FERRODRIVE

TAPE COLOR.
MOVEMENT AND TEXTURE.

Five models. Saturation, transport and Tape Echo.
A practical guide to shaping your sound.



VST3 / AU / AAX

MACOS + WINDOWS

SOMBINÁRIO MUSIC

GUIDE

YOUR PATH TO THE SOUND.

Start with installation. Then choose a model and adjust Drive: the AG button already compensates the output level. Add effects when the music calls for them.

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01

INSTALL WHAT YOUR DAW NEEDS.

FerroDrive is an effects plugin for macOS and Windows. During installation, choose the formats you want to use.

FORMAT	MACOS	WINDOWS	USE
VST3	Yes	Yes	VST3-compatible DAWs
AU	Yes	No	Audio Units-compatible DAWs
AAX	Yes	Yes	AAX-compatible Pro Tools

01

CLOSE YOUR DAW

Save your work and close your DAW before installing or updating the plugin.

02

RUN THE INSTALLER

Use the installer for your system. On Mac, select VST3, AU and/or AAX. On Windows, select VST3 and/or AAX.

03

CHOOSE YOUR FORMATS

Select the formats supported by your DAWs. You can install more than one on the same computer.

04

OPEN YOUR DAW AND FIND THE PLUGIN

Complete installation, reopen your DAW and let it scan the plugins. Find FerroDrive in the effects list and insert it on a track or bus.

> IF IT DOES NOT APPEAR
>
> Check the selected format and request a new plugin scan in your DAW. If the previous version is still loaded, close and reopen the DAW after updating.

02

ONE LICENSE.
UP TO 3 COMPUTERS.

Your FerroDrive license is perpetual and lets you install and activate the product on up to three different computers.

PERPETUAL	3	ONLINE
PRODUCT LICENSE	COMPUTERS	ACTIVATION

01 **KEEP YOUR LICENSE KEY HANDY**

You receive your license key after purchasing the product. Keep it available to activate your installations.

02 **STAY CONNECTED**

Activation requires an internet connection. Check your connection before registering.

03 **OPEN FERRODRIVE**

When you open the plugin in your DAW, use the activation field shown in the interface.

04 **ENTER YOUR LICENSE AND FINISH**

Enter the key you received, check it and complete activation by following the on-screen instructions.

05 **ACTIVATE YOUR OTHER COMPUTERS**

Use your license to activate other installations, up to the limit of three different computers.

> REGISTRATION HELP
>
> Have your license key and purchase details ready. Contact SomBinário support using the channel provided with your purchase for help with activation or the computer limit.

03

THE ESSENTIALS
ALWAYS WITHIN REACH.

A new instance opens in compact mode. You can immediately access the model, speed and the three main tone controls.



FIG 01 / Compact mode with factory settings. The AG button between Drive and Output is on by default.

01 **MODEL / SPEED**

Choose the tape character and speed voicing.

02 **DRIVE / OUTPUT / MIX**

Drive the tape and set the effect balance. The AG button between Drive and Output compensates the level.

04

OPEN TWEAK.
EXPLORE MORE.

Click TWEAK to reveal Transport, Tape Echo, Tape Noise and Oversampling. The main controls remain accessible.



FIG 02 / Advanced panel. Echo is in Sync mode with the filter enabled.

01 TRANSPORT

MECHANIC adds motion irregularities. STOP TAPE slows down and restarts the tape.

02 TAPE ECHO

Set free or synced time, feedback, echo amount and the resonant filter.

03 TAPE NOISE / OVERSAMPLING

Enable noise when it suits your sound. Choose the processing quality that fits your workflow.

> CLOSING THE PANEL DOES NOT DISABLE EFFECTS
>
> Collapsing TWEAK only hides the controls. Settings and audio remain active. The plugin remembers the window size and TWEAK state for each instance, including when restoring a saved session.

05

FIVE PATHS.
ONE TONE DECISION.

Change models with the arrows or click the name to open the list. Compare with the output level matched.

HYBRID MOD

A custom model combining the ATR-102, A800 and M15 curves in equal parts with normalized gain. A starting point for exploring the blend of these three characters.

