AUDIO FORENSIX

(PRONOUNCED "AUDIO FORENSICS")

PARAMETRIC · DYNAMIC · SPECTRAL EQ

WITH MULTIBAND SATURATION & MODULATION



USER MANUAL

VST3 · WINDOWS · VERSION 1.0

AUDIO FORENSIX

2026

START HERE

WELCOME

Audio Forensix (pronounced “Audio Forensics”) is a 24-band equalizer with dynamic and spectral bands, plus multiband saturation, multiband delay, a tape machine with double tracking, a shapeable compressor and a modulation system, all in one plugin. This manual covers each tab in the order the sound flows through them.

24	17	24 + 1	4 + 8
EQ BANDS	SATURATION STYLES	BAND ECHOES + FULL MIX	MOD SOURCES + ROUTES

CONTENTS

01	Installing (Studio One, Audition)	2
02	A tour of the EQ page	3
03	Working with bands: shapes, slopes, stereo placement	4
04	Dynamic EQ and sidechain	5
05	Spectral dynamics, solo and multi-select	6
06	Processing modes, character, auto gain and scale	7
07	EQ Match	8
08	Saturation, including the console styles	9
09	Delay: an echo for any EQ band	11
10	Tape, the Double Tracker (ADT) and the Rotary speaker	12
11	Compressor: transfer curve, motion and Gain Scope	15
12	Modulation	17
13	Recipes	18
14	Quick reference and troubleshooting	19
15	Shortcuts and typing values	20
16	Factory presets	21

01 INSTALLING

1. **Close your DAW**, then run `AudioForensix-1.0.0-Windows-Setup.exe`. It puts the plugin in `C:\Program Files\Common Files\VST3`, where every DAW looks.
2. **Studio One:** start it and search the Browser for **Audio Forensix**. **Audition:** Effects › Audio Plug-In Manager › Scan for Plug-Ins.

REGISTER

It runs fully for 30 days. To register, click the **AUDIO FORENSIX** title and paste the key from your purchase email (it starts with `AFX-`). After the trial, audio passes through unprocessed until a key is entered.

A QUICK TOUR



The EQ page with five bands. Band 4 is a dynamic band; its glowing stem shows how far it can move.

#	AREA	WHAT IT DOES
1	Tabs · Reset	The six modules (the "six" in Forensix), numbered **01–06** in the order the sound flows. **RESET** (far right of the top bar) clears the EQ bands or returns any section (or everything) to its defaults, after asking first.
2	Presets · Output	Pick one of 36 factory presets (page 21), and set the overall output level (±24 dB).
3	Mode · Character · Analyzer	Zero Latency, Natural or Linear Phase; Clean, Subtle or Warm colour (page 7); the spectrum analyzer and the graph's ±3–30 dB zoom.
4	Auto Gain · Scale · Match	Keep loudness steady, shrink or exaggerate every band at once, and open EQ Match (pages 7–8).
5	Band handle	Each glowing dot is a band. Drag it to change frequency (left/right) and gain (up/down).
6	EQ curve	The bright white line is the total effect of every band. Each band also shows its own tinted glass shape.
7	Band panel	Shape, slope and stereo placement of the selected band, plus its Frequency, Gain and Q knobs.
8	Bypass · Solo · Delete	Mute the band without deleting it, listen to only its frequencies, or remove it.
9	Dynamics · Delay	Turn the band into a dynamic or spectral band and set how it reacts (pages 5–6). Far right: **Delay** gives this band its own echo (page 11).

The analyzer: the grey line is the sound coming in, and the glowing blue fill is the sound going out after the EQ. It's tilted by 4.5 dB per octave so typical music looks roughly flat, which makes peaks and dips easier to spot.

BANDS

MOUSE AND KEYS

DO THIS	TO
Double-click empty space	Add a band (shape picked from where you click)
Drag a dot	Move frequency and gain
Shift **+ drag**	Fine adjustment
Mouse wheel on a dot	Change Q (width)
Double-click a dot	Bypass on / off
Right-click a dot	Shape, slope, placement, dynamic, spectral, solo, delete
Delete	Remove the selected band(s)
Ctrl **+ click a knob**	Reset it (more shortcuts: page 20)

BAND CONTROLS

CONTROL	RANGE
Frequency	10 Hz – 30 kHz
Gain	−30 to +30 dB
Q (width)	0.025 (very wide) – 40 (very narrow)
Slope (cuts)	6, 12, 18, 24, 36, 48, 72 or 96 dB/oct

On a low or high cut, a Q of 1 gives a smooth, flat cut. Higher Q adds a resonant bump at the cutoff, and lower Q softens the knee.

