

USER GUIDE / SPECIFICATIONS / SIGNAL FLOW

Tape Deck

Give your sound a past.



Warmth, movement and tape texture.

A complete guide to the reel-to-reel deck, the Fletcher Tape 3 sound engine, all controls, eight factory presets, installation, project recall and AudioNode activation.

Version 2.0.0 / October 2026

Cover: product visualisation. The plug-in window is shown on page 4.

01 / START HERE

Character, with control

A tape machine, modelled again.

Tape Deck 2.0 has a new interface, a reel-to-reel deck in the style of a classic two-track studio recorder, and a new sound engine, Fletcher Tape 3. The engine follows the stages of a studio tape recorder: record amplifier, record equalisation, magnetic hysteresis in the tape oxide, the transport's speed variations, and the playback head's losses, noise and crosstalk. It is a creative audio effect, not a calibrated copy of a particular machine or tape.

A useful first minute.

Insert Tape Deck on a playing mono or stereo track and activate it if asked. A new instance opens on **STUDIO 15** with the green Play lamp lit. Keep Input and Output at 0 dB. Raise Drive for more tape saturation, or Input to push the whole record path, then use Output to compare at a similar level; the ■ Stop and ► Play keys switch between the dry and processed sound. Add Wow, Flutter and Hiss only as needed, and try Mix below 100% for parallel colour.

Coming from 1.x? Saved sessions and presets open with the same control settings, but they sound different: 2.0 is a new engine. If a finished mix must not change, bounce the affected tracks with 1.x before updating, and keep your previous installer.

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02 / SETUP

Install and open

macOS: Audio Unit or VST3.

Use the supplied Tape Deck Setup DMG, open the setup application and choose AU, VST3 or both. Quit audio hosts first; setup asks you to close any it finds open. Read the supplied licence terms; clicking **Install** agrees to them. Setup installs for the current user and needs no administrator password. In Logic Pro select **Audio FX > Audio Units > Fletcher Audio > Tape Deck**. Other hosts need a supported enabled format and a completed plug-in scan.

Format	Location
macOS AU	~/Library/Audio/Plug-Ins/Components/Tape Deck.component
macOS VST3	~/Library/Audio/Plug-Ins/VST3/Tape Deck.vst3
Windows x64 VST3	C:\Program Files\Common Files\VST3\Tape Deck.vst3

Windows: use the matching x64 package.

Run the supplied Windows Setup EXE and approve the requested administrator access. The VST3 installs into the common VST3 folder. Enable VST3 scanning in your DAW and rescan. Read the terms before clicking **Install**. Installation and use are subject to the supplied licence terms. Windows packages have no configured Authenticode publisher signature.

Updating from 1.x and earlier names.

Run the 2.0.0 setup over your existing installation. On macOS it first moves the earlier bundle, and any Tape Rack or Vintage Tape bundle, from your user plug-in folders to **~/Library/Application Support/Fletcher Audio/Tape Deck/Backups**. If it finds an all-users copy in /Library/Audio/Plug-Ins it stops and asks you to remove that first. For a manual ZIP, copy the complete bundle into the folder above without changing files inside it, and avoid duplicate copies.

Remove or restore.

On macOS use **~/Applications/Fletcher Audio/Uninstall Tape Deck.app** for installer-managed copies; it lets you choose the formats and leaves backup copies in your Library/Application Support/Fletcher Audio folder. Windows Setup registers an entry in Settings > Apps. Projects and presets remain, but sessions need the plug-in restored to run it.

Requirements: macOS 11 or later with an AU or VST3 host; Windows 10 or 11 x64 with a VST3 host. Page 16 lists the formats and what the figures in this guide were measured on.

03 / THE DECK

Find your way around



Tape Deck 2.0.0 at its default size and factory settings (STUDIO 15, Play).

Reels above; controls below.

The reels turn while Tape Deck processes and your host plays, and coast to rest when the host stops or you press Stop. Between them, the green LCD shows the preset on its top line and the speed and status below. The transport strip holds the speed lever, Wow, Flutter, Hiss and Hiss Tone, and four brass keys: previous preset, Stop, Play and next preset, with red and green lamps above Stop and Play. The lower plate holds two VU meters for Tape Deck's output and the Input, Drive, Tone, Mix and Output knobs.