AMPEX ATR-102

A starting point for more restrained saturation among the three models in the hybrid. Try it on material with defined transients and raise Drive while watching GR.

STUDER A800

Uses an asymmetric curve. Try it on vocals, instruments and buses when you want to add color and density. The amount depends on the level entering the tape.

TELEFUNKEN M15

A response that can compress gain more strongly when driven. Watch GR as you increase Drive, and compare with compensated Output.

LOFI TAPE

The character of an aged TEAC/Tascam 144: stronger saturation, recessed lows, rounded highs and more irregular MECHANIC. Hiss and hum appear only when NOISE is on.

06

DRIVE IT HARDER.
COMPARE AT EQUAL LEVELS.



FIG 03 / Drive determines how hard the curve is driven. AG removes that gain at the output; Output provides fine adjustment.

30, 15 OR 7 1/2 IPS?

On reel-to-reel models, lower speeds roll off more high frequencies and change the low end. 30 IPS is the most open starting point. LOFI retains its own cassette response.

INPUT / DRIVE

Changes the level feeding the tape. More Drive can create more harmonics and greater equivalent gain reduction. In compact mode it is labeled DRIVE; in the expanded panel, INPUT / DRIVE.

AG: AUTO GAIN

The AG button is enabled by default: Drive gain is removed at the output, so saturation changes, not volume. Click to disable. The options menu also includes Loudness.

OUTPUT AND GLOBAL MIX

OUTPUT fine-tunes the processed level and remains active with AG enabled. GLOBAL MIX blends the dry and processed signals, including Echo: 0% is dry; 100% is the full FerroDrive signal path.

> A USEFUL TEST
>
> Increase Drive with AG on and compare using BYPASS. If the processed signal still sounds louder or quieter, correct with Output and listen again.

07

READ THE LEVEL.
HEAR THE SATURATION.



FIG 04 / IN on the left; GR on the right. GR increases from right to left.

LEFT: IN / DRIVE

Shows the level after Input/Drive and before transport. Calibration is0 VU = -18 dBFS RMS for a sine wave. The reading uses the louder stereo channel. Zero VU is a working reference, not your DAW's digital ceiling.

RIGHT: GR / SATURATION DB

Shows the equivalent gain reduction from the saturation curve, excluding small-signal gain. The resting position is 0 on the right; the scale rises to 24 dB toward the left. With HF Saturation enabled, it includes high-frequency attenuation from that stage.It is not a percentage THD reading.

> THE NEEDLE IS NOT AN EXTRA COMPRESSOR
>
> The visual response is smoothed. The meter does not add attack or release processing to the audio. Output, Global Mix and Echo do not change the curve's internal GR. In bypass, the needles return to rest and the VU lights turn off.

08

MOVEMENT IS SOUND, TOO.



MECHANICenables irregularities in speed.WOW & FLUTTERsets the amount. At zero, this modulation is removed.

Wow is the slower oscillation; flutter is the faster variation. Use less for subtle movement and more for an unstable effect.

LOFI RESPONDS MORE STRONGLY

In LOFI, MECHANIC adds irregular drift and small, soft dropouts in contact/level. Above 100%, the intensity increases more aggressively. The 100% point is tuned for each model; on LOFI it already represents aged tape.

STOP TAPE AND STOP TIME

Enable STOP TAPE to slow the tape to a stop. STOP TIME sets the duration, from 50 to 4000 ms. Disable it to return to normal speed using the same time setting. The wide slider lets you shape this gesture precisely.

> A PRACTICAL START
>
> Try 700 ms for a tape stop. To fit it into a transition, automate the STOP TAPE button in your DAW and adjust the timing by ear. Movement adds no hiss or hum: those belong to NOISE.

09

CHOOSE THE TIME.
SHAPE THE REPEATS.



FIG 05 / In Sync mode, Time becomes Division. Note values appear below, with DOT and T in the right column.

FREE TIME OR SYNC

With SYNC off, TIME ranges from 20 to 1500 ms. With SYNC on, the knob becomes DIVISION and timing follows the BPM supplied by your DAW. If no valid tempo information is available, it defaults to 120 BPM.

