Toilet TAPEr

Owner's manual



Hot Shower Audio

Version 1.0.1 · November 2026

How shitty would it sound on toilet paper?

I love tape, and I've always wondered how other materials would sound on a tape machine. Then the question got stupid: what about toilet paper?

So I built three machines, each with its own paper, from rough one-ply to perfumed three-ply. Spoiler: it doesn't sound shitty.

Ramalejo

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Installing and activating

Mac

Open the installer and follow the steps. It puts the VST3, AU and AAX versions where your DAW looks for them. The installer is new software from the internet, so macOS may ask you to confirm: right-click it and choose **Open**. Toilet TAPEr runs on macOS 11 or later, natively on Apple silicon and Intel.

Windows

Run the installer. It places the VST3 plugin in the standard folder and adds an uninstaller to **Add or remove programs**.

The 14-day trial

Without a license the plugin is complete for 14 days. The count starts the first time you open its window, not when your DAW scans it. When the trial ends the plugin goes silent until you activate it. Setting your computer's clock back does not buy more days.

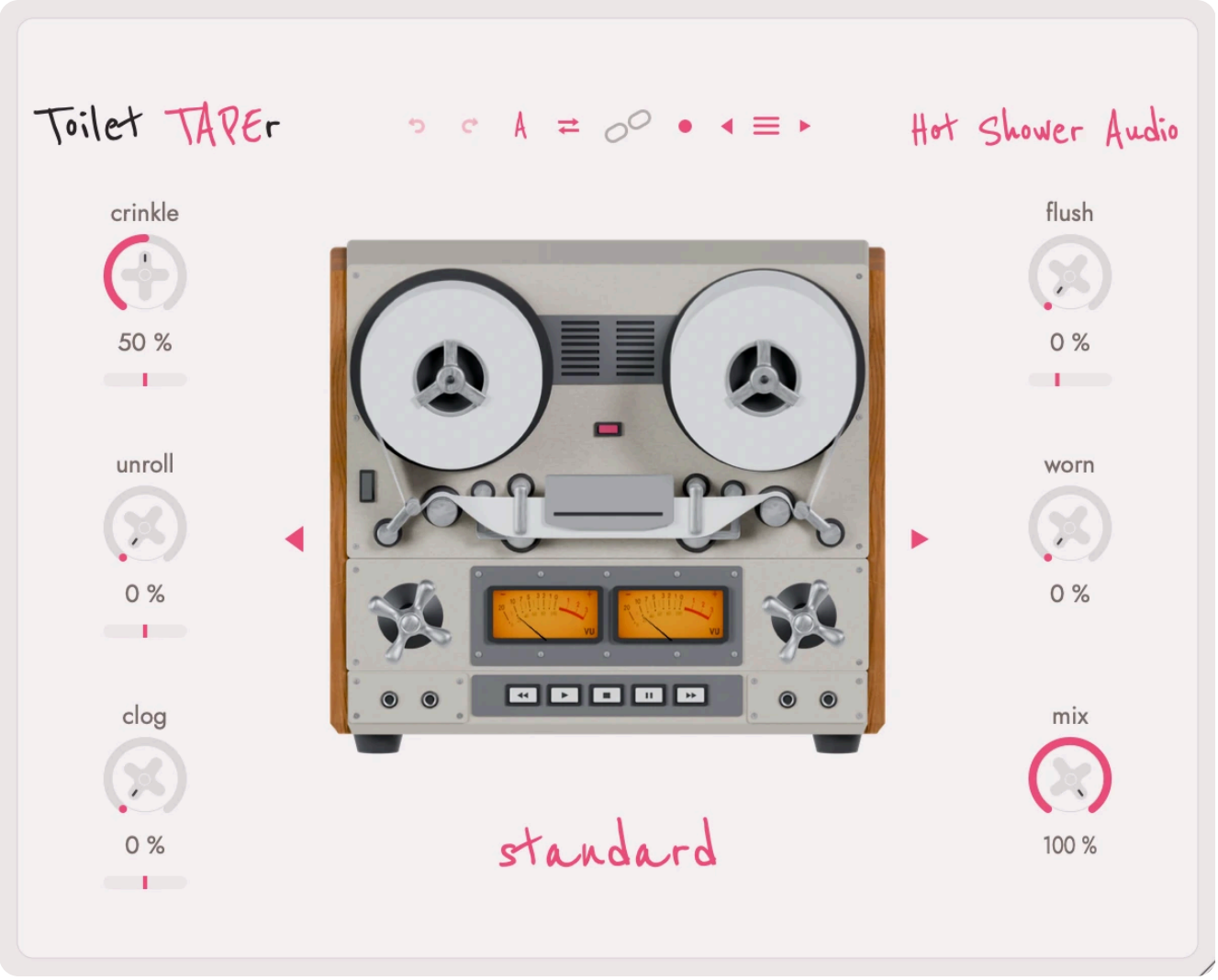
Activating

After buying, Lemon Squeezy emails you a license key. Open the plugin window, paste the key and press activate. It needs internet once; after that it never asks again. Each license works on **two computers** at the same time.