The Fletcher Audio script on the head cover and the version number at the bottom right open the Licence and updates menu. Reels and rollers are animation, not a speed or level measurement; in the standalone app they turn whenever Play is on.

04 / USING THE CONTROLS

Play the deck

Part	How it works
Knobs	Drag up or down; about 200 pixels sweeps a large knob end to end, 170 a small one. Hold Shift for fine control: a fifth of the speed, pressed before or during a drag. Double-click, or Option/Alt-click, resets the default. The mouse wheel does not turn the knobs.
Typing a value	Right-click a knob (Control-click on macOS also works). A field opens on the LCD's lower line: type a number in the knob's units and press Return. Hiss also accepts Off. Escape cancels.
LCD	Top line: the preset, or CUSTOM when a sound setting differs from the bank. Lower line: ► or ■, the tape speed and ACTIVE or BYPASS, or the value of the knob you are turning. Click it for the preset list.
◀◀ and ▶▶ keys	Previous and next preset, wrapping round the bank. From CUSTOM, ▶▶ goes to the first preset and ◀◀ to the last. Presets leave Stop and Play as they are.
■ Stop and ▶ Play	Stop bypasses Tape Deck (red lamp, latency-aligned dry audio); Play processes (green lamp). They set the plug-in's Bypass parameter, which hosts automate and use for their own bypass button.
Speed lever	30, 15 and 7.5 IPS from top to bottom. Click above the lever to go faster or below it to go slower, or drag it.
Fletcher Audio script and version	Open the menu: Licence, update status, Check for updates, Automatic update checks, and Download when an update is available.
Window	Opens at 860 x 888 pixels. Drag the corner at the bottom right, or the window edge where your host allows it, from 640 x 660 to 1300 x 1342; the deck keeps its proportions, and a host that ignores them shows black edges rather than a stretched deck.

Keyboard.

When the host passes keystrokes to the plug-in window, Tab moves between the knobs, keys, lever and LCD, and the focused control shows a ring. Return presses a focused key, opens the preset list from the LCD or steps the lever round (15, 30, 7.5 IPS). The arrow keys move a focused knob by its smallest step, 0.01 dB or 0.01%, so they suit only very fine trims.

05 / CONTROLS

Level, saturation and colour

Control	Range / default	What it changes
Input	-24 to +24 dB 0 dB	Level into the whole record path: the record amplifier, which adds mostly second harmonic as level rises, the input transformer and the tape. At low levels it changes the output one for one. The dry signal is taken before Input.
Drive	0 to +24 dB +3 dB	How hard the record head drives the oxide: more saturation, mostly third harmonic, and more compression, high frequencies first. About half of each dB of Drive reaches the output at low levels.
Tone	-6 to +6 dB 0 dB	Trims the treble sent to the tape (above about 1.7 kHz) and tilts playback: below about 260 Hz by minus the setting, above about 2.3 kHz by the setting. Positive is brighter and saturates the highs sooner; negative is darker.
Output	-24 to +24 dB 0 dB	Final level after Mix. It still applies at Mix 0%. Stop (bypass) and licence-protected dry pass-through exclude it.

Measured harmonics.

At Drive 0 and 15 IPS, a 1 kHz tone at -18 dBFS (0 VU on the meters) measures about 0.7% total harmonic distortion, and about 3% at -8 dBFS. At -18 dBFS, Drive 6, 12 and 24 dB raise it to about 1.4%, 3.4% and 16%. Record pre-emphasis sends the highs to the tape hotter, so they compress first: with Drive 6 and a 0 dBFS input, 10 kHz comes out about 6.5 dB lower than 1 kHz.

Drive 0 is not a clean wire. The record amplifier, record and playback equalisation, hysteresis, head bump and playback losses stay in the path. For a dry comparison press Stop; for dry audio with the Output trim, use Mix 0%.

Measured with the plug-in's own test build at 48 kHz, Mix 100%, Tone 0, harmonics 2 to 9. Host parameters use 0.01-unit steps; controls are smoothed over 20 to 150 ms, so a typed or automated value glides to its new setting.

