VITRIC



Caliper Compressor

USER MANUAL | VERSION 1.2.4 | UPDATED NOVEMBER 18, 2026 | MUSEHUB EDITION

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Caliper Compressor is four compressors in one: FET, OPTO, TUBE and CLEAN. Each mode has its own detector, timing and color, so switching modes changes how Caliper behaves, not just how it looks. It is for anyone who wants one compressor that can punch a vocal, ride a bass, glue a mix bus and sit clean on a master.

This manual covers Caliper Compressor 1.2.4 on macOS and Windows, in VST3, AU and AAX.

01 Quick start

1. Insert **Caliper Compressor** on a track or bus. It opens in **CLEAN** mode.
2. Press play. The big readout in the middle shows how much Caliper is turning the signal down (gain reduction).
3. Lower **THRESHOLD** until the readout shows about -2 to -6 dB on the loud parts.
4. Raise **OUTPUT** until the level matches the bypassed sound (or turn on **AUTO GAIN** in the bottom strip), then click **BYPASS** to compare.
5. Try the other modes: click FET, OPTO or TUBE at the top (or press `1` to `4`). FET has no threshold: raise **INPUT** instead. In OPTO, raise **PEAK REDUCTION**.

TIP

Not sure where to start? Open **PRESETS**. There is a starting point for vocals, bass, drum bus, parallel crush and mastering.

02

What's new in 1.2.4

On macOS 27, the Audio Unit and AAX versions now load. No change to the sound or features. On Windows this is a maintenance update.

03

What's new in 1.2.3

Stability improvements when the host changes presets.

Fixed a rare crash when the host saves and restores settings at the same time.

Slightly lower CPU use on Windows.

On Windows, the plugin window now draws and updates on computers whose display gives it no refresh signal, such as virtual machines and some remote desktops. Closing the window there no longer freezes the host.

04

What's new in 1.2.2

A reopened session shows the name of the preset it was saved on.

05

What's new in 1.2.0

A free update for every Caliper owner, with Caliper's own rendered controls.

Caliper's own knobs and dials. Metal-capped knobs on a knurled ring, and a dial engraved into the glass under each knob that lights in the mode's color up to its value.

One row per mode. Each mode shows its own controls in one row: INPUT, then the mode's controls, then MIX and OUTPUT.

INPUT in every mode. It always worked in every mode; until now only FET showed it.

The license status reads MUSEHUB in this edition.

Only the look changed. The sound is the same, and your sessions and presets open exactly as before.

06

What's new in 1.1.11

What changed since 1.1.0:

Your own presets. Save, recall, rename and delete presets from the **PRESETS** menu.

The times you see are the times that run. In FET with ALL pressed, ATTACK and RELEASE show the faster ALL timing. In TUBE, RATIO and AUTO GAIN use the ratio TUBE actually applies (1.5:1 to 10:1).

Sessions always reopen as saved, after every update.

Fixes: a window that could open blank with frozen meters on some Windows displays; a crash on macOS 10.15 and 11; Windows user names with accented characters.

07 The window

Caliper has a top bar, a large display, a row of controls under it that changes with the mode, and a strip along the bottom for the sidechain and stereo link. Drag the window's corner to resize it, from 840 × 540 up to 1600 × 980 pixels; it opens at 1000 x 640.

The top bar

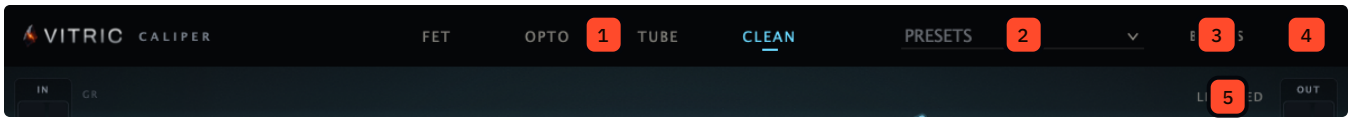

FIG. 1 The top bar in CLEAN mode, with the license status below it.

