MANLEY®

ecliptic

Parallel Saturating Variable Mid-Side EQ



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1. Introduction

Manley ecliptic is a stereo equalizer. It has four EQ bands, an input transformer, a drive stage with its own tilt control, high and low filters, and a mono-bass and width section. Each EQ band can work on the whole signal, on the middle only, on the sides only, or anywhere in between.

ecliptic is built to do things a purely digital equalizer does not, and to answer the idea that all EQ plugins sound the same. The LOW, MID and HIGH bands are additive: they run side by side and their outputs are summed, as in classic analog mastering equalizers, rather than each band feeding the next. They are modeled on the processes of experienced mixing and mastering engineers, tested in the field.

The two midrange bands do different jobs. **CONTOUR** revoices the midrange with a wide ripple that cuts at its center and boosts on either side, while **MID** handles traditional boosts and cuts with analog curves that overshoot slightly at the edges of the bell.

To keep the parallel bands in phase, every band is a bell or a shelf. Even the HPF and LPF are shelves, designed to sound like filters without the phase shift of a true filter. Some phase smearing remains, as in analog gear, but it thickens the signal instead of causing cancellation. The high-frequency bands keep their analog shape all the way to the top of the audio range, without the cramping many digital equalizers show near the upper limit. No band is a single filter: each is built with multiple bands with realistic analog interactions. The full signal chain is additive too, so the further you push a band, the more coloration and analog intensity it adds.

This manual covers every control on the panel, then the parts ecliptic shares with other plugins: presets, A/B states, Auto Gain, oversampling, metering options and the key modifiers.

2. The front panel



Figure 1. The front panel with the display unit folded away.

#	Area
1	Left column: POWER, XFORMER, INPUT
2	HPF and its slope key
3	LOW band
4	CONTOUR band
5	VU meters and IN/OUT key
6	MID band
7	HIGH band
8	LPF and its slope key
9	Right column: DRIVE, TILT, OUTPUT
10	Bottom row: SOLO M, SOLO S, DELTA, TMT keys and readout, TMT AMOUNT, MONO, WIDTH, DISPLAY

The panel reads left to right in roughly the order the signal travels. The input stage is on the left, the four EQ bands and the VU meters across the middle, and the drive and output stage on the right. The bottom row holds monitoring, TMT, the stereo controls and the key that opens the display unit.

Hover over any control to see its exact value.

3. Input section

POWER

Switches the unit in and out. With POWER off, the audio passes through untouched and the panel goes dark. The changeover is click-free, and the plugin's latency is the same in both states. The power button at the far left of the top bar does the same thing.

XFORMER

Sets how hard the signal drives the input transformer. At 0% the transformer is out of circuit. Turning it up drives the transformer harder, and low frequencies saturate before high frequencies. The control sets the drive into the transformer, not the output level.

> **Range:** 0 to 100% · **Default:** 0%

INPUT

Sets the level going into the unit. Higher input levels drive the transformer and the DRIVE stage harder.

> **Range:** –24 to +12 dB · **Default:** 0 dB

4. The equalizer

There are four bands: **LOW**, **CONTOUR**, **MID** and **HIGH**. The bands run in parallel rather than in series.

Every band has the same basic set of controls:

Control	What it does
Gain	The large knob. Sets how much the band boosts (or cuts, with the BOOST/CUT key off).
FREQ	The center frequency of the band.
BANDWIDTH	The width of the curve. Higher settings tighten it; lower settings spread it out.
BOOST / CUT	Lit means boost. Press it to turn the band into a cut. Not on CONTOUR.
MID / SIDE	The lit index on the collar around the gain knob. Chooses where the band acts in the stereo field.
OFFSET	The second lit index on the collar. Splits the band's frequency between the middle and the sides.



Figure 2. The LOW band: gain knob with its MID/SIDE and OFFSET collar indices, BANDWIDTH and FREQ below, and the BOOST/CUT key.

LOW

The low-frequency band.

> **FREQ** 20 to 200 Hz (default 58 Hz) · **Gain** 0 to 12 dB · **BANDWIDTH** 0.3 to 1.0 (default 0.71)

CONTOUR

A broad midrange band. Its output level is compensated as the gain is raised. CONTOUR boosts only; there is no BOOST/CUT key on this band.

> **FREQ** 300 Hz to 2 kHz (default 1.2 kHz) · **Gain** 0 to 12 dB · **BANDWIDTH** 0.3 to 1.0 (default 0.61)

MID

A midrange bell. It has the widest BANDWIDTH range of the four bands.

