

Desert Moon Audio

TUBECLIP

TC - 19

Tube Clipper · Loud, Fat and Clean



TubeClip gets more level, more weight and more warmth out of a mix, a bus or a track, with a ceiling that is the ceiling. Turn up DRIVE, watch the CLIP meter, and nothing goes over the line you set — not even between the samples. Three tube stages, a loudness lift that leaves the peaks alone, a transformer for the low end, and a MATCH key so you can hear whether it is better, not merely louder.

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A NOTE ON THE DESIGN

TubeClip is an original Desert Moon Audio design. A clipper makes a mix louder by cutting the tops off its peaks; the trouble is what the cutting does to the sound (aliasing, the grit nobody asked for) and what comes back over the ceiling once the result is filtered. TubeClip takes the clipping out of the audio band twice over — oversampling and antiderivative anti-aliasing — and then guarantees the ceiling with an alias-free guard rather than a second clipper. The face is a rack unit in a blaze-orange crinkle coat because the sound is that colour.

1.1 What Gets Installed

FORMAT	LOCATION
Audio Unit	/Library/Audio/Plug-Ins/Components/TubeClip.component
VST3	/Library/Audio/Plug-Ins/VST3/TubeClip.vst3
AAX	/Library/Application Support/Avid/Audio/Plug-Ins/TubeClip.aaxplugin
VST3 (Windows)	C:\Program Files\Common Files\VST3\TubeClip.vst3
AAX (Windows)	C:\Program Files\Common Files\Avid\Audio\Plug-Ins\TubeClip.aaxplugin

After installing, restart your DAW or rescan its plug-in list. TubeClip is an **effect**, mono or stereo in and out: choose it from **Desert Moon Audio**. It belongs last on a bus or a master, before a limiter if you use one, and it is just as happy on a drum bus, a bass or a vocal.

2.1 Five Minutes In

Insert TubeClip and press play. It loads on **Front Panel**: TRIODE, a medium knee, the ceiling a tenth of a dB under full scale. Turn up **DRIVE** and watch the **CLIP** meter: it reads how many dB the loudest moments are being pushed over the ceiling. Two or three dB on a mix is a lot of loudness for very little change in tone; the **OUTPUT LEVEL** ladder on the right shows the true peak holding at the ceiling whatever you do.

Now press **MATCH**. The output is held at the same loudness as the input, so what you hear is the tone the clipper is giving you, not the extra level. If it still sounds better with MATCH on, it is better. Press **DELTA** to hear only what is being taken away.

Turn up **GLOW** for loudness from inside the waveform: the body of the sound comes up and the peaks stay exactly where they are. Turn up **FAT** for weight. Try **PENTODE** on drums and **CLEAN** on a master you want left alone. If you would rather give it a number, press **AUTO**: DRIVE follows the loudness target set behind SETTINGS, and the readout shows what it is adding.

2.2 Resizing

Drag the window's corner. The panel keeps its shape, every control scales together, and the size is remembered with the session.

DEFAULTS

Double-click any knob to send it back to rest. POWER is the host's own bypass. POWER, MATCH and DELTA are never stored in a preset: they are how you listen, not part of a sound.

1.2 The 14-Day Trial

TubeClip runs **fully featured for fourteen days** from the first time it loads — every stage, every control, every preset, nothing held back. A strip along the bottom edge of the panel — **TRIAL – 14 DAYS LEFT** — counts the days down. If the trial runs out before you activate, audio passes through dry: your track is still heard, unclipped, and a session opened later is never damaged. Licenses are sold at **desertmoonaudio.com**.

1.3 Entering Your License

Your license key is in the order email: one long line beginning DMA1–. Click the trial notice, paste the key in and press **Activate**. The first activation on a machine takes one quick internet check, which registers this computer against your key; from then on the plug-in runs fully offline, apart from its once-a-day update check. There is no account and no dongle. One key covers every format — Audio Unit, VST3 and AAX — and is kept in
~/Library/Desert Moon Audio/TubeClip/ on macOS.

1.4 Seats and Moving Machines

One key activates **up to four computers you personally own** — a studio desktop, a laptop and a couple of spares. To move to a new machine, open the preset bar's menu on the old one and choose **Deactivate This Machine...**; that hands the seat back at once and returns that copy to trial mode. If the old machine is gone — sold, wiped or dead — write to **info@desertmoonaudio.com** with your order number and the seat is released by hand.

1.5 Updates and Support

Updates are free for as long as you own the plug-in. TubeClip checks once a day for a newer version and shows a small notice on the panel when one exists; download the current installer and run it over the top — nothing needs to be uninstalled and your presets stay where they are. Questions, problems or a lost key:
info@desertmoonaudio.com.