1. **Mode.** FET, OPTO, TUBE or CLEAN.
2. **PRESETS.** Factory presets and your own.
3. **BYPASS.** Turns the compressor off and on.
4. **... (Options).** Tooltips and the shortcut sheet. Caliper never checks for updates itself in this edition.
5. **License status.** Reads MUSEHUB. This edition opens unlocked, so the status is a label and takes no clicks.

CONTROL	WHAT IT DOES	RANGE	DEFAULT
FET · OPTO · TUBE · CLEAN	The compressor's character. Each mode shows its own controls and its own light. Keys 1 to 4, the arrow keys or the mouse wheel also step through them.	4 modes	CLEAN
PRESETS	Factory starting points and your own presets. Loading one sets the mode and every control.	8 factory presets plus yours	
BYPASS	Bypasses the compressor with a short crossfade, so it never clicks. The display's light goes out. Your DAW sees it as the plugin's own bypass.	On or off	Off
... (OPTIONS)	Opens a menu: Show tooltips, Check for updates and the keyboard shortcut sheet. The first two apply to every Vitric plugin on this computer. In this edition Caliper never checks for updates itself, whatever **Check for updates** is set to.		
LICENSE STATUS	Reads MUSEHUB. This edition opens unlocked, so the status is a label and takes no clicks. Updates come through MuseHub.		

The display



FIG. 2

The display in CLEAN mode with the threshold at -12 dB: meters, the gain-reduction needle and readout, the curtain and the input trace.

1. **IN meter.** The input level.
2. **OUT meter.** The output level, under the license status.
3. **Gain-reduction needle.** 0 to 24 dB of gain reduction.
4. **Readout.** The gain reduction right now, in dB.
5. **Compression curtain.** Gain reduction over time, biting down from the top.
6. **Input trace.** The incoming level over time. Silence shows no trace; the IN meter always shows the level.
7. **Threshold line.** In TUBE and CLEAN; drag it to set THRESHOLD.

The display shows compression as light: the needle, the readout and the curtain all show how hard Caliper is working. The GR scale on the left edge reads the curtain; the IN scale below it reads the input trace.

In TUBE and CLEAN you can drag the threshold line itself: hold `Shift` for fine moves, or use the mouse wheel for 1 dB steps. When the threshold is lower than the display shows, the line is replaced by a **THRESHOLD BELOW VIEW** box with its value; click the box to type one.

08 The controls, mode by mode

The row of controls under the display changes with the mode. **INPUT** always comes first, and **MIX** and **OUTPUT** (**GAIN** in OPTO) always end the row. OUTPUT is makeup gain for the compressed signal, applied before MIX, so below 100 % MIX the dry part is unchanged.

Click any value box under a knob to type an exact value; `Return` applies and `Esc` cancels. Times accept `us` for microseconds, `ms` or `s`; a bare number means milliseconds.

NOTE

ATTACK and RELEASE keep their knob position when you change mode, and each mode reads that position in its own time range. That is why the default position reads about 73 µs in FET, 580 µs in CLEAN and 4.7 ms in TUBE.

NOTE

INPUT is the first knob in every mode and keeps its value when you change mode. In FET it is the large knob that drives the fixed threshold; in the other modes it sets the level going into the compressor. Double-click it to reset it to 0 dB.

CLEAN

A transparent, modern compressor: the detector reads the incoming signal directly (feedforward), with an exact soft knee and no added color. Reach for it on a master or anywhere the sound must stay pure.



FIG. 3 CLEAN mode: input, threshold, ratio, knee, attack, release, mix and output.

1. **INPUT.** The level into the compressor.
2. **THRESHOLD.** Where compression starts.
3. **RATIO.** How hard it compresses.
4. **KNEE.** How gradually it starts.
5. **ATTACK.** How fast it clamps down.
6. **RELEASE.** How fast it lets go.
7. **MIX.** Compressed and dry blend.
8. **OUTPUT.** Makeup gain.