FEEDBACK AND ECHO MIX

FEEDBACK returns up to 95% to the loop. Up to 50%, ECHO MIX adds echo to the direct tape signal. Above 50%, dry fades; at 100%, only echo remains.

When ECHO is enabled in a new instance, SYNC and FILTER are already on, set to dotted 1/8, with Echo Mix at 50%.

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ROLL OFF THE HIGHS. EMPHASIZE THE CUTOFF.



FIG 06 / Cutoff and Resonance. The FILTER button enables processing.

CUTOFF: 100 HZ TO 18 KHZ

The filter is alow-pass: it preserves frequencies below cutoff and progressively reduces higher frequencies. Lower Cutoff for darker repeats.

RESONANCE: 0 TO 100%

Emphasizes frequencies around the cutoff. At high settings, sweeping Cutoff creates more pronounced effects. Resonance may boost the level in this range; adjust Echo Mix to balance it.

WHERE IT WORKS

The filter processesonly the Echo return, before Echo Mix. It does not filter the main saturation path. Resonance is outside the feedback loop, so its peak does not boost feedback gain.

ECHO RETURN

FILTER / ECHO MIX / SUM

> TRY A FILTER SWEEP
>
> Enable FILTER, set Resonance between 30 and 50%, and slowly move Cutoff from 5 kHz to 800 Hz. Then automate the frequency if it helps the transition. FILTER is enabled by default in a new instance.

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TEXTURE IS A CHOICE. SO IS QUALITY.

NOISE: ENABLE WHEN IT MAKES SENSE

NOISE adds the selected model's noise floor. On LOFI, this includes cassette hiss and hum. With NOISE off, these sounds are not generated, even when MECHANIC is active. Filter and Echo tails can decay naturally.

On reel-to-reel models, noise increases at lower speeds, as on a real machine. It originates within the tape stage: with AG on, higher Drive means less noise at the output. LOFI has a more prominent hiss layer, balanced with low-frequency rumble.

OVERSAMPLING: OFF, 2X, 4X OR 8X

Oversampling raises the internal processing rate to reduce saturation-related artifacts. Higher quality uses more CPU and adds latency, reported to the DAW. The default is 2x. Use Off when you need zero latency, for example when recording.

SESSION SAMPLE RATE	MAXIMUM AVAILABLE FACTOR
44.1 or 48 kHz	8x
88.2 or 96 kHz	4x
176.4 or 192 kHz	2x

The internal sample rate is limited to 384 kHz. If your selected factor exceeds that limit, the plugin uses the highest factor allowed for the session. For parallel processing, prefer the plugin's GLOBAL MIX: dry and processed signals remain aligned at every factor.

> COMPARE IN CONTEXT
>
> If a higher factor brings no audible improvement to the material, choose the lighter setting. The top menu also lets you select oversampling while TWEAK is collapsed.

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FINE-TUNE THE MACHINE.

The menu button in the upper-right corner provides Oversampling, HF Saturation, Bias and Auto Gain.



FIG 07 / Options menu showing the Oversampling submenu, five Bias positions and Auto Gain modes.

HF SATURATION

On by default. Saturates high frequencies independently before the main curve: when treble is strong, its level stops rising instead of distorting. This effect grows at lower speeds and in LOFI; at 30 IPS it is subtle. When off, only the saturation curve is used.

BIAS

Five positions, from Under-biased to Over-biased, withCalibratedin the center. Below center the sound is brighter and saturates sooner. Above it is cleaner, with more headroom and darker highs. Low-level signal gain does not change. The panel indicator reads CALIBRATED, UNDER BIAS or OVER BIAS. The parameter can be automated in the DAW from -100 to +100%.

AUTO GAIN

MODE	WHAT IT DOES
Off	No compensation. Drive also changes volume.
Linked to Drive	Default. Removes the same gain at the output that Drive adds.
Loudness	Does the same and slowly tracks the material's perceived loudness. It takes about 1.5 s to settle; during exports, the first seconds can differ depending on the starting point.