> **FREQ** 200 Hz to 5 kHz (default 640 Hz) · **Gain** 0 to 12 dB · **BANDWIDTH** 0.3 to 2.0 (default 0.5)

HIGH

The high-frequency band, covering the upper midrange to the top of the audio range.

> **FREQ** 800 Hz to 22 kHz (default 15 kHz) · **Gain** 0 to 12 dB · **BANDWIDTH** 0.3 to 1.0 (default 0.71)

BOOST / CUT

LOW, MID and HIGH can cut as well as boost. With the key lit the band boosts. Press it and the same gain knob cuts instead, up to 15 dB at full turn. In cut, the readout shows the value as negative.

The cut narrows as its depth increases. On HIGH the cut is broader than the boost at the same frequency.

Switching between boost and cut is click-free and can be done during playback.

MID / SIDE

Each band can work on the center of the stereo image, the edges, or a blend. With the index at 12 o'clock the band treats the whole signal. Turning it toward MID weights the band toward the middle; turning it toward SIDE weights it toward the sides. At the end stops it acts on one only.

> **Range:** –100% (mid only) to +100% (side only) · **Default:** 0%, both

OFFSET

With OFFSET at center the band sits at the same frequency for the middle and the sides. Turning it pulls them apart: clockwise moves the side's frequency up and the middle's down, counterclockwise does the opposite. At the end stops the two are two octaves apart.

> **Range:** –2 to +2 octaves · **Default:** 0

5. HPF and LPF

The high-pass and low-pass filters follow the EQ. Both have gradual slopes rather than hard cutoffs.

HPF

Fully counterclockwise is off. Turning it up removes low-frequency energy. The readout gives an approximate corner, from about 20 Hz up to 250 Hz.

LPF

Fully clockwise is off, so it rests at the top. Turning it down reduces high-frequency energy. The readout runs from 20 kHz down to about 700 Hz.

Slope keys

Each filter has a key beside it that chooses its character:

- **Unlit (Smooth):** a gentle slope with a gradual corner.
- **Lit (Steep):** a steeper slope with a more defined corner and greater maximum depth.

The key can be switched during playback without clicks.

6. Drive and output

DRIVE

Adds harmonic saturation. The amount depends on the input level as well as the DRIVE setting. At 0% the stage is clean.

> **Range:** 0 to 100% · **Default:** 25%

TILT

Sets which part of the spectrum the DRIVE stage saturates first. It changes the balance of the saturation, not the frequency response.

- **Clockwise (positive):** the lows and low mids are held back from the drive, so the upper mids and highs saturate first.
- **Center (0%):** the whole spectrum is driven evenly.
- **Counterclockwise (negative):** the lows and low mids are pushed into the drive, so they saturate before the highs.

> **Range:** –100% to +100% · **Default:** +50%

OUTPUT

Sets the output level of the unit.

> **Range:** –24 to +12 dB · **Default:** 0 dB

7. Monitoring and stereo



Figure 3. The bottom row, from SOLO M across to WIDTH.

SOLO M, SOLO S, DELTA

These three keys change what you listen to. Only one can be on at a time. Press the lit key again to go back to normal listening.

- **SOLO M** plays only the middle of the stereo image, on both speakers.
- **SOLO S** plays only the sides, on both speakers.
- **DELTA** plays only the difference the unit is making: the output of everything from the transformer through to the stereo section, minus the dry signal.

The output meters and the display follow what you are monitoring. Remember to switch these off before you bounce.

MONO

Sums the low end to mono below a frequency you choose. Fully counterclockwise is OFF. From there it runs from 20 Hz up to 250 Hz. The sides roll off gradually below the set frequency, and the middle gets a small low-frequency lift to make up for the low end removed from the sides.

WIDTH

Widens or narrows the stereo image. At 12 o'clock nothing changes.

- **Counterclockwise:** the image narrows, with the center coming up as the sides go down so the overall level stays even. Fully counterclockwise is mono.
- **Clockwise:** the sides come up while the center stays where it is. Fully clockwise lifts the sides by 6 dB. The center level does not change.

> **Range:** –100% to +100% · **Default:** 0%

8. TMT

Component tolerances mean that no two analog channels are identical. Brainworx Tolerance Modeling Technology (TMT) gives ecliptic 20 channels, each with its own set of component values.

