

Caliper Compressor

User guide · version 1.1.0



What it is

Four honest compressor behaviours in one unit: FET, Opto, Tube and Clean, each with its own detection, ballistics and colour. Switch modes and the whole machine re-lights around one gain-reduction display, with the real attack and release times for the mode you are in. Zero added latency in every mode. VST3, AU and AAX for Windows and macOS.

FET is built for the 1176 seat: a fixed threshold with Input driving the signal into it, attack from 20 to 800 microseconds, release from 50 ms to 1.1 s, ratio buttons at 4:1, 8:1, 12:1 and 20:1 plus ALL, and feedback detection that reads the already-compressed signal the way the hardware does. Opto is the LA-2A move: Peak Reduction drives the detector only, attack sits at 10 ms and release is two-stage with light memory, so the harder it has been working the slower it lets go. Tube is a CL 1B-style wide 10 dB knee with variable ballistics, attack from 0.5 to 300 ms and release from 5 ms to 10 s. Clean is feedforward with exact knee math from 0 to 24 dB, attack from 0.02 to 300 ms, release from 5 ms to 4 s, and an optional auto release.

The gain-reduction display is the whole interface: the input history wave, the GR curtain biting down from the top in the mode's own light, a rim needle and one large readout. Switch modes and the machine re-lights and remaps its control bar to that mode's own workflow, while MIX and OUTPUT hold their positions so your hand does not have to hunt. Attack and release read the physical time for the mode you are in and accept typed values in μs, ms or s; a mode change cancels a draft that belonged to the previous mode.

When a Tube or Clean threshold sits below the visible history, an exact readout appears for it and disappears again when the marker comes back on scale.

Every mode carries the same kit: parallel Mix on the unit, auto gain on Tube and Clean, an external sidechain with a 20 to 500 Hz high-pass and a listen switch, stereo link from 0 to 100 percent with the detector on the louder channel, and a click-free bypass crossfade. Eight factory presets, full state recall, automation on all 18 parameters, and a freely resizable window from 840x540 up to 1600x980. Zero samples of added latency, in every mode, so it sits in a tracking chain as comfortably as on a master.

Caliper is a stereo unit. There is no lookahead, no oversampled mode, no A/B slots and no mid/side processing. If your work needs those on this insert, this is not the compressor for that part of it.

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

Key features

- Four compressor behaviours in one unit: FET, Opto, Tube and Clean, each detecting its own way
- Feedback-style detection on FET, Opto and Tube; Clean is feedforward with exact knee math
- FET: 20 to 800 μ s attack, ratio buttons at 4:1, 8:1, 12:1 and 20:1, plus the ALL setting
- Real times, not percentages: attack and release read and type in μ s, ms or seconds, per mode
- Full sidechain kit: external input, 20 to 500 Hz high-pass, listen, and 0 to 100 % stereo link
- Zero added latency in every mode, parallel Mix on the unit, click-free bypass crossfade

Working the modes

MODE picks the character and remaps the control bar to that mode's own workflow: Input and the ratio buttons for FET, Peak Reduction and Gain for Opto, threshold, ratio and timing for Tube and Clean. The whole machine re-lights with the mode, and MIX and OUTPUT stay where they were so your hand does not have to hunt for them. The display above holds the input history, the gain-reduction curtain in the mode's light, the rim needle and the large readout.

Attack and release show the real time for the mode you are in, and you can type one: click the value, enter a number with a μ s, ms or s suffix, press Return. Escape cancels; an out-of-range or malformed entry keeps the previous value and says so. Switching modes cancels an unfinished edit that belonged to the previous mode. Clean's AUTO release visibly disables the manual release control it is overriding and puts AUTO in its readout; turning it off restores the value you had. When a Tube or Clean threshold is below the visible history, a small exact readout appears beside the display and disappears when the marker returns to the scale.