SHAPES

SHAPE	WHAT IT DOES	TYPICAL USE
Bell	Boosts or cuts a range around the frequency.	General tone shaping, removing a boxy or harsh area.
Low / High Shelf	Raises or lowers everything below (or above) the frequency.	Adding weight or air, taming dull or bright recordings.
Low / High Cut	Removes everything below (or above) the frequency.	Clearing rumble and mud, softening hiss.
Notch	Removes a very narrow slice completely.	Hum, whistles, single ringing tones.
Band Pass	Keeps only a range around the frequency.	Telephone and radio effects.
Tilt Shelf	Tips the whole spectrum around the frequency: lows down, highs up (or the reverse).	Quickly making a sound brighter or darker overall.

STEREO PLACEMENT

Each band can work on **Stereo** (both channels), **Left**, **Right**, **Mid** (what both speakers share: vocals, kick, bass) or **Side** (the width: reverbs, wide guitars). For example, a low cut on **Side** tightens the low end without thinning the centre, and a high shelf boost on **Side** widens a mix.

DYNAMIC EQ

A normal band changes the sound all the time. A **dynamic** band changes it only when its own frequencies get loud, so it can tame a harsh note and leave the rest of the performance alone.

To make a band dynamic, click **Dynamic** in the band panel (bells, shelves and tilt only). The knobs on the right become active:

KNOB	RANGE	MEANING
Threshold	−60 to 0 dB	How loud the band's frequencies must get before it reacts.
Range	−30 to +30 dB	The furthest the gain may move. Negative cuts when loud (taming); positive boosts when loud (enhancing).
Ratio	1:1 – 20:1	How hard it reacts above the threshold. At 3:1, every 3 dB over moves the gain by 2 dB.
Attack	0.1 – 200 ms	How quickly it reacts.
Release	5 – 2000 ms	How quickly it lets go.

Reading the graph

- A **bar** hangs from the band's dot to where Range would take it.
- A small **ring** on that bar shows where the band is right now.
- The bright curve moves with the music. A faint line shows the resting curve.
- Alt + drag a dynamic dot to set its Range directly on the graph.

SIDECHAIN

With **Sidechain** on, the band reacts to *another* track instead of its own. A classic use is to dip the bass guitar's low end only when the kick drum hits.

1. On the bass track, add a Bell around 60–80 Hz. Turn on **Dynamic**, then **Sidechain**.
2. In Studio One, open the plugin's sidechain menu at the top of the plugin window and choose the kick track as the source.
3. Set Range to about −4 dB, then lower the Threshold until the ring dips on each kick.

TRY **Taming a harsh vocal:** add a wide Bell at 3–5 kHz with Gain at 0. Turn on Dynamic and leave Range at −6 dB. Lower the Threshold until the curve dips only on the sharp words.

SPECTRAL & SELECTION

SPECTRAL DYNAMICS

A dynamic band turns its *whole* range down. A **spectral** band splits the sound into about a thousand thin slices and turns down *only the slices that rise above the threshold*. A ringing resonance is pulled back while the frequencies right next to it are left untouched.

1. Make the band **Dynamic**, then click **Spectral**, or right-click the dot and choose *Spectral (tame resonances only)*.
2. Threshold, Range, Ratio, Attack, Release and Sidechain work as before, but separately for each slice.
3. While audio plays, a **glowing pink shape** shows exactly which frequencies are being pulled down at that moment.

GOOD TO KNOW

Spectral mode adds 2048 samples of delay (about 43 ms at 48 kHz) while any spectral band is on. Studio One compensates for it automatically. It's ideal for mixing, but avoid it while recording through the plugin. Spectral bands currently work on the full stereo signal.

BAND SOLO

Click **Solo** in the band panel, or right-click a dot. You then hear *only* that band's frequency range. On a low cut, that's the lows it removes. A **SOLO** badge appears and the other bands fade back. Click Solo again to return to normal. Solo is great for finding exactly where a problem lives before you cut it.