Moving to a new computer

Free one of your two activations first. On Mac, the uninstaller does it for you (see the last page). On any system you can do it from your Lemon Squeezy account: open the email with your key, click the key, sign in with the link they send you, and deactivate the computer you no longer use.

The interface



Top strip	Undo and redo, A/B compare, copy settings, Link, bypass and the presets.
The machine	The tape machine in the middle is part of the controls. Its two taps are **In** and **Out**, the pink button (or the lever under the bulb) is bypass, and the needles are your meters: left reads what goes in, right what comes out. The reels turn while your session plays.
The arrows	Either side of the machine: they change the tape. Sandpaper, Standard, Silk.
The knobs	Crinkle, Unroll and Clog on the left; Flush, Worn and Mix on the right. A thin bar under a knob is its partner control (Tone, Spin, Point, Freq).

The three machines

The tape selector changes the speed, and the speed is the sound. Every other control behaves the same on all three, scaled to the speed.



Sandpaper

speed	7½ ips, half speed (×0.5)
tape loss	high-frequency corner at 6 kHz
flutter rate	0–34 Hz (Spin)
drive	+5.6 dB internal, level-matched
paper	1-ply, sandpaper grade
sound	Dark and fat, with more wobble. Driven harder.
reach for it on	Drums that need dirt, bass that needs body, anything too clean.



Standard

speed	15 ips, the reference (×1)
tape loss	high-frequency corner at 12 kHz
flutter rate	0–68 Hz (Spin)
paper	2-ply
sound	Tape the way you remember it: body, glue, a little sheen.
reach for it on	Vocals, buses, the whole mix. The plugin opens on this one.



Silk

speed	30 ips, double speed (×2)
tape loss	high-frequency corner at 24 kHz
flutter rate	0–136 Hz (Spin)
paper	3-ply, perfumed
sound	Clean and tight. The lightest touch.
reach for it on	Mastering, acoustics, delicate vocals: tape's glue without hearing the tape.

Signal flow and calibration

Signal flow

Input → **In** → Crinkle (encode) → Unroll/Spin (flutter) → hysteresis → transient-dependent darkening → saturation → darkening → Clog (head bump) → Crinkle (decode) → tape high-frequency loss → **Out** → Worn → tape level trim → Flush → **Mix** (with the untouched input) → output

Everything from Crinkle to the tape loss is the tape itself, and Tape Type scales all of its time and frequency constants. Worn and Flush sit after it and never change how the tape behaves.

Levels

Unity at the defaults. Measured with pink noise on all three tapes at default settings, the output sits within 0.02 dB of the input, so comparing against bypass is an honest comparison.

The tape levels itself. A slow trim (about 300 ms) after the tape holds its long-term level to *input × In × Out*. Because of it, switching tape and turning Clog change tone, not loudness: measured, the three tapes land within 0.02 dB of each other. Short peaks still move freely, so the tape's compression and transients are untouched.

With Link on, In is pure drive. In and Out cancel in dB and the trim holds the level, so raising In from 0 to +12 dB changed the output by less than 0.01 dB in our measurements while the saturation rose.

Metering

Both needles are calibrated to 0 VU = −18 dBFS, the usual digital alignment. A sensible starting reference is a source averaging around 0 VU on the left needle; push past it for more tape.

Parameters your DAW shows that the window does not

The automation list includes **Tension** and **Soft Clip**. Both are disabled in version 1.0 and do nothing; they stay registered so that sessions and presets keep loading in future versions.

Every control

In	drive into the tape, in dB: −∞ (shown as −60) to +24, unity at 0. Up saturates, compresses and thickens; down is a cleaner pass. The left needle reads the signal after In, so it shows what is hitting the tape.
Out	output trim in dB after the tape, same range as In. There is no limiter or clipper after it: peaks can pass 0 dBFS, so watch your DAW's meters. With Link on it moves opposite to In.
Link	the chain in the top strip, on by default. Ties In and Out in dB: raise In 6 dB and Out drops 6 dB. When either reaches the end of its range both stop, so In + Out stays constant while Link is on. Switching Link on never moves a knob. Measured: with Link on, output level stays within 0.01 dB from In 0 to +12 dB, so In changes only how much tape you hear.
Crinkle	the tape's companding noise-reduction circuit, as a morph: 0% is decode only (darker, denser), 100% is encode only (brighter, the sheen tape gives a dull source). 50% is the neutral point where the two halves overlap; it is never "off". At 50% the top end, tape loss included, sits −0.1 dB at 2.4 kHz, −1.6 dB at 6.7 kHz and −2.6 dB at 10.4 kHz relative to the low end. Its corners scale with tape speed.
Crinkle Tone	where the companding circuit sits. It moves the encode and decode corners in opposite directions, so no single frequency describes it, which is why it reads in percent. Low moves the change into the body of the sound; high keeps it up in the air.
Unroll	flutter depth: pitch modulation from a modulated delay. The curve is steep on purpose (depth follows the knob to the 6th power): 50% is about 1.6% of full depth, and the top quarter of the knob holds most of the range. Full depth is about 1.1 ms of delay modulation, the same on every tape. Left and right wobble almost together, so the stereo image stays centred.
Spin	flutter rate, shown in real Hz for the selected tape: rate = 68.1 Hz × knob^3 × tape speed. Full range is 0–34 Hz on Sandpaper, 0–68 Hz on Standard and 0–136 Hz on Silk; the default 50% is 4.3, 8.5 and 17 Hz. Under about 2 Hz it is wow, above about 10 Hz it is flutter. Each cycle's length varies slightly, like a real transport. Silent while Unroll is at 0.

