost cleanly: EQ is on but flat, the compressor is off, and BLOOM is off (only a faint transformer character remains).
3. Try a factory preset (see Section 9) to hear the strip working, then adjust to taste.



Gravity Channel at its default (Init) settings.

## 4. Signal flow

On the panel the sections read left to right: INPUT, FILTER, EQ, COMP, VU, BLOOM, OUTPUT. The audio path is:

```
INPUT --> FILTER --> EQ <-> COMP --> BLOOM --> OUTPUT
(trim,      (HPF)      (order swaps (Air/      (trim; on stereo,
phase)          via PRE/POST)  Body)      final width / mono)
```

- **VU** is a metering tap, not a processing stage; its IN / OUT / GR selector chooses which point it displays.
- **PRE / POST** (in the COMP section) swaps the EQ and compressor order. POST (the default) runs EQ then compressor; PRE runs the compressor first.
- BLOOM and the output trim sit at the end of the chain. On stereo tracks the WIDTH and MONO controls apply as the final stereo shaping, after the trim.

Metering taps let you watch the signal at input, gain reduction, and output on the VU (Section 6.5) and on the bar meters (Section 6.8).

## 5. The header

The header runs across the top of the plugin. Preset management sits on the left; the channel selector, RESET, the Advanced-Mode chevron, and the kebab (three-dot) button sit on the right.

### 5.1 Presets

- **Preset name** – click to open the preset list (factory presets grouped by category, with any user presets under “User”).
- **< / >** – step to the previous / next preset.
- **SAVE** – save over the current user preset. If the current preset is a factory preset, or none is selected, SAVE behaves like SAVE AS.
- **SAVE AS** – name and store the current settings as a new user preset.
- **RESET** – return every control to its default (“Init”).

User presets are stored as `.gravpreset` files in your user application-data folder. See Section 9 for the factory list.

### 5.2 Channel selector

On the right of the header: **< CH n >** with **RAND** and **AUTO**.

This selects the analog channel index (1 to 72). Each index applies a small, fixed, deterministic component-tolerance variation, so different channels sound very slightly different from one another – useful for giving multiple tracks their own subtle character while staying in the same family.

- **< / >** step the channel number.
- **RAND** assigns a random channel to this instance.
- **AUTO** assigns the next channel number automatically, so freshly added instances spread across the range like console slots.

On stereo tracks the readout shows a channel pair (for example “L1 R2”).

### 5.3 Advanced Mode

The double-chevron button toggles between the full view (both racks) and a compact view that shows only the lower controls rack. The chevron points up when both racks are visible (click to collapse) and down when compact (click to expand). The choice is saved with the plugin state.

### 5.4 Kebab menu

The three-dot button opens the options menu:

- **VU calibration** – 0 VU reference: -18, -20, or -14 dBFS (see Section 6.5).
- **UI size** – discrete scaling at 100%, 125%, 150%, 175%, and 200%.
- **Oversampling (Realtime)** – Off / 2x / 4x / 8x (see Section 7).
- **Oversampling (Offline render)** – Same as Realtime / Off / 2x / 4x / 8x.
- An “About” line shows the product name and version.

There are no web links in the menu; this manual ships alongside the plugin in the download.

## 6. Section reference

This section documents every control, with its range, unit, and default. Where a knob's far-left position acts as an off position, that is noted.



A closer look at the control knobs.

### 6.1 INPUT

Control (caption)	Range	Unit	Default
Input Trim (TRIM)	-12 to +24	dB	0
Polarity	off / on	–	off

- **TRIM** sets the level going into the strip.
- **Polarity** inverts the signal phase (a small dot below the knob). Use it to fix polarity between mics or against another track.

### 6.2 FILTER

Control (caption)	Range	Unit	Default
HPF	20 to 250	Hz	20

- **HPF** is a 12 dB/octave high-pass filter. At the far-left position (20 Hz) it reads **OFF**; turn up to remove low-frequency rumble and mud.



INPUT and FILTER.

## 6.3 EQ

Control (caption)	Range	Unit	Default
EQ on	off / on	–	on
LF GAIN	-12 to +12	dB	0
LF FREQ	60 / 150	Hz	60
MID GAIN	-12 to +12	dB	0
MID FREQ	220 to 7000	Hz	1000
HF GAIN	-12 to +12	dB	0
HF FREQ	8000 / 16000	Hz	8000

- **LF** is a low shelf. **LF FREQ** switches its corner between 60 Hz and 150 Hz.
- **MID** is a swept bell. **MID FREQ** sweeps the center from 220 Hz to 7 kHz; **MID GAIN** cuts or boosts. The Q is proportional: gentle moves stay broad, larger moves become more focused.
- **HF** is a high shelf. **HF FREQ** switches its corner between 8 kHz and 16 kHz.
- The shelves include a subtle opposite-polarity dip just inside each corner, giving them a smooth, musical curve.
- The EQ on-switch bypasses the whole EQ section when off.



EQ.

## 6.4 COMP

Control (caption)	Range	Unit	Default
Comp on	off / on	–	off
Comp Threshold (THRESH)	-30 to +20	dB	+20
Comp Release (RELEASE)	50 to 500	ms	200
Comp Makeup (MAKEUP)	-6 to +20	dB	0
Comp SC HPF (SC HPF)	0 to 300	Hz	0
Comp Pre-EQ (PRE / POST)	POST / PRE	–	POST
Comp Stereo Link (LINK)	off / on	–	off

The compressor is a smooth VCA design with RMS detection: a fixed 2:1 ratio, a soft knee, and a fixed 20 ms attack. You set threshold, release, and makeup.