SELECTING SEVERAL BANDS

DO THIS	TO
Drag across empty space	Draw a box. Every band inside it is selected.
Shift + **click a dot**	Add it to the selection, or remove it.
Shift + **drag empty space**	Box-select while keeping the current selection.
Ctrl + A	Select every band.
Drag any selected dot	Move all selected bands together.
Wheel over a selected dot	Change Q on all selected bands.
Delete	Remove all selected bands.

MODES & GLOBAL

PROCESSING MODES

Choose the mode in the top-left corner of the graph. All three sound the same in tone. They differ in how they treat *timing*.

MODE	HOW IT WORKS	DELAY	BEST FOR
Zero Latency	Classic filters. High bands get slightly squeezed near the top of the range.	None	Tracking, live use, most everyday EQ.
Natural Phase	Runs the EQ at twice the sample rate, so high bands keep their true analog shape.	Small	Bright, airy boosts above 10 kHz.
Linear Phase	One long filter that delays every frequency equally, so timing isn't smeared.	See below	Mix bus, mastering, parallel processing.

Linear Phase resolution (shown when Linear Phase is selected): Low, Medium, High or Very High. Higher settings follow narrow and low bands more accurately, but delay more and use more CPU. At 48 kHz the delay is about 21, 43, 85 or 171 ms. Sharp, narrow cuts in Linear Phase can cause faint *pre-ringing* (a soft swell just before a hit).

Character

Clean is pure EQ. **Subtle** adds a touch of smooth tube-style harmonics. **Warm** adds more, with richer even harmonics, like running through analog gear.

Auto Gain

Boosting makes things louder, and louder fools our ears into thinking it sounds better. Auto Gain keeps the overall level steady while you EQ, and shows how much it's compensating.

Scale

Scales every band's gain at once, from −200% to +200%. At 50%, all boosts and cuts are halved. At −100%, they're flipped. Double-click to reset to 100%.

Output & Range

Output sets the final level (±24 dB). **Range** zooms the graph to ±3, 6, 12 or 30 dB. It only changes the view, not the sound.

LATENCY

Natural Phase, Linear Phase, spectral bands and saturation oversampling each add a little delay. The plugin reports the total to Studio One, which shifts the track so everything stays in time.

EQ MATCH

EQ Match listens to a **reference** (a track or mix whose tone you love) and to **this track**, then adds bands that move this track's tone toward the reference.

1. Route the reference track into Audio Forensix' **sidechain** input (Studio One's sidechain menu at the top of the plugin window).
2. Click **MATCH** in the top-right of the graph. The EQ Match panel appears along the bottom of the graph.
3. Press **Learn** and play a representative section for 10–30 seconds. The panel counts the seconds heard from each source. While learning, an orange line shows the reference's average tone and a cyan line shows this track's.
4. Choose how many **Bands** to use (1–12) and how strong the match should be with **Amount** (0–100%).
5. Press **Apply**. Bell bands are added, biggest difference first, and selected so you can see them. Press **Remove** to take them away again, or adjust them like any other band.

Tone, not volume

EQ Match ignores overall loudness differences. A quieter reference won't just add boosts everywhere. It also smooths both spectra over a third of an octave, so it follows the broad tonal shape rather than every tiny peak.

Tips for a good match

- Learn from sections with similar arrangements (chorus vs chorus).
- Start with Amount around 50–70% and raise it to taste.
- Fewer bands give a gentler, more musical result.

SATURATION

Saturation adds harmonics: the warmth of tape, the bite of a tube amp, or the edge of a fuzz pedal. Audio Forensix can split the sound into up to **six frequency bands** and saturate each one differently, after the EQ.



Four saturation bands, three of them using the console styles.

#	CONTROL	WHAT IT DOES
1	Saturation	Turns the whole section on. It's off by default, so loading the plugin never changes your sound by surprise.
2	Bands	How many frequency bands (1–6).
3	Oversampling	Off, 2×, 4× or 8×. Higher keeps heavy distortion clean (no harsh "aliasing") but uses more CPU. 2× is a good default.
4	Mix	Blends the whole saturation section with the clean sound.
5	Crossovers	Drag the white lines to move the split points between bands.
6	Band panes	Click a band to edit it; right-click to pick its style. The glowing column shows its drive.
7	Style · On · Solo	Choose the band's style, switch its saturation off, or hear only this band.
8	Band knobs	Drive, Dynamics, Tone, Feedback, Mix and Level (next page).
9	Transfer curve	Shows how the style bends the waveform. A straight diagonal would mean no change.