- 1 The preset bar: previous and next, the name window (click it for the list), A/B, undo, redo, save, revert, menu.
- 2 TUBE: CLEAN, TRIODE or PENTODE. The chosen one is backlit.
- 3 GLOW: loudness from inside the waveform; the lamp above it brightens with the lift being applied.
- 4 FAT: low-end weight.
- 5 DRIVE: how hard the programme hits the tube.
- 6 The CLIP meter: dB over the ceiling, with the clip clock printed on the card and the Guard lamp in the bezel.
- 7 The readout: loudness in and out, true peak, and what the unit is doing.
- 8 MATCH, DELTA, AUTO and SETTINGS.
- 9 OUTPUT LEVEL: true peak, with a hold.
- 10 CEILING: the level nothing exceeds.
- 11 MIX: parallel blend, time-aligned.
- 12 OUTPUT: the trim after everything.
- 13 POWER: the host's bypass.

PRESSED INTO THE COAT

The three sections read left to right the way the signal goes: the tube stage, the meter that watches it, the output that holds the line. Everything you need in a session is on the face; everything you set once is behind the SETTINGS key (section 7).



TUBE, GLOW, FAT and DRIVE.

TUBE

CLEAN · TRIODE · PENTODE

The shape of the clip. **CLEAN** is a polynomial knee: a few odd harmonics that die away quickly, the nearest thing to invisible. **TRIODE** is a tanh knee with a touch of asymmetry built in: a long, warm tail of harmonics, even ones among them. **PENTODE** is a crisper knee: odd harmonics, punch, the drum-bus setting. The knee width and the asymmetry are yours to set behind the faceplate.

GLOW

0 to +9 dB

Loudness from inside the waveform. GLOW lifts the body of the signal — up to nine dB on the quiet parts — and the lift fades to nothing at the ceiling, so the peaks stay exactly where they were. There is no attack and no release: it is a transfer curve, not a compressor, so it never pumps and never breathes. GLOW COMP (behind SETTINGS, on by default) takes the same amount off again at the output, so the knob changes density, not level; switch it off and GLOW is simply louder. The lamp above the knob brightens with the lift being applied to the programme.

FAT

0 to +9 dB

Weight. FAT drives the low end into the tube harder, then puts the balance back afterwards, so what is left is low harmonics and body rather than a boost. FAT FREQ (behind SETTINGS) sets where it sits, 50 to 300 Hz. IRON, also behind the faceplate, is the second flavour of weight: a transformer.

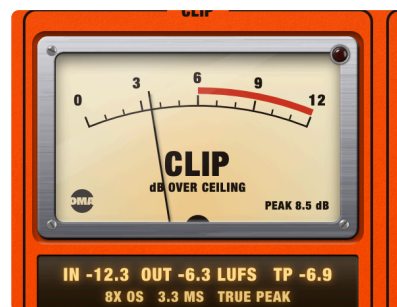
DRIVE

-12 to +24 dB

How hard the programme hits the tube stage. Everything over the ceiling is clipped; the CLIP meter shows by how much. On a mix, two to four dB on the loudest moments is the usual range; on drums, as far as you like.

5.1 The Meter

The needle reads how many dB the programme is being pushed over the ceiling, zero to twelve, the red band from six. On the card, bottom right, the **clip clock** prints the heaviest clip so far and when in the song it happened; click the meter to clear it. The red lamp in the bezel is the **Guard** lamp: it latches when the Guard has had to catch an inter-sample peak that got past the clipper (section 7).



5.2 The Readout

Short-term loudness in and out, the output's true peak, and what the unit is doing: the oversampling, the latency, the Guard mode, Mid/Side when it is on, and with AUTO on, how much drive the target is adding.



MATCH, DELTA, AUTO and SETTINGS.

MATCH

listening aid

Loudness-matched listening. The output is held at the input's loudness, so what you hear is the tone the clipper is giving you rather than the extra level — the only honest way to judge a clipper, and the thing the others leave out. It is never applied to a render, and it is not stored in a preset.

DELTA

listening aid

Hear only what the clipper takes away: the processed signal minus the input, time-aligned. If the delta sounds like the kick and the snare you are clipping transients; if it sounds like the whole mix, back off.

AUTO

drive to a target

DRIVE follows the loudness **TARGET** set behind SETTINGS. TubeClip walks its own drive, up to five dB a second and only while there is programme, until the output's short-term loudness sits at the target, and the readout shows what it is adding. DRIVE itself still works as an offset.



The true-peak ladder, CEILING, MIX, OUTPUT and POWER.

CEILING

-20 to 0 dBFS

The level nothing will exceed. TubeClip guarantees it after oversampling — for sample peaks, and with GUARD on TRUE PEAK, for the peaks between the samples too — without a second clipper at the base rate. For a master going to the streaming services, -1 dB with TRUE PEAK is the usual setting.

MIX

DRY to WET

Parallel blend. The dry signal is delayed by exactly the unit's latency, so the blend never comb-filters. Sixty per cent on a drum bus is a classic.