06 / CONTROLS CONTINUED

Movement, texture and routing

Control	Range / default	What it changes
Wow	0-100% / 0%	Slow, irregular speed drift from the reels, heard as pitch bends. Scaled for finer adjustment near zero.
Flutter	0-100% / 0%	Faster capstan flutter, kilohertz scrape flutter, and a small, moving timing difference between left and right (azimuth wander).
Hiss	Off to 100% / Off	Tape noise added at the playback head, with signal-following modulation noise and sparse specks. From about 88%, rare short dropouts also dull the whole signal. Not a calibrated dBFS level.
Hiss Tone	0-100% / 50%	Deep to Air. Shapes the generated noise only; it does not filter your audio.
Mix	0-100% / 100%	Frequency-dependent dry/wet blend. Low-frequency wet contribution increases more gradually. Endpoints are dry and wet; Output follows.
Tape Speed	7.5 / 15 / 30 IPS 15 IPS	Selects record equalisation, playback voicing, hiss level and motion rates together (page 8). It does not change file length or session tempo.
Stop / Play	Bypass Off / On Off (Play)	Stop returns latency-aligned dry audio before Input and Output. The host parameter is called Bypass.

Saved with your session.

All 11 audio parameters are host-automatable and stored in plug-in state. Choosing a preset applies ten sound settings and keeps Stop/Play. Licence credentials are separate from the DAW project; sharing a project does not share activation.

Wow and Flutter percentages describe control amount, not wow-and-flutter test percentages, cents or a standard speed-error measurement.

07 / SPEED, WOW AND FLUTTER

Choose the tape speed

	7.5 IPS	15 IPS	30 IPS
Record equalisation	70 µs	35 µs	17.5 µs
Head bump (measured)	+1.5 dB near 55 Hz	+2.1 dB near 95 Hz	+2.5 dB near 170 Hz
Lowest bass (measured, 20 Hz)	-3.2 dB	-6.8 dB	-12 dB
Highs (measured, 14.5 kHz)	-3.5 dB	-0.6 dB	-0.1 dB
Hiss level	+2.3 dB	reference	-2.2 dB
Reel / capstan motion	0.46 / 5.8 Hz	0.59 / 7.3 Hz	0.73 / 9.6 Hz

Small-signal response at -30 dBFS, Drive 0, Tone 0, Mix 100%, 48 kHz. Slower speeds use a longer record equalisation time constant, so high frequencies reach the oxide hotter and saturate sooner. 7.5 IPS is the darkest, with the head bump lowest; 30 IPS is the most open, with the bump highest and the deepest bass rolled off.

Wow follows slow, irregular motion.

Two slow reel components, smoothly changing random wander and a slight drag from the recorded level combine. Wow scales the delay excursion, so the pitch moves because playback timing moves; nothing is transposed to a fixed pitch.

Flutter adds faster motion and stereo variation.

Two capstan and idler components and smoothed randomness make the flutter; a kilohertz band of scrape flutter adds grain, and azimuth wander moves left and right slightly in opposite directions. Stereo width and mono summing can change, especially at stronger settings and intermediate Mix values.

Start at zero, then add. On an exposed piano or sustained pad, raise Wow slowly and listen through held notes. Add Flutter after choosing the slower motion. For a stable saturation treatment, leave both at 0%.

08 / HISS AND HISS TONE

Shape the noise

Hiss is part of the tape.

Off removes the noise completely. Above Off the amount rises on a perceptual curve, so low settings already add audible texture to quiet material. The noise enters at the playback head, so the speed's playback voicing and Tone shape it like the music. It is generated separately for each channel, and its level per hertz is the same at any sample rate.

Hiss Tone	Noise shaping before playback
0% / Deep	Lowest noise low-cut target: 40 Hz. A two-stage 800 Hz low-pass-derived layer gives the dark end more body.
50% / centre	Noise low-cut target: 650 Hz. The default keeps the central noise character.
100% / Air	Noise low-cut target: 6 kHz, limited to 40% of sample rate. An independent high-passed white-noise layer reaches a 60% blend.

Modulation noise, specks and dropouts.

With Hiss above Off, a fine grain rises and falls with the recorded signal, the hiss eases back slightly under loud passages, and sparse specks appear, about five a second in each channel. From about 88% Hiss, rare dropouts of 8 to 43 ms briefly dull and lower the whole signal, music included; at 100% they come about once every three seconds on average.

Transport fades noise, not your track.