STYLES & KNOBS

KNOB	RANGE	MEANING
Drive	0 – 36 dB	How hard the band is pushed into the style. The volume jump is partly compensated, so Drive mostly changes the colour.
Dynamics	−100 to +100%	Positive squashes loud parts before saturating (smoother); negative pushes them harder (punchier).
Tone	−100 to +100%	Darker or brighter after saturating (up to ±6 dB tilt).
Feedback	0 – 90%	Feeds the output back into the input for a thicker, more resonant sound.
Mix	0 – 100%	Blends this band's clean and saturated sound.
Level	−24 to +24 dB	This band's output level.

THE 17 STYLES

STYLE	CHARACTER
Warm Tube	Lopsided, rich even harmonics
Clean Tube	Smooth, symmetric warmth
Tape	Very gradual, soft rounding
Transformer	Firm, gentle cubic curve
Soft Clip	Smooth limiting of peaks
Hard Clip	Flat tops, buzzy and loud
Diode	Uneven, gritty clipping
Fuzz	Heavy, square-ish fuzz

STYLE	CHARACTER
Overdrive	Biased amp-style grit
Half Rectify	Drops the negative half, very raspy
Full Rectify	Flips it, adds an octave up
Foldback	Folds peaks back down, metallic
Sine Fold	Smooth folding, synth-like
Bit Crush	Coarse steps, lo-fi digital

Console styles

Three styles inspired by classic mixing desks. Each pairs a harmonic curve with a gentle EQ "voicing", the way the real circuits colour the sound even before they distort.

- **Brit Console**: thick and warm, even harmonics, weighty lows, silky top. Inspired by British class-A desks.
- **US Punch**: forward, firm knee, odd harmonics, tight lows. Inspired by American op-amp consoles.
- **Brit Desk 70s**: gritty and bright with an open top end. Inspired by 70s British rock desks.

TRY **Bass that cuts through on small speakers:** set 3 bands with the first crossover around 150 Hz. Give band 1 **Brit Console** with about 9 dB of Drive and band 2 **US Punch**. Solo each to hear the effect, then un-solo.

DELAY

Any of your **EQ bands** can have its own echo, made **only from that band's frequencies**. Give an 800 Hz bell an echo and only the 800 Hz area repeats; give a high shelf an echo and only the highs above it repeat. Your original sound is never cut; the echoes are added on top. There's also one echo for the **full mix**.

Quickest way: select a band on the EQ and press **Delay** in the band panel (far right); **Edit Delay** jumps to its strip here.



Band 3 (a bell at 600 Hz) and band 5 (a high shelf) have echoes; band 5's bounce between the speakers.

#	CONTROL	WHAT IT DOES
1	Delay	Master switch for every echo (on by default; nothing echoes until you switch on a band's Echo).
2	Master Level	Turns every echo up or down together.
3	Echo hills	The frequencies each band's echo is made from. They follow the band as you move it.
4	Band orbs	Your EQ bands; echoing ones ripple. Click one to select it (on the EQ too).
5	Strips	One per EQ band (low to high), plus **Full Mix** on the left. Scroll sideways when you have many bands.
6	Echo · Ping-Pong	Switch this band's echo on; make its echoes bounce between left and right (Spread sets how far).
7	Time menu	A note length (1/32 to 1 bar) to follow the tempo, or **Free (ms)** for the Time knob.
8	Knobs	**Time** 1–2500 ms · **Feedback** 0–95% (how many repeats) · **Tone** (darker or thinner repeats) · **Duck** (echoes dip while the band plays) · **Level** (100% = as loud as the band) · **Spread** (stereo width: 0% = where the sound is, 100% = wide; with Ping-Pong, how far the echoes bounce).
9	Echo pattern	The band's echoes fading away.

TAPE

A simulated reel-to-reel machine. Tape softly squashes loud peaks (especially loud highs), lifts the low end with a **head bump**, rounds off the top, and adds tiny speed wobbles. Faster tape is cleaner and brighter; slower tape is warmer and more coloured.



The Tape tab: the machine and its frequency response, the tape knobs right underneath, and the Double Tracker and Rotary panels along the bottom.