The panel's AG button toggles compensation. When turned back on, it restores the last mode chosen in the menu.

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COMPARE. SAVE.
COME BACK ANYTIME.

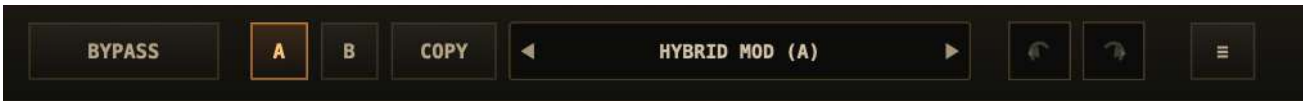


FIG 08 / Bypass, A/B, Copy, presets, Undo/Redo and options menu.

A/B AND COPY

A and B let you compare two settings while you work. Set up one version, switch to the other and compare. COPY copies the current settings to the other slot. Use Save As to store a version as a preset.

PRESETS

Click the name field to open its options.Saveupdates the current preset;Save Ascreates a new one. The menu also offers Delete, Show Preset Folder and Rescan. The arrows move through available presets. An asterisk indicates changes from the loaded preset.

UNDO, REDO AND DEFAULT VALUES

Undo/Redo arrows help reverse or restore edits. Double-click a knob to reset it to its default value. Values are shown directly on the panel without floating tooltips.

AUTOMATION AND WINDOW MEMORY

Audio parameters can be automated by the DAW. In Sync mode, Division and the note buttons follow the same selection. Window size and TWEAK expansion are remembered for each instance and saved session without changing the sound preset.

> BYPASS TO CHECK
>
> In bypass, the dry signal passes through, the reels visually stop and the VU lights turn off. When enabled, lights, readings and animation return. Match levels before deciding which version sounds better.

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START WITH THE SOUND. ADJUST TO CONTEXT.

These are starting points, not universal presets. Recording level changes how much saturation you hear.

01 / BUS

SUBTLE DENSITY

Try adding color to a bus without starting with an extreme effect.

STARTING POINT

Model: HYBRID MOD / Speed: 30 IPS
Drive:+1.5 dB /Global Mix: 80%
Noise and Mechanic: Off / OS: 2x

With AG on, the level is already compensated; use Output for fine adjustment. If transients lose definition, back off Drive or Global Mix.

02 / VOCAL OR INSTRUMENT

PARALLEL COLOR

Explore harmonics without giving the effect the entire signal.

STARTING POINT

Model: STUDER A800 / Speed: 15 IPS
Drive: +2 dB / **Global Mix:** 65%
Noise and Echo: Off / OS: 2x

Listen to articulation, presence and tails. If the source gets harsh, reduce Drive before compensating with another effect.

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WHEN TAPE TAKES CENTER STAGE.

03 / LOFI

WORN CASSETTE

Transform a loop or an instrument layer.

STARTING POINT

Model: LOFI TAPE / Drive: +1 dB
Mechanic: On / **Wow & Flutter:** 100%
Global Mix: 60% / Noise:to taste

Raise Wow & Flutter up to 200% for a stronger effect. NOISE adds hiss and hum; turn it off if you only want instability.

04 / TAPE ECHO

REPEATS WITH MOVEMENT

Create space and transitions on an insert.

STARTING POINT

Echo: On / **Sync:** On / **Division:** 1/8
Feedback: 30% / **Echo Mix:** 20%
Filter: On / **Cutoff:** 3 kHz / **Resonance:** 35%

Move Cutoff during the transition. If repeats become too prominent, lower Echo Mix or Feedback.

TAPE STOP

Try STOP TIME at 700 ms and automate STOP TAPE at the end of a phrase. Disable it to restore speed. Set the duration while listening to the entire transition.

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MAIN CONTROLS.