Clog	head bump: the low-frequency resonance of a playback head, mixed in up to 50%. It is driven harder on slower tape: at the same setting Sandpaper gets twice Standard's bump drive and Silk half. Levelled (see Calibration), so it changes tone, not loudness.
Clog Point	the head bump's centre: 25 Hz + 175 Hz × knob², so 25–200 Hz, and the same frequency on every tape. Default 50% is 69 Hz. Silent while Clog is at 0.
Worn	tape wear: a cascade of up to four smoothing stages, each blended 50/50 with its input, engaging one after another as the knob rises, with a window that grows from 1 to 20 samples. Highs round off and transients soften. The window counts samples, so Worn is gentler at higher sample rates.
Flush	a peaking bell cut after the tape and Worn, up to −12 dB at 100%. A slow (about 300 ms) level trim shared by both channels puts back the level it removes, so it reads as cleaner, not quieter, and the stereo image does not move. At 0 it is a bit-exact bypass.
Flush Freq	the bell's centre: 80 Hz + 1920 Hz × knob², so 80 Hz to 2 kHz (default 277 Hz). The width follows the frequency: Q 0.5 at the bottom (about two octaves wide, clears a whole region) up to Q 1.8 at the top (narrow, onto a single boxy note).
Mix	wet/dry, linear. The dry signal is the plugin's input before In, untouched by In or Out. With Link on, the wet path stays at the input's level, so the blend does not drift as you drive; with Link off, In and Out also change the balance.
Tape Type	the tape speed: Sandpaper ×0.5, Standard ×1, Silk ×2. Speed scales every time and frequency constant in the tape (flutter rate, companding corners, the tape's own high-frequency loss) without changing what the knobs read. Sandpaper also drives the saturation +5.6 dB internally and takes it back at the output, so it is harder, not louder.
Bypass	the pink button on the machine (on Silk and Sandpaper, the lever under the bulb) and the dot in the top strip are the same host bypass. The plugin goes grey and the machine stops.
Meters	VU ballistics, about 300 ms to 99%. 0 VU = −18 dBFS, full scale +3 VU (−15 dBFS), resting below −60 dBFS. Left needle: after In (what hits the tape). Right needle: the plugin's output. The scale is drawn like a real VU, not linear in dB: 0 VU sits about 71% of the way across.

Specifications

Formats	macOS 11 or later: VST3, AU, AAX (Universal: Apple silicon and Intel). Windows 10 or later: VST3, 64-bit.
Channels	Mono, mono-to-stereo and stereo. On a mono source the same signal runs through both sides of the tape, so it sounds the same in all three.
Sample rates	Any rate the host runs. Time and frequency constants scale with the sample rate (Worn's window counts samples, see Every control).
Latency	0 samples reported. No lookahead, no oversampling.
Tail	None.
In / Out range	−∞ to +24 dB, unity at 0.
Level at defaults	Unity (within 0.02 dB, measured, all tapes).
Meters	VU, 0 VU = −18 dBFS, +3 VU full scale, about 300 ms to 99%.
Clip protection	None. Peaks can exceed 0 dBFS.
Presets	20 factory presets: 12 by Ramalejo and 8 by the engineers and producers who tested it first. User presets are `.taper` files in ~/Library/Application Support/Hot Shower Audio/Toilet Taper/Presets (Mac).
License	2 computers per license. Online once to activate, offline after.

Uninstalling, support and credits

Uninstalling

Mac: open **Applications › Hot Shower Audio › Uninstall Toilet Taper**. It frees your activation with Lemon Squeezy before removing anything, and only removes the local license if that worked. **Windows:** use **Add or remove programs**, then free the activation from your Lemon Squeezy account.

Your presets are never deleted. They live in **~/Library/Application Support/Hot Shower Audio/Toilet Taper/Presets** on Mac.

Help

Questions, bugs, a session that sounds wrong: **hello@hotshoweraudio.com**. The FAQ and troubleshooting pages are at **hotshoweraudio.com**.

Credits

Sound design and code: Ramalejo (Alejandro Ramírez).
3D design lead: Nicolás Bolívar.
Hot Shower Audio, Colombia.

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