#	CONTROL	WHAT IT DOES
1	Tape	Turns the tape machine on. The reels spin while sound passes.
2	Speed	**7.5 ips**: lo-fi, big low bump, dark · **15 ips**: the classic sound · **30 ips**: clean and hi-fi.
3	Machine	The reels and head glow with the level going through.
4	Tone of the tape	The machine's frequency response, live: head bump on the left, high-frequency loss on the right.
5	Tape knobs	**Drive** (how hard the tape is hit; the level is matched, so it mostly changes colour) · **Bias** (below 0 brighter and grittier, above 0 darker and cleaner) · **Head Bump** · **HF Loss** · **Wow & Flutter** · **Hiss** · **Mix**.
6–8	Double Tracker	On/off and Whole Track / Band Only, the band strip, and its knobs (next page).
9	Rotary	The rotary speaker cabinet: on/off, Copy or All, Stop / Slow / Fast, and its eight knobs (page 14).

TRY **Glue for a drum bus:** 15 ips, Drive +6 dB, Head Bump 60%, HF Loss 30%, Wow & Flutter 10%. Switch Tape on and off to hear the transients round off and the low end fill out.

DOUBLE TRACKER

In the 1960s, engineers found they could make one vocal sound like two by running a second tape machine a few milliseconds behind the first, with its speed gently wobbling. This is called **ADT**, automatic double tracking.

The Double Tracker panel on the Tape tab does the same: it adds a slightly late, wobbling copy of the sound on top of the original. It works on its own, even with the tape machine switched off.

WHOLE TRACK OR A BAND

Whole Track doubles everything. **Band Only** doubles only the frequencies between the two handles on the band strip (drag them). For example, double just a vocal's 300 Hz–8 kHz so the low end stays solid and mono.

KNOB	RANGE	WHAT IT DOES
Delay	0.5 – 60 ms	How late the copy is. **10–40 ms** sounds like a second performance; **under 5 ms** becomes flanging.
Depth	0 – 100%	How far the copy's timing wobbles (up to 4 ms).
Rate	0.05 – 8 Hz	How fast it wobbles.
Drift	0 – 100%	Random wander on top of the steady wobble, so it never sounds mechanical.
Feedback	−90 to +90%	Feeds the copy back into itself: a resonant, jet-like sound with short delays.
Spread	0 – 100%	Makes the left and right copies wobble differently, for stereo width.
Tone	−100 to +100%	Darkens (below 0) or thins (above 0) the copy, so it sits behind the original.
Level	−30 to +6 dB	How loud the copy is.
Flip Phase	on / off	Turns the copy upside down. With a short delay this gives a hollow, "through-zero" flange.

Classic vocal double

1. Band Only, 300 Hz – 8 kHz.
2. Delay 22 ms, Depth 30%, Rate 0.6 Hz.
3. Spread 70%, Tone −15%, Level −4 dB.

Rotary speaker

The violet panel next to the Double Tracker is a spinning organ-speaker cabinet. It can swirl just the copy, or everything. It has its own page next.

ROTARY SPEAKER

The swirling sound of an organ speaker cabinet. Inside the box, a tube amplifier drives a spinning **horn** for the highs and a spinning **drum** for the lows, turning in opposite directions, with microphones on either side.

As they spin, four things happen at once, and all four are simulated:

- **The pitch bends** as the horn swings towards and away from a microphone (the Doppler effect).
- **Volume and brightness pulse** as the horn points at a microphone, then away.
- **Echoes off the cabinet walls** bend the other way: the thick, shimmering chorus.
- **The sound moves** between the left and right microphones.

CONTROL	RANGE	WHAT IT DOES
Rotary	on / off	Turns the cabinet on. It works on its own, with or without the Double Tracker.
Copy / All		**All**: everything goes through the cabinet (with the Double Tracker off, that's the pure rotary sound). **Copy**: only the Double Tracker's copy spins.
Stop / Slow / Fast		**Stop** brakes to a halt, **Slow** swirls, **Fast** warbles. Changes glide: the horn takes half a second, the heavy drum a few seconds.
Speed	25 – 400%	Scales Slow and Fast. 100% is a real cabinet; 400% a buzzing flutter.
Depth	0 – 100%	How strongly it swirls: pulsing, movement and pitch bend.
Wobble	0 – 100%	How far the pitch bends: 25% is real, 100% a ±4-semitone "boing".
Drive	0 – 100%	Pushes the cabinet's tube amplifier: warmth, then growl.
Horn Peak	0 – 100%	The horn's honky midrange resonance, around 1.4 kHz.
Distance	0 – 100%	Close: deep pulsing. Far: smoother, with more wall echoes.
Balance	−100 to +100%	Drum (lows) against horn (highs). Negative = more drum, positive = more horn.
Spread	0 – 100%	How far apart the two microphones are: 0% is mono, 100% is widest.