When the host reports playback stopped, the generated noise (and with it the dropouts) fades out over 20 ms while audio processing continues. If the host supplies no transport information, enabled hiss is continuous. On a stopped host, live-monitored audio may have no added hiss.

Hiss amount uses 50 ms smoothing; Hiss Tone 80 ms. Stop and unlicensed operation output dry audio without the noise. Confirm that the host is playing when auditioning Hiss.

09 / MIX, BYPASS AND LEVEL

Parallel sound and the VU meters

Mix keeps more dry bass at intermediate settings.

The engine separates a low-frequency part of the wet-minus-dry difference around 185 Hz. With Mix normalised as m , the upper-band wet weight is m while the low-band weight is $m / (2 - m)$. The transition is gradual, not a brick-wall crossover.

Mix setting	Upper-band wet weight	Low-band wet weight
0%	0%	0%
25%	25%	14.3%
50%	50%	33.3%
75%	75%	60%
100%	100%	100%

Mix 0% and Stop are different comparisons.

Mix 0% selects delayed dry audio and then applies Output. Stop selects delayed dry audio without Input, Drive, Tone, noise or Output. Both keep the reported latency, and the engine keeps running under Stop for a smooth return. The licence gate skips effect processing when Tape Deck is not activated.

Read the VU meters.

The two meters show Tape Deck's output, left and right, after Mix, Output and Stop/Play. 0 VU is -18 dBFS RMS, and the scale runs from -20 to +3 VU. The needles follow an RMS level smoothed over about 150 ms and settle in about 300 ms, like a moving-coil meter; they fall to rest when audio stops. They do not show peaks.

Tape Deck is not an output limiter: with Output up to +24 dB it can exceed 0 dBFS, so watch your DAW's meters. Delay modulation and the oversampling filters can create phase colour at intermediate Mix settings.

10 / PRESET BANK

Eight factory starting points

Step through the bank with the ◀◀ and ▶▶ keys, or click the LCD to choose from the list. Changing a sound setting away from a factory match shows CUSTOM. Save a DAW preset to keep your own sound; the host reports one program named Default, while the LCD bank applies the settings below.

Preset	Drive / Tone / Out	Wow / Flutter	IPS / Hiss / Tone / Mix
STUDIO 15	3 / 0 / 0 dB	0 / 0%	15 / Off / 50 / 100%
CLEAN 30	1 / +1 / 0 dB	0 / 0%	30 / Off / 50 / 100%
WARM REELS	7 / -2 / -1 dB	8 / 4%	15 / 6 / 35 / 100%
SOFT SATURATION	12 / -1 / -2 dB	0 / 0%	15 / Off / 50 / 70%
SLOW MOTION	5 / -1 / -1 dB	65 / 10%	7.5 / 10 / 40 / 100%
POCKET 85	9 / -3 / -2 dB	32 / 40%	7.5 / 15 / 65 / 100%
WORN OUT	14 / -4 / -3 dB	80 / 65%	7.5 / 25 / 25 / 100%
PARALLEL DUST	16 / -2 / -2 dB	40 / 30%	7.5 / 20 / 75 / 40%

All presets use Input 0 dB. In the last column, the order is Tape Speed (IPS), Hiss (% or Off), Hiss Tone (%) and Mix (%). Choosing a preset keeps Stop/Play.

Choose by job, then adjust.

STUDIO 15 is the default control set. CLEAN 30 starts lighter and brighter. WARM REELS and SOFT SATURATION increase colour. SLOW MOTION emphasises drift; POCKET 85 and WORN OUT move further into unstable texture. PARALLEL DUST leaves more of the original signal underneath.

The bank has the same settings as in 1.x, but it sounds different through the new engine. These are parameter sets, not hardware machine modes or guarantees of level-matched output. Hiss values are rounded from the bank's internal automation values.

11 / LISTENING WORKFLOWS

Put it to work

Gentle colour on a vocal or bus.

Start from STUDIO 15 with Wow, Flutter and Hiss off. For a rounder, mostly second-harmonic warmth, raise Input and lower Output by the same amount; for tape compression and third harmonic, raise Drive. Compare at similar loudness with Stop and Play. If the result feels too dark, try 30 IPS or a small positive Tone setting; reduce Mix to keep more of the original transients.

Body and movement on bass or keys.