CONTROL	WHAT IT DOES	RANGE	DEFAULT
INPUT	The level going into the compressor. Keeps its value when you change mode.	-24 to +24 dB	0 dB
THRESHOLD	The level where compression starts.	-60 to 0 dB	-18 dB
RATIO	How hard Caliper compresses above the threshold. 2:1 is gentle; 10:1 and up is limiting.	1.1:1 to 20:1	4:1
KNEE	How gradually compression starts around the threshold. 0 dB is a hard knee.	0 to 24 dB	6 dB
ATTACK	How fast compression clamps down.	20 µs to 300 ms	About 580 µs
RELEASE	How fast it lets go. Reads AUTO and is dimmed while AUTO REL is on.	5 ms to 4 s	About 140 ms
MIX	Blend of compressed and dry signal, for parallel compression on the track. 100 % is fully compressed.	0 to 100 %	100 %
OUTPUT	Makeup for the compressed signal.	-24 to +24 dB	0 dB

CLEAN also shows **AUTO REL** and **AUTO GAIN** in the bottom strip.

FET

Fast and aggressive, with grit that grows the harder you drive it. There is no threshold: like the classic FET limiters, **INPUT** pushes the signal into a fixed threshold, so more input means more compression. The detector reads the compressed output (feedback), and release follows the program.



FIG. 4 FET mode: input, attack, release, the ratio values, mix and output.

1. **INPUT.** Drive into the fixed threshold.
2. **ATTACK.** How fast it clamps down.
3. **RELEASE.** How fast it lets go.
4. **RATIO.** The five ratio values.
5. **MIX.** Compressed and dry blend.
6. **OUTPUT.** Makeup gain.

CONTROL	WHAT IT DOES	RANGE	DEFAULT
INPUT	Drive into the fixed threshold. More input means more compression and more grit. Keeps its value when you change mode.	-24 to +24 dB	0 dB
ATTACK	How fast compression clamps down, in microseconds.	20 to 800 µs (14 to 560 µs with ALL)	About 73 µs
RELEASE	How fast it lets go; program-dependent.	50 ms to 1.1 s (30 to 660 ms with ALL)	About 235 ms
RATIO	4:1, 8:1, 12:1 or 20:1. ALL acts like pressing every button at once: about 16:1 with a wide, mushy knee, extra grit and faster timing.	4:1, 8:1, 12:1, 20:1, ALL	4:1
MIX	Compressed and dry blend.	0 to 100 %	100 %
OUTPUT	Makeup for the compressed signal.	-24 to +24 dB	0 dB

OPTO

Slow, smooth and musical, like an optical leveling amplifier. There are no attack or release knobs; the timing follows the signal. The harder the cell works, the slower it lets go, so loud passages settle instead of pumping. It adds gentle second-harmonic warmth.



FIG. 5 OPTO mode: input, peak reduction, mix and gain.

1. **INPUT.** The level into the opto cell.
2. **PEAK REDUCTION.** How much it compresses.
3. **MIX.** Compressed and dry blend.
4. **GAIN.** Makeup gain.

CONTROL	WHAT IT DOES	RANGE	DEFAULT
INPUT	The level going into the opto cell. Keeps its value when you change mode.	-24 to +24 dB	0 dB
PEAK REDUCTION	How hard the signal drives the opto cell. More means more compression. It does not change the level you hear.	0 to 100 %	40 %

CONTROL	WHAT IT DOES	RANGE	DEFAULT
MIX	Compressed and dry blend.	0 to 100 %	100 %
GAIN	Makeup for the compressed signal (the OUTPUT knob, renamed in this mode).	-24 to +24 dB	0 dB

TUBE

Warm, rounded and forgiving: a wide soft knee that starts compressing well before you hear it, with tube-style harmonics. The detector reads the compressed output (feedback).



FIG. 6 TUBE mode: input, threshold, ratio, attack, release, mix and output.

1. **INPUT.** The level into the compressor.
2. **THRESHOLD.** Where compression starts.
3. **RATIO.** How hard it compresses.
4. **ATTACK.** How fast it clamps down.
5. **RELEASE.** How fast it lets go.
6. **MIX.** Compressed and dry blend.
7. **OUTPUT.** Makeup gain.