Classic organ speaker

1. Double Tracker off.
2. Rotary on, All, Slow, Drive 30%.
3. Automate Slow / Fast for the chorus.

Swirling guitar double

1. Whole Track, Delay 8 ms, Depth 0%.
2. Level 0 dB. Rotary on, Copy, Slow.
3. Push it: Wobble 60%, Speed 150%.

COMPRESSOR

A compressor turns loud parts down. This one lets you **shape** how: draw its transfer curve with handles, choose the shape of its attack and release, and watch exactly what it does in the **Gain Scope**.



The test tone running: the Gain Scope shows the compressor clamping down on the loud steps and letting go on the quiet ones.

#	CONTROL	WHAT IT DOES
1	Compressor	Turns it on (off by default).
2	Detector	**Feed-Forward** listens to the incoming sound (precise, modern). **Feedback** listens to its own output (smoother, vintage).
3	Ext. Sidechain	Let another track control the compression (for example the kick ducking the bass).
4	Attack & release shape	How the gain reduction moves, with a picture of each (next page).
5	Transfer curve	Input level (left to right) against output level (up). Drag the handles to shape it (next page).
6	Live dot	Where your audio is on the curve right now.
7	GR meter	How much the compressor is turning down, in dB.
8	Scope controls	Trigger, view length (0.25–4 s), and the test tone with its High, Low and Period settings.
9	Gain Scope	Input (faint white), output (blue) and gain reduction (pink line, scale on the right) over time.
10	Knobs	Threshold, Ratio, Knee, Curve, Attack, Release, Drive, Makeup, Mix.
11	Detector panel	**SC High-Pass** (stops bass from triggering it), **Lookahead** (0–10 ms), **Stereo Link**.

CURVE, MOTION & SCOPE

SHAPING THE TRANSFER CURVE

A straight diagonal line means "no change". Wherever the curve bends below it, the compressor turns the sound down. Hover over a handle to see its value; double-click it to reset.

HANDLE	DRAG	WHAT IT SETS
Threshold (large)	left / right	The level where compression starts (−60 to 0 dB).
Knee	left / right	How gradually it starts: 0 dB is a sharp corner, up to 24 dB is a long, gentle bend.
Curve	up / down	Bends the line above the threshold. **Positive** grabs hard just over the threshold and then eases off (great for gentle "glue"). **Negative** starts gently and squashes harder the louder it gets (natural, limiter-like).
Ratio	up / down	How strongly it compresses, from 1:1 (none) to 30:1 (almost a limiter).
Expander (green)	left / right, down	Below this lower threshold, quiet sounds get quieter (cleans up hiss, spill and room noise). Grabbing it switches it on at 2:1; drag down for stronger.

Drive pushes more level into the compressor and turns the output down by the same amount, so loudness only changes once compression starts. It's a quick way to "compress more" without moving the threshold. **Makeup** raises the output afterwards.

ATTACK AND RELEASE SHAPES

SHAPE	FEEL
Smooth	Fast at first, then easing in. The classic sound.
Linear	A steady speed: exactly the set time from start to finish.
Punchy	Slow start, fast finish. On attack it lets the transient through, then clamps.
S-Curve	Eases in and out. Very smooth and musical, especially on release.

Seeing it with the Gain Scope

1. Press **TEST TONE**. Your audio is replaced by a 1 kHz tone stepping between **High** and **Low** levels every **Period**.
2. Press **TRIGGER**. The picture freezes on each step up and measures **Attack (to 90%)** and **Release (to 10%)** in milliseconds.
3. Change the shapes and times and watch the pink line change. Turn the test tone **off** when done (switching tabs also turns it off).

TRY **Transparent vocal levelling:** Feed-Forward, Threshold −24 dB, Ratio 3:1, Knee 12 dB, Curve +40%, Attack 8 ms Smooth, Release 120 ms S-Curve, SC High-Pass 100 Hz. Aim for 3–5 dB on the GR meter.

MODULATION

Sources move by themselves; **routes** connect a source to a control with an amount. Use it for sweeping filters, rhythmic pumping, drive that follows the drums, and more.



