IMPACT Engine

GLUE BUS COMPRESSOR

User guide

Written for version 2.3.3 · November 2026



WHAT IMPACT ENGINE IS FOR

One compressor on a group, so the parts in it move together.

IMPACT Engine is a stereo bus compressor. Put it on a drum group, a synth bus, a vocal stack or the whole mix, and it turns the louder moments down on both sides together, so the tracks in the group rise and fall as one. Its controls follow the classic console centre-section compressor.

The **GLUE** knob is what sets it apart. It decides how much the compressor settles into the music rather than chasing each peak, and page 5 explains what it changes. After the compressor come Drive, Mix for parallel compression, and a limiter or soft clipper on the output. 54 presets cover drums, synths and pads, vocals, FX, mastering, bass and low end, and sidechain pumping.

A first session

1. Put IMPACT Engine on your drum group and play the loop.
2. Open the preset menu and choose **Drums › Drum Bus Glue**.
3. Turn **THRESHOLD** until the needle moves between 2 and 4 dB on the hits.
4. Turn **GLUE** slowly from 0 towards 10 and listen to the group pull together. Click the power switch to compare.

Working the knobs

Drag a knob up or down. Double-click it to return it to its default, or click its value to type a number. RATIO, ATTACK and RELEASE move in fixed steps: one step for every 12 points you drag, and one step per flick of the scroll wheel or trackpad.

> **New in 2.3.0:** help on the **?** beside the gear, and click a peak readout for the value right now (page 3). **2.3.1:** 2x oversampling by default, cleaner Drive and Soft clip.

Installing

1. Open the disk image and double-click **Install IMPACT Engine.pkg**.
2. Follow the prompts.
3. Restart your DAW. It will not appear until you do.

Two versions are installed: an Audio Unit for Logic Pro, and a VST®3 for Ableton Live and everything else. The first time IMPACT Engine opens it asks for the licence key from the Takt Audio Labs email. Until a key is entered, audio passes through untouched.

Loading it in Logic Pro

1. On an audio track, a bus or an instrument track, click an empty **Audio FX** slot.
2. Choose **Audio Units › Takt Audio Labs › IMPACT Engine**.
3. Choose **Stereo**, or **Mono** on a mono track.

Loading it in Ableton Live

1. In Live's settings open **Plug-Ins**, turn on **Use VST3 Plug-In System Folders**, and click **Rescan**.
2. In the browser sidebar click **Plug-Ins**. Audio Effects holds only Live's own devices, so IMPACT Engine is not there.
3. Open **Takt Audio Labs** and drag **IMPACT Engine** onto a group, a return or the master.

With **Use Audio Units** also on, Live lists it twice, as an Audio Unit and a VST®3. They are the same; pick either.

THE PANEL

Presets and switches at the top, the compressor in the middle, the output on the right.



CONTROL	SETTINGS	WHAT IT DOES
Preset bar	Arrows, name, SAVE	The arrows step through every preset. Click the name for the list, by category, with your own under Your presets. Details on page 6.
Oversampling	Off, 2x, 4x	Runs colour, Drive, Mix and the limiter at a higher rate, which keeps them free of false tones. Starts at 2x. Adds about 1 ms, reported to your DAW; Off for zero delay.
Power switch	On or off	Lit means working. Off passes the input through, in time. The same switch as your DAW's bypass.
Gear	Menu	Window size, light or dark, your licence, and About IMPACT Engine with the bug report link. A dot means an update is available.
?	On or off	Help. While lit, rest the mouse on any control to see what it does.
Moon or sun	Dark or light	Switches the panel's theme and remembers it for every project.
IN and OUT	Peak meters	Blue, turning red above −3 dBFS, with a line holding the recent peak. The figure on top is the loudest peak since you last clicked it.
Status strip	Readouts	Latency in samples, PEAK GR and LIMITER PEAK. The peaks hold the highest value for two seconds; click one for the value right now. IDLE: the limiter takes nothing off.
RESET ALL	Double-click	Every sound control back to its start, SC LISTEN and DELTA off. Sidechain, oversampling and power stay. No undo.

The meter window



The needle: 0 to 20 dB of gain reduction, 0 at the right.



The graph: the last few seconds, and the knee with the signal on it.

Click anywhere in the window and it turns over to its other face. The choice is saved with the project.

The needle moves like a moving-coil meter, settling in about 150 ms. The red band marks 12 dB and more, which on a bus is heavy compression.

The graph scrolls the input (the blue shape), the output (the light line) and the gain reduction (red, hanging from the top). The dashed line is the threshold. Beside it, the knee: input across, output up, the red curve the one the compressor follows, the shaded band where it bends, and a dot where the signal sits on the curve right now.

THE COMPRESSOR

Every control on the compressor plate, with its range.