CONTROL	RANGE / OPTIONS	DEFAULT
Tape Model	HYBRID MOD, ATR-102, A800, M15, LOFI	HYBRID MOD
Tape Speed	30 / 15 / 7 1/2 IPS	30 IPS
Input / Drive	-12 to +6 dB	0 dB
Auto Gain (AG)	Off / Linked to Drive / Loudness	Linked to Drive
Output	-12 to +6 dB	0 dB
Global Mix	0 to 100%	100%
Mechanic	Off / On	Off
Wow & Flutter	0 to 500%	100%
Stop Tape	Off / On	Off
Stop Time	50 to 4000 ms	700 ms
Noise	Off / On	Off
Oversampling	Off / 2x / 4x / 8x	2x
HF Saturation	Off / On	On
Bias	Under-biased to Over-biased, 5 positions	Calibrated
Bypass	Off / On	Off

HF Saturation, Bias and Auto Gain mode are in the options menu. Meters: IN uses 0 VU = -18 dBFS RMS for a sine wave; GR ranges from 0 to 24 dB.

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TAPE ECHO AND DIVISIONS.

CONTROL	RANGE / OPTIONS	DEFAULT
Echo	Off / On	Off
Sync	Off / On	On
Division	12 musical divisions	dotted 1/8
Time	20 to 1500 ms	250 ms
Feedback	0 to 95%	35%
Echo Mix	0 to 100%	50%
Filter	Off / On	On
Cutoff	100 Hz to 18 kHz	5 kHz
Resonance	0 to 100%	0%

THE 12 DIVISIONS

1/32, 1/16T, 1/16, dotted 1/16, 1/8T, 1/8, dotted 1/8, 1/4T, 1/4, dotted 1/4, 1/2 and 1/1.

DOT selects dotted notes; T selects triplets. These modifiers are mutually exclusive and are available for 1/16, 1/8 and 1/4. Click the active modifier again to return to the straight note.

1/1 represents four beats. Turning Sync off preserves the free time in milliseconds. Long divisions at slow tempos may reach the delay time limit.

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BEFORE CHANGING THE WHOLE MIX.

THE PLUGIN DOES NOT APPEAR IN MY DAW.

Check that you installed a format supported by your DAW. Close and reopen the app and request a new scan. AU is not available on Windows.

ACTIVATION DOES NOT COMPLETE.

Check your internet connection and license key. For computer-limit or purchase-registration issues, contact the SomBinário support channel provided with your purchase.

ECHO IS ON, BUT I CANNOT HEAR REPEATS.

Check that Echo Mix is above 0% and the plugin is not bypassed. Also check Global Mix and the filter frequency if FILTER is enabled.

VOLUME DOES NOT CHANGE WHEN I INCREASE DRIVE.

That's AG at work: it removes Drive gain at the output so you hear saturation, not loudness. Click AG to disable it.

I HEAR HISS OR HUM IN LOFI.

Check NOISE. Turn it off to remove the added noise. MECHANIC changes signal movement but does not generate hiss or hum. Existing Echo tails may continue for a while.

THE SOUND CHANGED, BUT TWEAK IS CLOSED.

Collapsing the panel does not disable the effects. Open TWEAK and check Mechanic, Stop Tape, Echo and Noise. Compare with bypass at a matched output level.

I SELECTED 8X, BUT THE SESSION USES A LOWER FACTOR.

Internal processing is capped at 384 kHz. At 96 kHz, sessions support up to 4x; at 192 kHz, up to 2x. If CPU usage is too high, try a lighter factor.

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NOW, LISTEN TO THE MUSIC.

The best setting supports the track's intention and still works when you stop focusing on the plugin.

01 **IS THE LEVEL MATCHED?**

AG provides basic compensation. Compare processed and bypassed audio without automatically favoring the louder version.

02 **DOES THE COLOR HELP THE SOURCE?**

Check transients, lows, articulation and tails in the arrangement, not just in solo.

03 **DOES THE EFFECT HAVE A PURPOSE?**

Noise, wear, filtering and Echo should serve the idea. Turn off anything that does not contribute.

04 **IS YOUR SESSION SAVED?**

Save your changes in the DAW and save presets when you want to reuse a setting.

FERRODRIVE

User Manual in English (US) / Version 1.5
SomBinário Music

The images show the interface in use. Recipes are starting suggestions, not guaranteed results for every recording. The control names remain as displayed in the plugin.