- **THRESH** sets where compression begins. At the far-right (+20 dB) the compressor is effectively open (no gain reduction).
- **RELEASE** sets how quickly gain recovers (a dual-stage recovery: quick at first, then a gentle settle).
- **MAKEUP** adds level to compensate for gain reduction.
- **SC HPF** high-passes the detector sidechain so low frequencies drive the compressor less; 0 Hz means off. It affects detection only, never the audio.

- **PRE / POST** places the compressor before (PRE) or after (POST) the EQ.
- **LINK** links left/right detection on stereo tracks so the image stays centered. The LINK button sits next to the GR meter in the upper rack and appears on stereo tracks only.



COMP.

## 6.5 VU

The analog VU meter has an **IN / OUT / GR** source selector.

Control	Options	Default
VU Source	In / Out / GR	In
VU Calibration	-18 / -20 / -14 dBFS	-18 dBFS

- **IN / OUT / GR** chooses what the needle shows: input level, output level, or gain reduction.
- **VU Calibration** sets the 0 VU reference point, chosen from the kebab menu.



VU.

## 6.6 BLOOM

Control (caption)	Range	Unit	Default
Bloom (OFF / AIR / BODY)	Off / Air / Body	–	Off
Amount (AMOUNT)	0 to 100	%	30
Width (WIDTH) – stereo only	0 to 200	%	100
Mono Maker (MONO) – stereo only	20 to 500	Hz	20

BLOOM is GANUE's harmonic output stage. It adds gentle, program-dependent second- and third-harmonic content with a tonal tilt:

- **AIR** tilts toward the highs – sparkle and openness (vocals, acoustic, snare).

- **BODY** tilts toward the lows – weight and warmth (bass, drums, low male vocal).
- **OFF** removes the added harmonics; a very faint transformer character remains.
- **AMOUNT** sets how much harmonic character is applied.

On stereo tracks the BLOOM bay also shows the final stereo-shaping controls (they are hidden on mono tracks):

- **WIDTH** narrows (below 100%) or widens (above 100%) the stereo image; 100% is unchanged, 0% is mono.
- **MONO** (Mono Maker) collapses everything below its cutoff to mono for a tight low end. At the far-left position (20 Hz) it reads **OFF**.



BLOOM.

## 6.7 OUTPUT

Control (caption)	Range	Unit	Default
Output Trim (TRIM)	-60 to +10	dB	0

- **TRIM** is the final clean output level. At the far-left position (-60 dB) it reads **-inf** and mutes the output.

## 6.8 Displays (upper rack)

The upper rack holds three recessed screens:

- **EQ CURVE** – the live EQ response.
- **GR HISTORY** – a scrolling history of gain reduction, with the current value shown at the top. On stereo tracks the LINK button sits alongside it.
- **IN / GR / OUT** – bar meters for input level, gain reduction, and output level.

## 7. Oversampling

Oversampling runs the nonlinear BLOOM stage at a higher internal sample rate to reduce aliasing. It is set from the kebab menu and is not automatable, because changing it changes the plugin's latency.

Setting	Options	Default
Oversampling (Realtime)	Off / 2x / 4x / 8x	2x
Oversampling (Offline render)	Same as Realtime / Off / 2x / 4x / 8x	Same as Realtime

- The **realtime** setting applies during normal playback. The default is 2x, which is the shipped sound.
- The **offline** setting applies during bounce/render. “Same as Realtime” keeps the realtime quality; choose a higher setting for cleaner renders.
- Higher oversampling reduces aliasing at the cost of CPU and latency. The plugin reports its latency to the host when the setting changes. The oversampling filters are minimum-phase (lowest latency).

## 8. User interface

- **Discrete scaling.** The panel is drawn at a fixed base size and scaled as a whole. Choose 100%, 125%, 150%, 175%, or 200% from the kebab (UI size). There is no free drag-resize.
- **Advanced (compact) mode.** The header chevron collapses the upper display rack, leaving only the controls. Handy on small screens or when you do not need the meters.

## 9. Presets

### 9.1 Managing presets

Use the header buttons to step through, save, or reset presets (Section 5.1). Saved user presets sit alongside the factory list.

### 9.2 Factory presets

Factory starting points (from `Source/gui/FactoryPresets.h`):

**Basic:** Init, Transformer Glue

**Vocals:** Lead Vocal, Vocal Sparkle, Male Vocal Body, Rap Vocal

**Drums:** Kick, Snare, Overheads, Drum Bus

**Bass:** Bass DI, Bass Amp

**Guitar:** Electric Guitar, Acoustic Guitar

**Keys:** Grand Piano, Synth

**Bus:** Mix Bus, Master Sheen

**Utility:** Clean Pre, Heavy Iron, Air Lift

These are starting points, not finished settings – adjust to your source.

## 10. Specifications, credits, and license

### Specifications

- Formats: VST3, Standalone; AU on macOS.
- Platforms: macOS and Windows.
- Channels: mono and stereo (stereo width / mono-maker on stereo tracks).
- UI scaling: 100% to 200% (discrete).
- Oversampling: up to 8x, separate realtime and offline settings.

### Credits

- Gravity Channel is designed and built by GANUE Audio.
- KVR Developer Challenge 2026 entry.

### License

Gravity Channel is free. There is no license key, no iLok, and no activation. You may use it in personal and commercial productions. All panel and control artwork is original.

Restraint, by design.