CONTROL	RANGE	WHAT IT DOES
GLUE	0 to 10 (0 to 100 %)	How much the compressor settles into the music. Starts at 5. At 0 it is a straight console compressor. Page 5.
THRESHOLD	−40 to 0 dBFS	The level where compression starts. Starts at 0, where a normal mix is barely touched; turn it down until the needle moves.
RATIO	1.5, 2, 3, 4, 6, 8, 10, 20:1	How hard it pushes back above the threshold. 1.5 and 2:1 are gentle; 10 and 20:1 are close to limiting. Starts at 4:1. Both channels move together.
MAKE-UP	−5 to +15 dB	Gain after the compressor, to bring the level back up.
RANGE	1 to 30 dB, Off	The most gain reduction the compressor will ever apply, however hard it is pushed. Off (fully up) is no limit.
ATTACK	0.1, 0.3, 0.5, 1, 2, 3, 5, 10, 20, 30 ms	How fast it grabs. Short times catch the transient and tighten the low end; 10 and 30 ms let the hit through before it closes, which keeps drums punchy. Starts at 10 ms.
RELEASE	50, 100, 200, 300, 450, 600, 800 ms, 1.2, 2 s, Auto	How fast it lets go. Auto, the default, lets go of a single hit in about 100 ms and of sustained compression over about 2 seconds, so it follows the music.
KNEE	Auto, 0 to 12 dB	How gradually compression starts around the threshold. Auto (fully left) follows the ratio: about 4 dB wide at 2:1, 1 dB at 4:1, half a dB at 10:1, widened further by Glue. Above Auto it is a fixed width; 0 is a hard knee.
SC FILTER	Off, 21 to 500 Hz	A 12 dB per octave high-pass on what the compressor listens to, never on what you hear. Raise it so a heavy kick or bass stops pumping the whole bus.
EXT. SC	On or off	The compressor listens to another track instead of this one. Page 5.
SC LISTEN	On or off	Replaces the output with what the compressor hears, after SC FILTER, so you can set the filter by ear. Turn it off before you leave.
DELTA	On or off	Under the meter window, right of SC LISTEN. Plays only what the compressor takes away, lined up in time even with oversampling on: the quickest way to hear what Attack, Release, Knee and Glue do. Turn it off before you leave.

GLUE

What the large knob changes, and why a group sounds more like one sound with it up.

A plain compressor reacts to each peak on its own. A glue compressor settles into the music, so the group breathes as one instead of ducking on every hit. Turning GLUE up does four things at once:

- **It listens to its own output.** Part of the detection moves from the input to what is leaving the compressor, up to 60 % at full Glue. That is what lets it settle rather than chase. The ratio stays exactly what RATIO says.
- **Its timing follows the material.** On dense, held material such as pads or a full mix, the release grows longer, up to about 2.3 times at full Glue, so it does not pump. On spiky material such as a drum loop it grows shorter, down to about half, so each hit is let go in time for the next. The attack slows a little on dense material to keep the front of each sound.
- **The Auto knee softens**, up to two and a half times as wide.
- **It adds a little colour.** A gentle, slightly uneven curve, like an analogue gain stage, working from the first dB rather than only near the top. At 5 it takes about a tenth of a dB off a signal at −6 dBFS.

At 0 none of this happens and the attack and release steps are exact. Most buses sit well between 4 and 7.

SIDECHAIN

Let another track decide when the group is turned down.

With a sidechain, the compressor listens to a different source, most often a kick, and turns this bus down when that source plays. The source is chosen in your DAW, because a plug-in cannot reach other tracks on its own.

In Logic Pro

1. Open IMPACT Engine's window.
2. In the **Side Chain** menu at the top right of the window, choose the track or bus to listen to.

In Ableton Live

1. On the IMPACT Engine device, open the sidechain section with the small triangle in its title bar.
2. Switch **Sidechain** on and choose the source under **Audio From**.

The first time sound arrives from the source, **EXT. SC** turns on by itself. It does this once, so if you switch it off it stays off. The button is dimmed while no sidechain signal is arriving. SC FILTER and SC LISTEN work on the sidechain the same way they work on the bus's own sound, and RESET ALL leaves the sidechain switch alone.

Glue behaves differently with an external sidechain. Its feedback detection switches off, because the compressor is no longer listening to this bus, so there is no output of its own to listen to. Glue's programme-dependent timing, its softer knee and its colour all still apply. In practice a given Glue setting settles a little less with a sidechain than without one.

Worth knowing

- IMPACT Engine is for macOS 11 or later, as an Audio Unit and a VST®3, on Apple Silicon and Intel.
- At the default 2x oversampling it delays the sound by 50 samples (about 1 ms) and tells your DAW, which lines it up. Set oversampling to Off for zero delay, for example when recording through it.
- An external sidechain only works in a DAW that can route one to a plug-in. Logic Pro and Ableton Live both can.