OUTPUT

-24 to +24 dB

The trim after everything, including the Guard. Taking OUTPUT down does not change what the clipper does; it only sets where the result sits.

OUTPUT LEVEL

-30 to 0 dBTP

The output's true peak, one segment a dB, with a hold. With the ceiling at zero the top segment never lights twice.

POWER

the host's bypass

Click-free, with the latency kept, so switching the unit in and out moves nothing. The lit caps go dark and the lamps go out.



Press SETTINGS; FRONT brings the faceplate back.

CONTROL	RANGE	WHAT IT DOES
KNEE	HARD to SOFT	The corner into the ceiling. Hard is an edge; soft is a wide, progressive squeeze with more harmonics below the ceiling.
BIAS	0 to 100	Asymmetric drive: even harmonics, tube warmth. Both polarities still land exactly on the ceiling.
SILK / SILK FREQ	0 to 100 · 1.5 to 12 kHz	Rounds the top after the clipper, up to 4 dB, the harder and the more continuously you clip. A tube output stage's own softness.
FAT FREQ	50 to 300 Hz	Where FAT's weight sits.
IRON	0 to 100	An output transformer before the tube. The core saturates on flux, the integral of the signal, so the bass compresses and thickens while the top stays clean.
TARGET	-20 to -4 LUFS	The short-term loudness AUTO drives toward. -9 is loud; -14 is where the streaming services sit.
SIDE DRIVE	-6 to +6 dB	In Mid/Side, how much harder or softer the side channel is driven than the mid. Push width without smearing the centre.
TOP	OFF, 16 to 40 kHz	A linear fourth-order low-pass after the clipper, run at the oversampled rate, for the hash heavy clipping leaves above the audio band.
OVERSAMPLE / OFFLINE	1x to 16x	The rate while playing, and the rate when the host renders. The latency is the same either way, so bounces line up. With ADAA on, 8x (the default) is below the floor of any converter. At 88.2 and 96 kHz the top is 8x, at 176.4 and 192 kHz it is 4x: the same cleanliness in Hz.
STEREO	L/R · M/S	Clip the left and right, or the mid and side independently to keep the width when pushing hard.
GUARD	OFF · PEAK · TRUE PK	How the ceiling is held: a sub-millisecond gain envelope rather than a second clip, so no aliasing is folded back. PEAK holds sample peaks to the ceiling; TRUE PK holds inter-sample peaks too. OFF is the raw clipper, which can ring a fraction of a dB over the ceiling on hard edges.
ADAA	on / off	Second-order antiderivative anti-aliasing on the tube stage. Leave it on; it is why 8x here is cleaner than 16x elsewhere.
GLOW COMP	on / off	Takes the GLOW amount off again at the output, so GLOW changes density rather than level.

WHAT THE ENGINE DOES

Drive → FAT emphasis → up to the oversampled rate → IRON → the tube stage through second-order antiderivative anti-aliasing → SILK → TOP → FAT de-emphasis → down to the base rate → the Guard → OUTPUT → MIX. The dry path is delayed by exactly the same amount.

Every number here was measured, not assumed: a 4.21 kHz sine driven six dB into the clipper with its ceiling at 0 dBFS, at 48 kHz in 512-sample blocks, on an Apple Silicon Mac in October 2026. **Alias floor** is the loudest non-harmonic component relative to the fundamental (lower is cleaner). **True peak over** is how far the output's inter-sample peak exceeds the ceiling. Latency is what the plug-in reports to the host, and what was measured.

SETTING	LATENCY	TRUE PEAK OVER	ALIAS FLOOR	RESPONSE TO 20 KHZ
8x, TRIODE (as it loads)	157 samples · 3.3 ms	0.00 dB	-108 dB (the test's floor)	within 0.01 dB
8x, CLEAN, hard knee	157 samples · 3.3 ms	0.00 dB	-108 dB (the test's floor)	within 0.01 dB
16x, CLEAN, hard knee	158 samples · 3.3 ms	0.00 dB	-108 dB (the test's floor)	within 0.01 dB
4x, CLEAN, hard knee	155 samples · 3.2 ms	0.00 dB	-103 dB	within 0.01 dB
1x, CLEAN, hard knee (Low Latency)	34 samples · 0.7 ms	0.00 dB	-47 dB	within 0.01 dB

8.1 What the Numbers Say

The ceiling. TubeClip holds it for sample peaks and, with GUARD on TRUE PEAK, inter-sample peaks, in every mode at every drive, without a base-rate clip: the guard dips the gain by exactly the overshoot instead of clipping twice.

Aliasing. On the worst case, a hard knee driven six dB over, TubeClip at its 8x default measures -108 dB, which is the floor of the measurement itself (the analysis window's own skirt); at twelve dB over it is still at that floor. 1x is the low-latency compromise and the one setting where aliasing is audible on a hard knee.