Start from WARM REELS. The head bump sits near 95 Hz at 15 IPS and near 55 Hz at 7.5 IPS; choose the speed whose bump suits the part. For sustained keys, lower Wow first if tuning feels unsettled. For bass, try intermediate Mix settings: the low band keeps more dry signal than the upper band.

Worn loops and parallel texture.

Start from PARALLEL DUST or POCKET 85. Set the movement while listening to the whole loop, then add Hiss and adjust Hiss Tone in context; above about 88% Hiss, expect occasional dropouts. Check mono now and then for modulation-related cancellation, and revisit Output after changing Drive, Tape Speed or Mix.

Noise beds and quiet passages.

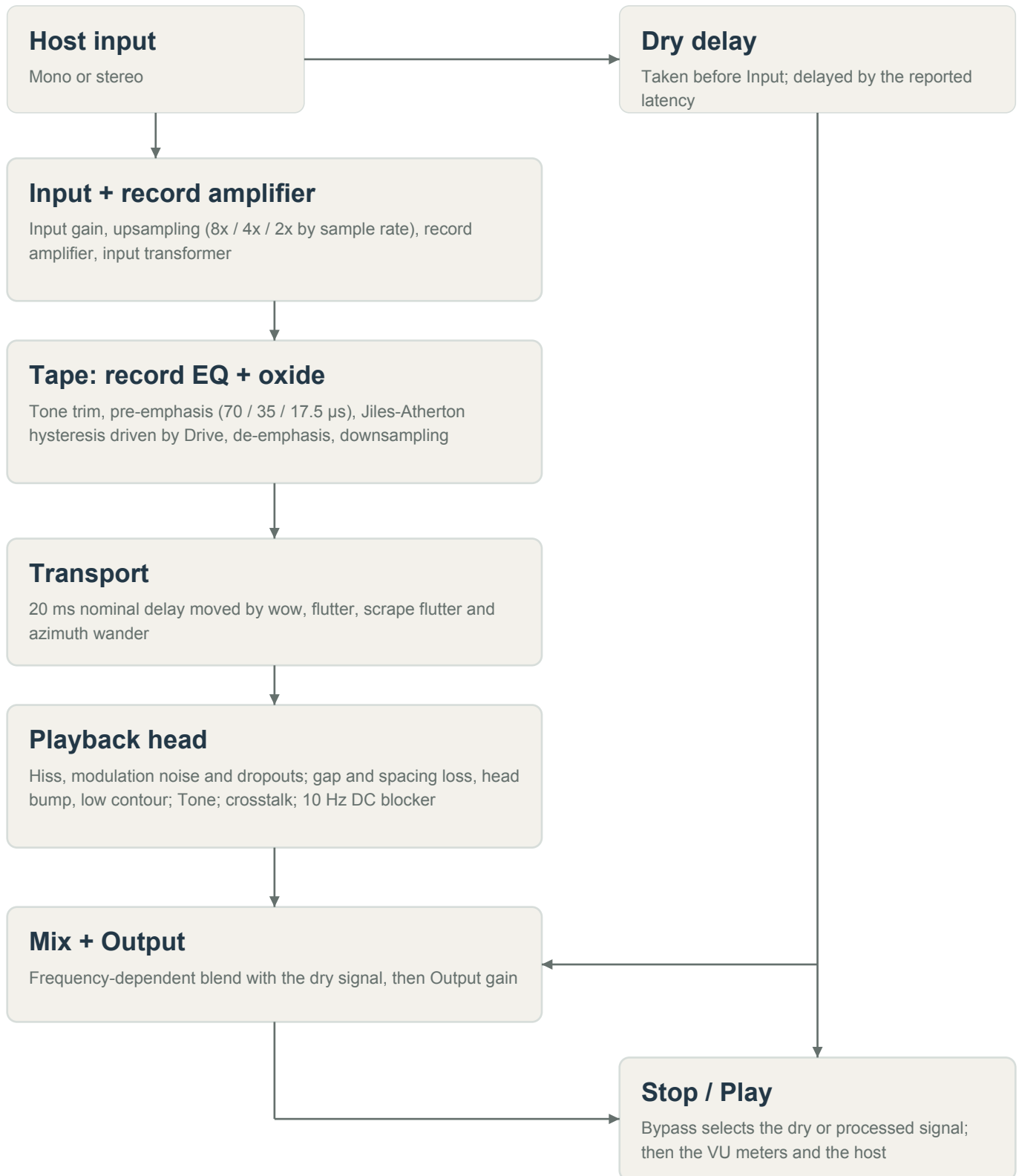
Audition hiss with the host transport playing. Hiss can stay audible on silent material while the host plays, and fades when playback stops, so a stopped-transport audition does not represent the export. With no host transport information, enabled hiss continues on silent input.