Four sources across the top, each with a live scope; eight routes along the bottom.

LFO

A repeating wave: Sine, Triangle, Saw Up, Saw Down or Square. **Sync**: Free (set Rate, 0.01–40 Hz) or locked to the song, from 4 bars to 1/32 (plus triplets and dotted notes). **Phase** shifts the start point.

Envelope Follower

Rises as the audio gets louder. Listens to the **Input** or the **Sidechain**. **Attack** 0.1–500 ms, **Release** 5–5000 ms, and **Sensitivity** ±24 dB set how loud it has to be to react.

Random

Jumps to a new random value at the Rate (or synced speed). **Smooth** (0–100%) turns the jumps into glides.

ROUTES

Pick a **source** (Mod 1–4), a **target** (any EQ band's Frequency, Gain or Q; any saturation band's Drive, Dynamics, Tone, Feedback, Mix or Level; a crossover; Saturation Mix; any band echo's (or the full-mix echo's) Time, Feedback or Echo Level; Delay Master Level; Tape Drive, Wow & Flutter or Mix; ADT Delay, Depth or Level; Comp Threshold, Drive or Mix; or Output Gain) and an **Amount** (−100 to +100%). Amount is how far the control moves, as a share of its full travel. Negative values move it the opposite way. Several routes can point at the same control, and their effects add up. The EQ curve moves live with modulation.

RECIPES

Auto-wah

1. Add a Bell at 800 Hz, +8 dB, Q 3.
2. Mod 1: LFO, Sine, Sync 1/8.
3. Route Mod 1 → EQ 1 Frequency, 30%.

Clean up a mix bus

1. Mode: Linear Phase, Resolution Medium.
2. Low Cut on Side at 120 Hz, 24 dB/oct.
3. Gentle High Shelf +1.5 dB at 10 kHz. Character: Subtle.

De-ring a snare

1. Solo a narrow Bell and sweep to find the ring.
2. Widen it (Q about 1). Turn on Dynamic + Spectral, Range −8 dB.
3. Lower Threshold until the pink shape flickers on each hit.

Drive that follows the drums

1. Saturation on, 1 band, Overdrive, Drive 6 dB.
2. Mod 2: Envelope Follower, Input, Release 120 ms.
3. Route Mod 2 → Sat 1 Drive, +40%.

Kick and bass sharing the low end

1. On the bass: Bell at 70 Hz, Dynamic, Sidechain on.
2. Send the kick to the sidechain.
3. Range −4 dB, Attack 5 ms, Release 80 ms.

Tremolo

1. Mod 3: LFO, Square (or Sine for smooth), Sync 1/8.
2. Route Mod 3 → Output Gain, −20%.
3. Change Sync for faster or slower pulses.

REFERENCE

DELAY (LATENCY) AT 48 KHZ

FEATURE	DELAY ADDED
Zero Latency EQ	None
Natural Phase	A small fixed delay
Linear Phase: Low / Medium / High / Very High	About 21 / 43 / 85 / 171 ms
Any spectral band on	2048 samples (about 43 ms)
Saturation oversampling 2× – 8×	A small fixed delay
Tape on	About 3.5 ms
Compressor lookahead	The lookahead time (0–10 ms)
Delay, Double Tracker, compressor without lookahead	None

All delays are reported to your DAW, which compensates automatically.

TROUBLESHOOTING

PROBLEM	FIX
Plugin doesn't appear	Make sure the `.vst3` is in `C:\Program Files\Common Files\VST3`, then restart Studio One so it rescans.
Antivirus flags a new build	Newly built, unsigned programs are scanned by antivirus software. That's normal for self-built plugins.
Sidechain does nothing	Choose a source in Studio One's sidechain menu, and turn on **Sidechain** on the band (or choose Sidechain as the follower input).
EQ Match says "No sidechain audio"	Route the reference track into the sidechain and press play while Learn is on.
A band won't move up or down	Cuts, notch and band pass have no gain, so they only move left and right. Also check that Scale isn't at 0%.
Track feels late while recording	Switch to Zero Latency, and turn off spectral bands, Tape and compressor lookahead while tracking.
Only a steady beep comes out	The compressor's **Test Tone** is on. Turn it off on the Compressor tab.
Licence key not accepted	Paste it rather than typing, and include every group (`AFX-` plus four groups of five). Still stuck? Email support with your order number.
Want a fresh start	Click **RESET** (top right, next to Output) and choose a section, or Reset everything.