Latency. 157 samples at 48 kHz (3.3 ms), the same when the host renders, and never more than 158 at any oversampling setting from 2x.

Transparency. With nothing clipping, TubeClip's response is flat within a hundredth of a dB to 20 kHz at every setting; its anti-aliasing adds no droop. MATCH gives a loudness-matched comparison on the panel, so what you judge is tone, not level.

REPRODUCE IT

The harness and the bench ship with the source: TubeClipTests writes the engine's own figures and TubeClipBench runs the identical test on any installed Audio Unit or VST3, so you can check the figures yourself. Both are described in the README.

9.1 The Preset Bar

The arrow keys step through every preset, factory and yours. Click the name window for the whole list, **Save As...**, **Delete** and **Open Preset Folder**. The amber dot beside the name means the sound has moved since the preset was loaded; **revert** puts the preset back. **A/B** holds two scratch settings: tweak one, flip to the other, flip back. **Undo** and **redo** walk every change, grouped so a knob drag is a step or two, not a hundred. User presets live in `~/Library/Application Support/Desert Moon Audio/TubeClip/Presets`.

9.2 Factory Presets

Front Panel TRIODE, a medium knee, the ceiling a tenth under full scale. The sound.	Master: Transparent CLEAN, a narrow knee, no bias. The invisible one.
Master: Loud and Warm TRIODE with three dB of drive, three of GLOW, a little SILK and IRON.	Master: Big Bottom FAT four, IRON forty, a soft knee. Weight you feel.
Master: Mid/Side Wide Mid and side clipped apart, so the width survives the level.	Master: Auto -9 / Auto -14 LUFS AUTO on, aimed at -9 (loud) or -14 LUFS (the streaming services), the ceiling at -1 dBTP. Press play and it finds the level.
Drum Bus: Punch / Smash PENTODE, a hard knee, FAT; Smash adds twelve dB of drive and sits at sixty per cent MIX.	Bass: Fat Tube TRIODE with a wide knee, heavy BIAS, FAT six, IRON fifty-five, SILK half.
Vocal: Silk A soft knee, SILK at sixty from six kHz, a touch of GLOW. Forward without edge.	Mix Bus: Glue A dB and a half of everything. Nobody hears it; everybody misses it when it goes.
Guitar: Pentode Crunch Sixteen dB into a hard PENTODE knee with BIAS at sixty and TOP at 18 kHz.	Synth: Mid/Side Side Push Mid/Side with the side driven four dB harder than the mid. Width without smearing the centre.
Tracking: Low Latency No oversampling, 34 samples of latency. For the way in, not the way out.	

9.3 Loud Without the Grit

Ceiling at -1 dBTP, TRIODE, DRIVE until the meter reads two or three on the loudest moments, then GLOW to taste with MATCH on. Follow it with your limiter: it will have far less to do.

9.4 Drums That Hit

PENTODE, KNEE near hard, six to ten dB of DRIVE, MIX at sixty. The transients are shaved, the body is untouched, and the kit sits a foot further forward.

9.5 Bass That Fills the Room

TRIODE with a wide KNEE, FAT and IRON both up, DRIVE until the meter moves on the notes. Check it on a phone speaker: that is where IRON earns its keep.

ITEM	VALUE
Formats	Audio Unit, VST3 and AAX on macOS 10.15 and later, Apple Silicon and Intel (universal); VST3 and AAX on 64-bit Windows 10 and later
Channels	Mono or stereo in and out; Mid/Side processing
Sample rates	44.1 kHz to 192 kHz
Latency	157 samples at 48 kHz (3.3 ms) at the 8x default, 149 to 158 from 2x to 16x, the same when rendering; 34 samples at 1x. Reported to the host exactly; bypass and MIX are aligned to it
Stages	CLEAN (polynomial knee), TRIODE (tanh knee, asymmetric), PENTODE (p-norm knee); knee width and bias continuously variable
Anti-aliasing	Second-order antiderivative anti-aliasing on the stage, with every curve change crossfaded over 5 ms; polyphase half-band oversampling 2x to 16x (8x the top at 88.2 and 96 kHz, 4x at 176.4 and 192 kHz)
Ceiling	-20 to 0 dBFS, guaranteed for sample peaks and (TRUE PK) inter-sample peaks by an alias-free look-ahead gain envelope; worst-case hard knee alias floor -108 dB at 8x (the measurement's floor)
Metering	ITU-R BS.1770 K-weighted loudness (momentary, short-term, integrated), 4x true peak, clip depth, clip clock
Processing	32-bit float, double precision in the stage and the clamps, every control smoothed
Presets	Fifteen factory, each a complete setting of every control; user presets as files; A/B; undo and redo
License	14-day fully featured trial; offline key, four seats

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