Before printing audio: check the licence status, the playback level and the complete tail. Render a short passage and listen to the exported file when the effect is central to the sound. A missing or expired activation turns Tape Deck into delayed dry audio.

These are listening suggestions, not extra presets or measured settings for a particular recording. Your source level and arrangement decide how strongly the nonlinear stages react.

12 / SIGNAL FLOW

The complete audio path



An outer licence gate selects latency-aligned dry audio when Tape Deck is not activated, and then skips the effect and noise processing. The diagram describes software processing, not a physical tape-machine circuit.

13 / FLETCHER TAPE 3

Inside the record path

Record amplifier and input transformer.

Input sets the level into a record amplifier with gentle asymmetry. Its small-signal gain is unity; as the level rises it adds mostly second harmonic, and the slight DC offset it leaves is removed after playback. An input-transformer stage follows, with a slight low-frequency loading shoulder and core saturation that only loud low frequencies reach.

Record equalisation, then the oxide.

Tone trims the treble sent to the tape. Pre-emphasis then boosts high frequencies by up to 18 dB, with the time constant set by Tape Speed. The boosted signal drives the oxide model, and matching de-emphasis follows, so the response is flat at low level while loud high frequencies saturate and compress first.

Magnetic hysteresis.

The oxide is a Jiles-Atherton hysteresis model, written from the published equations and solved with fourth-order Runge-Kutta steps at the oversampled rate. It has memory: the output depends on the signal's recent history, not only its present level. Its settings keep it close to the anhysteretic curve, as biased tape behaves; no bias oscillator is simulated. The model's small-signal gain is measured when the plug-in prepares, so Drive changes saturation more than level.

Stage	Design settings in the source
Record amplifier	tanh curve, gain 0.5, offset 0.25, scaled to unity slope at rest. Driven by Input, not by Drive.
Input transformer	8% loading shoulder between 35 and 140 Hz; core saturation on the band below about 90 Hz, above a soft limit.
Record equalisation	First-order shelf: 70 / 35 / 17.5 μ s at 7.5 / 15 / 30 IPS, boost limited to +18 dB. Tone trims the band above 1.7 kHz by up to 26%.
Oxide	Jiles-Atherton, alpha 0.06, k 0.3, c 0.9, saturation normalised to 1; up to 24 Runge-Kutta sub-steps per sample. At Drive 0, -6 dBFS reaches the knee of the curve.
Oversampling	8x at 44.1/48 kHz, 4x at 88.2/96 kHz, 2x above, so the record stage runs at about 350-400 kHz. JUCE polyphase IIR half-band filters.

Model boundary. Fletcher Tape 3 is physically informed, not a measured copy of a particular machine or tape formulation. The hysteresis settings, amplifier curve and equalisation are design choices; there is no circuit-by-circuit simulation.

14 / IMPLEMENTATION DETAIL

Transport and playback

At each speed	7.5 IPS	15 IPS	30 IPS
Reel / second reel component	0.46 / 0.113 Hz	0.59 / 0.134 Hz	0.73 / 0.155 Hz
Capstan / idler component	5.8 / 10.9 Hz	7.3 / 13.1 Hz	9.6 / 17.3 Hz
Gap and high-frequency loss	16.5 kHz	20.5 kHz	25.5 kHz
Spacing loss above 5 kHz	-1.5 dB	-0.7 dB	-0.25 dB
Head bump peak filter	+1.6 dB, 50 Hz	+2.1 dB, 92 Hz	+2.6 dB, 165 Hz
Contour dip filter	-1.4 dB, 26 Hz	-1.6 dB, 46 Hz	-1.9 dB, 84 Hz
Low-frequency loss (high-pass)	14 Hz	24 Hz	36 Hz

Motion changes delay continuously.