AUDIO FORENSIX

Built with JUCE. VST3 is a trademark of Steinberg Media Technologies GmbH.
Studio One is a trademark of its respective owner.

SHORTCUTS & TYPING

ON THE EQ GRAPH

DO THIS	TO
Double-click empty space	Add a band, shaped by where you click: far left **low cut**, left **low shelf**, bottom **notch**, right **high shelf**, far right **high cut**, else **bell**. A dashed preview follows the mouse.
`Alt` + double-click	Add a band that is already **dynamic**.
Drag a dot (`Shift` for fine moves)	Frequency and gain.
Mouse wheel on a dot	Q (width).
`Ctrl` + wheel	Gain.
`Alt` + wheel	Dynamic range (turns the band dynamic).
`Alt` + drag a dynamic dot	Dynamic range.
Double-click a dot	Bypass it.
`Shift` + click, or drag a box	Select several bands; `Ctrl` + `A` selects all.
`Delete`	Remove the selected bands.

ON ANY KNOB

DO THIS	TO
`Ctrl` + click, or double-click	Put it back to its default.
`Shift` + drag	Fine adjustment.
Click the value	Type a value. `Tab` jumps to the next box, `Shift` + `Tab` back.

TYPING VALUES

TYPE	MEANS
`250` , `1.5k` , `2 kHz`	A frequency in hertz.
`A4` , `F#4` , `Bb2` , `C#6`	A musical note (A4 = 440 Hz). Handy for tuning a band to a ringing note.
`+3` , `-4.5`	Gain in decibels.
`2x` , `0.5x`	Twice (or half) the level: +6 dB, −6 dB.
`52%` , `-50%`	That much louder or quieter: +3.6 dB, −6 dB.

TRY Click a band's Frequency value, type `C#6` , press `Tab` , type `+2` , press `Enter` .

FACTORY PRESETS



The picker sits in the top bar, left of **Output**. Click the name for the menu, or use the ‹ › arrows to step through all 36 presets.

Each preset is a complete setting: loading one clears whatever was there first. Studio One also lists them in its own preset menu, and your song remembers your changes.

Presets are starting points. Adjust Threshold and Output to suit your track.

Vocals

- **Vocal Polish**: cut, de-harsh, de-ess, air
- **Airy Pop Vocal**: bright, doubled, eighth echo
- **Podcast Voice**: even, clear, quiet gaps
- **Radio Voice**: narrow, driven, squeezed
- **Double-Tracked Vox**: wide ADT double
- **Slapback Rock Vox**: tape grit, 110 ms slap

Drums

- **Kick Punch**: thump and click, less box
- **Snare Crack**: body, snap, transformer bite
- **Drum Bus Glue**: console colour, 2:1 glue
- **Room Smash**: crushed in parallel
- **Lo-Fi Breakbeat**: crushed, worn tape
- **Overhead Shine**: clean lows, shimmering top

Bass & Keys

- **Bass Weight**: deep, with growl up top
- **Bass Growl**: clean lows, fuzzy highs
- **Rhodes Warmth**: tube and 15 ips tape
- **Organ Rotary Fast**: driven, fast cabinet
- **Organ Chorale Slow**: slow, gentle swirl
- **Piano Clarity**: less mud, more presence

Guitars

- **Acoustic Sparkle**: less boom, more air
- **Electric Crunch**: overdrive, tamed top
- **Wide Stereo Guitar**: ADT and wide sides
- **Clean Chorus**: classic shimmer
- **Surf Spring Echo**: dotted echo, 7.5 ips
- **Ping-Pong Lead**: quarter echoes bounce

Mix & Master

- **Gentle Master**: light shaping, 1.5:1
- **Loud & Proud**: soft clip, firm compressor
- **Vintage Tape Bus**: 15 ips, warm character
- **Mid-Side Widener**: mono lows, wide air
- **Mud Remover**: 250 Hz dips only when muddy
- **Linear Phase Master**: phase-true polish

Creative FX

- **Telephone**: tiny, clipped speaker
- **Auto-Wah**: follows how hard you play
- **Filter Sweep**: low-pass sweep each bar
- **Tremolo Pulse**: volume pulses in eighths
- **Space Echo**: wobbly tape echo, long tail
- **Jet Flanger**: slow, deep jet whoosh