CONTROL	WHAT IT DOES	RANGE	DEFAULT
INPUT	The level going into the compressor. Keeps its value when you change mode.	-24 to +24 dB	0 dB
THRESHOLD	The level where compression starts.	-60 to 0 dB	-18 dB
RATIO	Compression ratio. RATIO is shared with CLEAN; in TUBE, knob positions beyond 1.5:1 or 10:1 play and read as the nearest limit.	1.5:1 to 10:1	4:1
ATTACK	How fast compression clamps down.	0.5 to 300 ms	About 4.7 ms
RELEASE	How fast it lets go.	5 ms to 10 s	About 224 ms
MIX	Compressed and dry blend.	0 to 100 %	100 %
OUTPUT	Makeup for the compressed signal.	-24 to +24 dB	0 dB

TUBE also shows **AUTO GAIN** in the bottom strip.

The bottom strip



FIG. 7 The bottom strip in CLEAN mode: sidechain, auto release, auto gain and stereo link.

1. **SC HPF.** High-pass filter on the detector.
2. **EXT SC.** Use the external sidechain.
3. **LISTEN.** Hear what the detector hears.
4. **AUTO REL.** Automatic release (CLEAN).
5. **AUTO GAIN.** Automatic makeup (TUBE and CLEAN).
6. **LINK.** Stereo link.

CONTROL	WHAT IT DOES	RANGE	DEFAULT
SC HPF	A high-pass filter on the detector only, so low end does not make the compressor pump. The audio is not filtered. Reads OFF at the bottom of its range; type `OFF` to turn it off.	OFF, 22 to 500 Hz	OFF
EXT SC	The detector listens to your DAW's sidechain input instead of the track.	On or off	Off
LISTEN	Replaces the output with what the detector hears (after SC HPF), so you can set the filter by ear. Turn it off before you bounce or render.	On or off	Off
AUTO REL	Release adapts to the program. The RELEASE value is kept and comes back when you turn it off. CLEAN only.	On or off	Off
AUTO GAIN	Automatic makeup gain, worked out from THRESHOLD and RATIO, applied to the compressed signal before MIX. TUBE and CLEAN only.	On or off	Off
LINK	How much the two channels share one gain reduction. At 100 % both follow the louder channel, so a hit on one side does not pull the stereo image. At 0 % each channel compresses on its own.	0 to 100 %	100 %

Using an external sidechain

Caliper can compress one track based on another, for example a bass that ducks under the kick. The sidechain signal is never heard through Caliper; it only drives the detector.

1. In your DAW, send the other track to Caliper's sidechain input:

   Logic Pro: choose the track in the **Side Chain** menu at the top of the plugin window.

   Pro Tools: send the other track to a bus, then choose that bus in the key input menu at the top of the plugin window.

   Cubase: turn on the plugin window's side-chain button, then route a send from the other track to Caliper's side-chain input.

   Studio One: click the side-chain button in the plugin window's header and add a send from the other track.

   REAPER: give Caliper's track 4 channels, then send the other track to channels 3/4 of Caliper's track.

   Other DAWs: look up "sidechain to a plugin" in your DAW's manual.

2. Turn on **EXT SC**.
3. Turn on **LISTEN** to check that Caliper hears the sidechain signal, then turn it off.
4. Set THRESHOLD (or INPUT in FET) so the sidechain signal triggers the amount of gain reduction you want.

If your DAW has not enabled the sidechain input, Caliper keeps listening to its own track. If the input is enabled but nothing plays into it, Caliper does not compress.

09 Keyboard and mouse

Keys work when the Caliper window has keyboard focus: click an empty part of the window once. While you type in a value box, the box keeps the keys.