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. 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.** FET at 4:1 with the attack backed off lets the transient through and then grabs the room. Push into ALL for parallel crush on the Mix knob.
- **Lead vocal.** Opto rides a vocal the way the classic cell does, fast enough to catch and slow enough to breathe, releasing slower the harder the phrase pushes.
- **Mix bus glue.** Tube with 1 to 3 dB of reduction and auto gain. The wide knee starts working before you can hear it working.
- **Mastering lid.** Clean mode with exact knee math and auto release keeps a master controlled without a fingerprint. Zero added latency, so it sits anywhere in the chain.

Full specification

- Four compressor modes: FET, Opto, Tube and Clean, each with its own detection, ballistics and colour
- Feedback-style detection on FET, Opto and Tube; Clean is feedforward
- FET: fixed -20 dB threshold with Input driving the signal into it, 3 dB knee
- FET ratio buttons: 4:1, 8:1, 12:1, 20:1 and ALL; ALL is a 16:1 ratio under a wide 10 dB knee
- FET attack 20 to 800 microseconds, release 50 ms to 1.1 s, program-dependent
- Opto: Peak Reduction drives the detector only, up to +30 dB into the cell, 12 dB knee
- Opto attack fixed at 10 ms, two-stage release with light memory
- Tube: wide fixed 10 dB knee, attack 0.5 to 300 ms, release 5 ms to 10 s
- Clean: exact knee math 0 to 24 dB, attack 0.02 to 300 ms, release 5 ms to 4 s, optional auto release
- Threshold -60 to 0 dB on Tube and Clean; ratio 1.1:1 to 20:1, with the Tube control capped at 10:1
- Input trim and Output trim, both plus or minus 24 dB
- Per-mode saturation after gain reduction: FET grit that grows with drive, second-harmonic warmth on Opto and Tube, nothing added on Clean
- Mix 0 to 100 % for parallel compression on the unit
- Auto gain on Tube and Clean
- Sidechain high-pass 20 to 500 Hz; 20 Hz reads OFF and 22 Hz is the first active value
- External sidechain input and sidechain listen
- Stereo link 0 to 100 %, with the detector on the louder channel
- Click-free bypass crossfade
- Zero samples of added latency in every mode
- Gain-reduction display: input history, the GR curtain in the mode's own light, rim needle and a large readout
- Exact attack and release readouts in the physical time for the current mode
- Contextual exact threshold readout when the threshold sits below the visible history
- Eight factory presets and full state recall
- 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, 840x540 up to 1600x980

- 18 automatable parameters, state saved and recalled exactly with your session
- Passes pluginval at strictness level 5
- 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

Is the FET mode like an 1176?

It is built against that workflow: attack into the microseconds, a fixed threshold with the Input knob driving the compression, ratio buttons, and an ALL setting for the all-buttons-in sound. Detection is feedback style with program-dependent release, which is where the hardware's character comes from. It is an honest behavioural model of how that kind of unit detects and releases, not a component-level clone of a named box.

What is the difference between the four modes?

They are four separate circuit behaviours, not one engine with presets. FET is fast and gritty, Opto rides slowly with release memory, Tube glues through a wide knee with warmth, and Clean is a transparent feedforward design. Each mode has its own detection, its own ballistic ranges and its own saturation, and the control bar changes to match.

Does it add latency?

No. Every mode runs at zero samples of added latency, so it works anywhere: tracking chains, mix bus, mastering.

Can I sidechain it from another track?

Yes. It accepts an external sidechain in every DAW that routes one, with a sidechain high-pass from 20 to 500 Hz and a listen switch so you can hear exactly what the detector hears. The high-pass reads OFF at 20 Hz; 22 Hz is the first active value.

What do the attack and release numbers mean?

The real time for the mode you are in. The same knob position reads 137 microseconds in Clean and 1.80 ms in Tube, because each mode maps its knob onto the range that mode is meant to cover. You can type an exact time instead of aiming with the knob.

Is there parallel compression on the unit?

Yes. Mix blends 0 to 100 % against the dry signal inside the plugin, so a crushed FET setting can sit under the untouched signal without a second bus.

What formats and DAWs does Caliper Compressor 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.

Support: support@vitricaudio.com · Product page: <https://vitricaudio.com/caliper-compressor> · Vitric Audio, Cleveland, Ohio.
This guide describes Caliper Compressor 1.1.0 as distributed on Muse Hub.