The wet signal is read from a delay line around a nominal 20 ms with cubic interpolation. The reel, capstan and idler components are perturbed by smoothed randomness, and the recorded level drags the reels slightly. Wow and Flutter each use $(\text{amount} / 100)^{1.7}$ scaling, with excursion coefficients of 16 ms and 1.2 ms. Flutter also adds scrape flutter, a 1.5 to 4.5 kHz band of timing jitter, and azimuth wander of up to about 76 microseconds between left and right.

The playback head.

Noise is added first, so the playback chain shapes it. Then come the losses and head contour above, Tone's three-band playback colour (splits near 260 Hz and 2.3 kHz), dropouts and, in stereo, crosstalk: about -45 dB in the bass, falling to about -59 dB in the treble. A 10 Hz DC blocker follows. Playback filters stay below 45% of the sample rate.

Most controls ramp over 20 ms; Wow over 150 ms, Flutter and Hiss Tone 80 ms, Hiss 50 ms; Tape Speed changes glide the filters over 20 ms. Noise and motion use seeded pseudorandom generators. Parameters are saved, but the live delay, filter and noise state is not, so reopening a session restarts the evolving texture.

15 / HOST AND PROCESSING

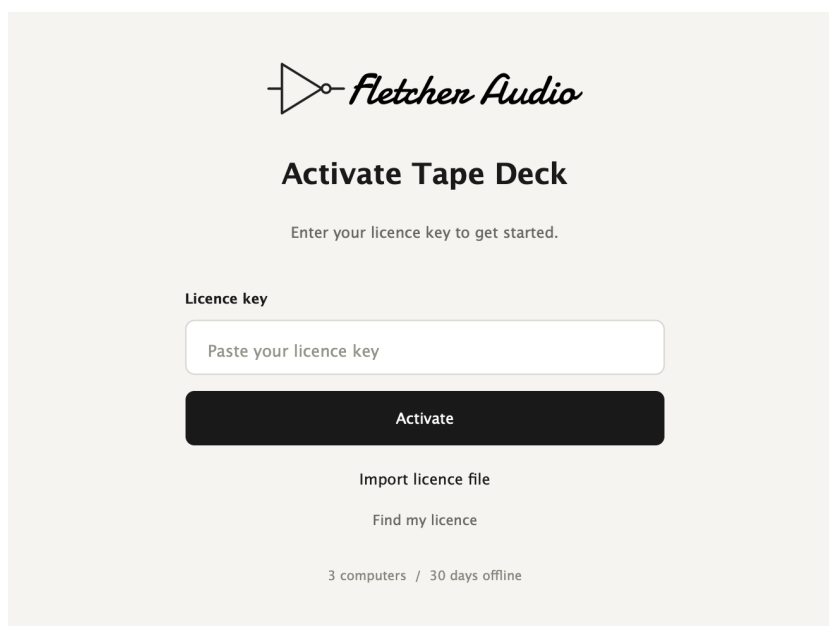
Technical specifications

Item	Documented scope
Product / engine	Tape Deck 2.0.0 with the Fletcher Tape 3 engine. Versions 1.0.0 and 1.0.1 used the Fletcher Wear engine and the earlier interface.
Formats / platforms	macOS AU and VST3, built for Apple silicon and Intel; Windows x64 VST3. The standalone app is a test build, not part of the customer packages.
Minimum systems	macOS 11; Windows 10 or 11 x64. A compatible AU or VST3 effect host.
Audio layout	Matched mono input/output or stereo input/output. No sidechain, MIDI or surround layout. Crosstalk applies only in stereo.
Processing	Float audio; double-precision engine state. Record stage oversampled 8x at rates up to 50 kHz (44.1 and 48 kHz), 4x up to 100 kHz (88.2 and 96 kHz) and 2x above. No quality selector.
Latency	$\text{ceil}(\text{sample rate} \times 0.020) + \text{the oversampling filters' delay}$: 888 samples at 44.1 kHz, 966 at 48, 1770 at 88.2, 1926 at 96, 3532 at 176.4 and 3844 at 192 kHz, about 20 ms at each. Dry, Stop and protected pass-through keep the same latency.
Sample rates	DSP tests cover 44.1, 48, 88.2, 96 and 192 kHz in mono and stereo. This is not a certification of every host at every rate.
Automation / recall	11 host parameters; state schema 5, recording the engine as FletcherTape3. 1.x sessions load with the same settings; missing Hiss Tone restores to 50%. Eight LCD presets; host program name Default.
Host identity	Bundle audio.fletcher.taperack; AU aux / Tprk / Flau. The same identity as 1.x and the earlier Tape Rack and Vintage Tape names.
Editor	Opens at 860 x 888; resizable from 640 x 660 to 1300 x 1342 at a fixed aspect ratio. No licence footer.
Build / measurement	JUCE 8.0.15. Measured figures in this guide come from the plug-in's test build on an Apple-silicon Mac at 48 kHz.