DRIVE, MIX AND THE LIMITER

The plate on the right has two sides. The arrow beside LIMITER turns it over.



Drive & Mix. The CLIP lamp lights when Drive takes more than half a dB off a peak.



The limiter side. The figure at the top right is what it is taking off.

CONTROL	RANGE	WHAT IT DOES
DRIVE & MIX		
DRIVE	0 to +14 dB	Pushes the compressed sound into a saturation curve. At 0 nothing is added. Drive raises the level, so the limiter after it matters.
DRIVE TYPE	Cubic, Tanh, Hard	Cubic rounds off early and softly; Tanh is clean below −6 dBFS, then bends; Hard clips flat at 0 dBFS, its corner slightly rounded. Starts at Tanh.
MIX	0 to 100 %	The blend of the untouched input and the compressed sound, for parallel compression. The two stay sample-aligned with oversampling on.
LIMITER		
LIMITER	On or off	The output stage, after everything else. On at first. Zero latency.
CEILING	−12 to 0 dB	The highest peak that leaves. Starts at −0.3 dB.
RELEASE	1 to 1000 ms	How fast the Clean limiter recovers. Starts at 80 ms.
GAIN	−6 to +12 dB	How hard the signal is pushed into the limiter, for more loudness.
CHARACTER	Clean, Soft clip	Clean holds the ceiling exactly by turning the level down. Soft clip rounds peaks into the ceiling instead, adding a little crunch; it is untouched below 6 dB under the ceiling.

Presets

54 presets come built in: **Drums** (10), **Synths & Pads** (10), **Vocals** (5), **FX** (5), **Mastering** (10), **Bass & Low End** (10) and **Sidechain** (4). Thresholds assume a group peaking around −6 dBFS; on a quieter bus, turn THRESHOLD down.

The Sidechain presets are four steps of pumping, keyed from another track: **Pump 1 – Breathe**, **Pump 2 – Groove**, **Pump 3 – Pumping** and **Pump 4 – Full Duck**. RANGE sets how deep each ducks: 4, 8, 14 and 24 dB. Choosing one switches **EXT. SC** on, never off. Pick the source in your DAW (page 5).

To keep your own, press **SAVE** and give it a name. It appears under **Your presets** in the list, and is stored as a small file in **~/Library/IMPACT Engine/Presets**, which **Show presets folder** in the list opens. Saving with an existing name replaces that preset. A preset sets the sound only: oversampling, the power switch and the sidechain switch stay as they are.

YOUR LICENCE

What activation does, and what it does not do.

The first time IMPACT Engine opens it asks for the licence key from the Takt Audio Labs email. Until a key is entered, audio passes through untouched. Paste the key in once and it activates. That is the only moment it needs an internet connection. The licence does not expire.

Three machines

One purchase activates on up to three machines. If you sell a Mac or a drive dies, open the gear menu, choose the licence line, and press **Release this machine** to free the slot. You do not need to email anyone and there is nothing to wait for.

What leaves your computer

- Activating sends your key and your computer's name to the Takt licence server (licence.taktaudiolabs.com), once, at the moment you paste the key in. Releasing a machine sends the key again so the slot can be freed. Nothing else about you or your purchase is sent.
- Once a day IMPACT Engine asks taktaudiolabs.com whether a newer version exists. That is a request for a public file. It carries nothing about you or your machine, and if you are offline it does not ask.

There is no account, no cloud and no telemetry. Any network monitor will confirm it.

DETAILS

FORMATS	Audio Unit, VST®3
SYSTEM	macOS 11 or later, Apple Silicon and Intel. Mac only for now; tell me if you need Windows.
CHANNELS	Mono and stereo, with a mono or stereo sidechain input
LATENCY	50 samples at the default 2x, 60 at 4x, none with oversampling off; reported to the DAW
LICENCE	One purchase, up to three machines, moveable

Uninstalling

Release the licence first if you want the slot back, then delete these three. The last one also holds your saved presets.

```
/Library/Audio/Plug-Ins/Components/IMPACT Engine.component
/Library/Audio/Plug-Ins/VST3/IMPACT Engine.vst3
~/Library/IMPACT Engine
```

When something is wrong

Write to **support@taktaudiolabs.com**. Takt Audio Labs is one person, so the reply comes from whoever wrote the code. The **Report a bug** link in the About panel fills in your version, format and DAW for you; add what you did before it went wrong.

> Written for IMPACT Engine 2.3.3; your version is under About IMPACT Engine in the gear menu. The current guide is always at taktaudiolabs.com/impact-engine/download/.

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