ACTION	MAC	WINDOWS
Choose FET, OPTO, TUBE or CLEAN	`1` to `4`	`1` to `4`
Bypass	`B`	`B`
Show the shortcut sheet	`?`	`?`
Set the threshold on the display (TUBE, CLEAN)	Drag the threshold line	Drag the threshold line
Fine threshold drag	`Shift` + drag the line	`Shift` + drag the line
Threshold in 1 dB steps (0.1 dB with `Shift`)	Mouse wheel over the line	Mouse wheel over the line
Step the mode or the FET ratio	Mouse wheel over it	Mouse wheel over it
Step a knob (`Shift` for fine)	Mouse wheel over it	Mouse wheel over it
Nudge a selected knob or selector (`Shift` for fine)	Arrow keys	Arrow keys
Fine drag on a knob	`Shift` + drag	`Shift` + drag
Reset a knob	Double-click, or `Cmd` + click	Double-click, or `Ctrl` + click
Type an exact value	Click the value box	Click the value box

In Pro Tools, fine drag is `Cmd` + drag (`Ctrl` on Windows) and reset is `Option` + click (`Alt` on Windows).

10 Recipes

These are starting points. Every voice, mix and room is different, so adjust by ear and compare with **BYPASS**.

Smooth out a vocal (OPTO)

START FROM	Vocal - Opto Smooth
PEAK REDUCTION	40 to 50 %, for 3 to 6 dB of gain reduction on loud words
GAIN	Raise until the level matches BYPASS
SC HPF	80 to 120 Hz if plosives (p and b sounds) grab the compressor

Push a vocal forward (FET)

START FROM	Vocal - FET Punch
INPUT	+6 dB, for 5 to 10 dB of gain reduction on the loudest words
RATIO	4:1
ATTACK	About 100 µs
RELEASE	About 110 ms
OUTPUT	-3 dB

Glue a drum bus (CLEAN)

START FROM	Drum Bus - Glue
THRESHOLD	-22 dB, for 1 to 3 dB of gain reduction
RATIO	2:1
KNEE	12 dB
ATTACK	About 70 ms, so the hits come through
AUTO REL	On
AUTO GAIN	On

Crush drums in parallel (FET ALL)

START FROM	Drums - All-Buttons Crush
INPUT	+9 dB
RATIO	ALL
ATTACK	About 130 µs
RELEASE	About 160 ms
MIX	50 to 60 %

MIX blends the crushed sound with the dry drums, so you get the energy without losing the hits.

Steady a bass (TUBE)

START FROM	Bass - Tube Warm
THRESHOLD	-26 dB, for 3 to 6 dB of gain reduction on loud notes
RATIO	4:1
ATTACK	About 12 ms
RELEASE	About 70 ms
AUTO GAIN	On

Level a master gently (OPTO)

START FROM	Master - Gentle Leveler
PEAK REDUCTION	20 to 30 %, for 1 to 2 dB of gain reduction on the loudest passages
GAIN	Raise until the level matches BYPASS

Make room for the kick (sidechain)

INSERT CALIPER ON	The bass or a synth bus
START FROM	Default (Clean)
EXT SC	On, with the kick routed to the sidechain (see Using an external sidechain)
THRESHOLD	-30 dB, then adjust
RATIO	4:1
ATTACK	1 ms
RELEASE	80 to 150 ms

The bass ducks a few dB on each kick and comes straight back.

11 Presets

PRESET	WHAT IT SETS UP
Default (Clean)	CLEAN mode at its defaults
Vocal - FET Punch	FET, +6 dB input, 4:1, a fast attack, -3 dB output
Vocal - Opto Smooth	OPTO, peak reduction 45 %, +2 dB gain
Bass - Tube Warm	TUBE, -26 dB threshold, 4:1, auto gain
Drum Bus - Glue	CLEAN, -22 dB, 2:1, 12 dB knee, slow attack, auto release and gain
Drums - All-Buttons Crush	FET ALL, +9 dB input, 55 % mix
Parallel - 20:1 Smash	FET 20:1, +12 dB input, 35 % mix
Master - Gentle Leveler	OPTO, peak reduction 25 %

Your own presets

1. Set Caliper the way you want it, open **PRESETS** and choose **Save preset...**, then type a name.
2. Your presets appear under **User** in the same menu. Choose one to recall it.
3. **Rename preset** and **Delete preset** manage the list; **Show preset folder** opens the folder on disk.

A saved preset holds every control except BYPASS and works in any project. The files are in `~/Library/Application Support/Vitric Audio/Presets/Caliper Compressor` on macOS and `%APPDATA%\Vitric Audio\Presets\Caliper Compressor` on Windows.