The host tail declaration is 0.5 seconds; generated hiss continues while the transport plays. The hysteresis model runs at the oversampled rate, so CPU use is higher than a simple saturator's and depends on host, sample rate, settings and instance count. No fixed CPU or RAM requirement is stated.

16 / AUDIONODE LICENSING

Activate and work offline



Tape Deck 2.0.0 activation screen (centre of the window). Until activation it covers the deck and audio passes through dry.

Recover, import, then activate.

Paste your licence key, or use **Import licence file** to choose the .audionode-license file from your AudioNode History; importing only fills in the key. Then choose **Activate** with an internet connection. **Find my licence** opens audionode.io/licences.

Licence is on the head cover.

Tape Deck 2.0 has no licence footer. Click the Fletcher Audio script on the head cover, or the version number at the bottom right, and choose **Licence**. The panel shows whether Tape Deck is activated, with **Manage my licence** and **Return to plugin**; a time-limited key also shows its end date.

One holder, three computers, 30 days offline.

The licence allows one holder up to three authorised computers; instances, projects and AU/VST3 formats on one computer do not need separate seats. Manage devices at audionode.io/licences before activating a fourth. Each computer renews online and works offline for up to 30 days from its last successful validation. The plug-in keeps a signed device-bound certificate, never the reusable licence key.

If authority expires or cannot be verified, Tape Deck passes latency-aligned dry audio and skips the effect and noise engine. Parameters and your project are kept, but playback and renders change. Reconnect and validate before final export. The separate Tape Deck EULA gives the complete agreement.

17 / REFERENCE

Help, updates and document scope

Symptom	Check
No effect / no hiss	Check that the green Play lamp is lit, Mix is above 0%, the licence is active and the audio is routed through Tape Deck. Hiss needs a setting above Off and, where the host reports its transport, playback running.
Effect missing from host	Check the installed format, matching architecture and scan settings. Remove duplicate bundles; in Logic use the Plug-in Manager to rescan Tape Deck.
Too much level or movement	Lower Output to compare levels; lower Input or Drive for less saturation. Reduce Wow and Flutter and check mono playback.
A 1.x session sounds different	Expected: 2.0 is a new engine and keeps your settings. Rebalance Input, Drive and Output by ear, or bounce with 1.x before updating.
Licence cannot renew	Check network access, the computer clock, your licence and the three-computer allowance. Contact support if a valid licence remains unavailable.

Updates are downloaded by you.

Click the Fletcher Audio script or the version number for **Check for updates** and **Automatic update checks**. Automatic checks are on by default and run about once every 24 hours. When an update is found, UPDATE AVAILABLE appears beside the version number and the menu offers **Download**, which opens the Tape Deck page on AudioNode. The plug-in never replaces itself. Update checks and licence renewal are separate.

About this edition.

This guide covers Tape Deck **2.0.0**. Screenshots show the 2.0.0 interface. Figures marked as measured come from the plug-in's own test build on an Apple-silicon Mac at 48 kHz; other numbers are design settings in the source. The guides for 1.0.0 and 1.0.1 describe the earlier interface and the Fletcher Wear engine.

Source references. Controls and routing: Source/Plugin.cpp and Plugin.h. Engine: Source/TapeEngine.h. Interface and presets: Source/Editor.cpp, DeckLayout.h and TapePresets.h. Measurements: Tests/Measure.h. Updates: Updater/UpdateChecker.cpp (shared). Activation: Licensing/AudioNodeLicensing.cpp (shared).

Support: hello@audionode.io / audionode.io

Include the Tape Deck version, OS, host and version, format and concise steps to reproduce. Do not send passwords or full licence keys in the first message. Fletcher Audio, Salisbury, Wiltshire, United Kingdom.