12 Specifications

Modes: FET, OPTO, TUBE, CLEAN.

Detection: feedback (from the compressed signal) in FET, OPTO and TUBE; feedforward in CLEAN.

Ratio: FET 4:1, 8:1, 12:1, 20:1, ALL; TUBE 1.5:1 to 10:1; CLEAN 1.1:1 to 20:1.

Threshold: -60 to 0 dB (TUBE, CLEAN). **Knee:** 0 to 24 dB (CLEAN).

Sidechain: external input (mono or stereo), detector high-pass (OFF, 22 to 500 Hz), listen.

Stereo link: 0 to 100 %. **Mix:** 0 to 100 %. **Output:** -24 to +24 dB.

Latency: none. Caliper does not oversample, so it is safe while tracking and anywhere in a chain.

Window: 840 × 540 to 1600 × 980.

Formats: VST3 and AAX on macOS and Windows; AU on macOS.

Not included

There is no lookahead and no mid/side mode.

Caliper works on mono and stereo tracks. It does not support surround or Atmos formats.

13 Installation and updates

Install

1. Save your work and quit your DAW.
2. Install **Caliper Compressor** from the MuseHub app. MuseHub downloads it and puts the plugins in place.
3. Open your DAW. If Caliper Compressor is not listed, run your DAW's plugin rescan.

Use AU in Logic Pro, AAX in Pro Tools and VST3 in other DAWs. On a Mac the plugins go in the standard folders:

AU: `/Library/Audio/Plug-Ins/Components`

VST3: `/Library/Audio/Plug-Ins/VST3`

AAX: `/Library/Application Support/Avid/Audio/Plug-Ins`

On Windows, MuseHub installs the VST3 and AAX versions.

Nothing to enter

This edition opens and runs as soon as it is installed. Your MuseHub purchase is your license: there is no key, code or account to enter, and nothing to unlock. The license status at the top right of the display reads MUSEHUB. It is a label, not a button, so clicking it does nothing.

MuseHub handles the purchase, any trial and any payment question under its own terms. Vitric sets no limit of its own on the number of computers: install Caliper on the computers you personally use, within MuseHub's terms.

Updates

Updates to this edition are free and come through MuseHub. When a new version is out, save your work, quit your DAW and update Caliper in the MuseHub app. Your sessions reopen exactly as saved after every update.

Caliper never checks for updates itself in this edition and shows no update notice, whatever the **Check for updates** option is set to.

Sessions and presets are the same as in the vitricaudio.com edition of Caliper Compressor, so your projects open in either edition.

14 Troubleshooting

Caliper does not appear in my DAW

Rescan plugins and restart the DAW. In Logic Pro, use Logic Pro > Settings > Plug-in Manager and **Reset & Rescan Selection**. On Windows, make sure your DAW scans `C:\Program Files\Common Files\VST3`.

It went silent

LISTEN is on: you hear the detector feed instead of the output; with EXT SC on and nothing routed to the sidechain, that feed is silent. Turn LISTEN off.

There is no gain reduction

In FET, raise **INPUT**; there is no threshold knob.

In OPTO, raise **PEAK REDUCTION**.

With **EXT SC** on, check the sidechain routing with **LISTEN**.

It compresses harder after I changed mode

INPUT keeps its value when you change mode, so a hot INPUT from FET drives the new mode harder. Check INPUT, the first knob in every mode, and double-click it to reset it to 0 dB.

The compressed version always sounds better

Compression plus makeup gain makes things louder, and louder fools the ear. Match the level with OUTPUT (or AUTO GAIN) before you compare with BYPASS.

Shortcuts do nothing

Click an empty part of the Caliper window once so it has keyboard focus. Some DAWs keep certain keys for themselves; use the mouse for those.

15 Support

MuseHub provides first-line support for this edition and passes anything it cannot solve, such as a plugin fault, on to Vitric. You can also write to support@vitricaudio.com with your Caliper version, operating system, DAW and version, plugin format and the exact error if there is one.

Caliper Compressor user manual, MuseHub edition, version 1.2.4, updated November 18, 2026.

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