Choosing a channel

The orange readout in the bottom row shows the two channels in use, one for each side of the stereo unit, for example **01 02**. Use the arrow keys either side of it to step through the channels, or press the dice key to pick one at random.

TMT AMOUNT

Sets how far the selected channel strays from the ideal unit. At 100% you hear the channel exactly as it was measured. At 0% the tolerances are gone and you hear the reference unit, the same on every channel.

> **Range:** 0 to 100% · **Default:** 100%

TMT Stereo Mode

This setting is available from your host's parameter list and automation.

- **Analog** (default): the two sides use neighboring channels (for example 01 and 02), as a real stereo unit would. The readout shows two different numbers.
- **Digital**: both sides use the same channel, so they are perfectly matched. The readout shows the same number twice.

9. The display unit

Press **DISPLAY** at the bottom right to unfold the display unit below the panel. Press it again to fold it away. ecliptic remembers which way you left it and opens the same way next time.

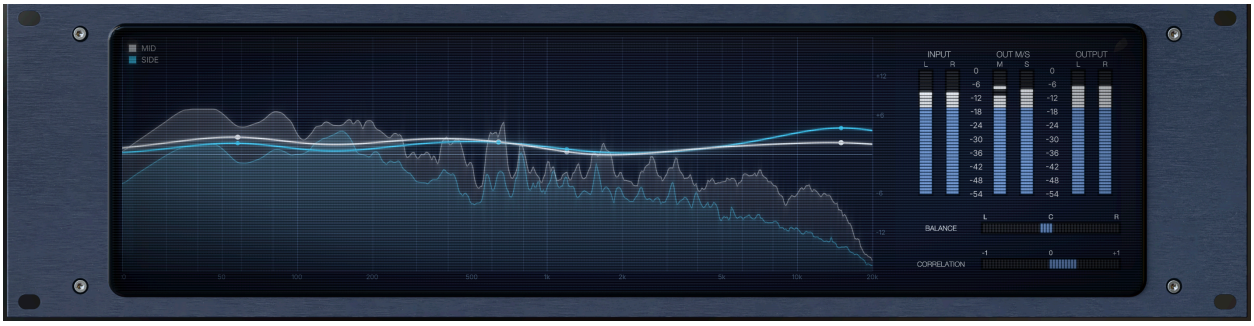


Figure 4. The display unit with music playing: spectrum and EQ curves, level meters, BALANCE and CORRELATION.

Spectrum and EQ curves

The screen on the left shows the live spectrum of the output, middle and sides separately, with the EQ curves drawn over it. The curves include every band, the HPF and LPF, and the MONO and WIDTH controls, and each band is marked in its own color. When a band uses MID/SIDE or OFFSET, the middle and side curves are drawn apart.

Hover over the screen for a crosshair with the frequency and gain under the pointer.

Level meters

To the right of the screen are three pairs of LED meters:

- **INPUT L / R:** the level after the INPUT control.
- **OUT M / S:** the output level of the middle and the sides.
- **OUTPUT L / R:** the output level of each channel.

The dB scale between the meters follows the range you pick in Global Settings. Hover over a meter for an exact reading.

BALANCE and CORRELATION

Two horizontal bars sit under the meters. BALANCE shows whether the output leans left or right. CORRELATION shows how mono-compatible the output is: lit toward the right means the channels agree, toward the left means they are working against each other and may lose energy when summed to mono.

VU meters

The two VU meters in the center of the main panel are always on. The small key above them chooses what they show: lit for the output, unlit for the input. They default to the output. 0 VU equals –18 dBFS unless you change it in Global Settings.

10. The top bar

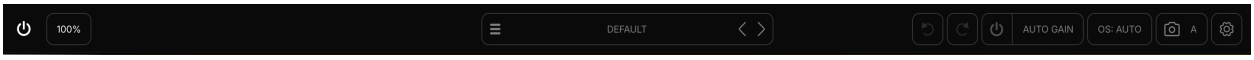


Figure 5. The top bar: power, zoom, preset name, undo, redo, AUTO GAIN, oversampling, A/B state and settings.

Power and zoom

The power button mirrors the POWER key on the panel. Next to it, the zoom menu sets the window size from 50% to 200%. To make a zoom size your default, use Global Settings > General.

Presets

The preset name sits in the center. Click it to browse presets by folder, or use the arrows either side to step through them. The factory presets are grouped into Drum Bus, Mix Bus and Vocals. The functions menu holds:

- **Save Preset** and **Save Preset As...**
- **Save Current As Default:** new instances of ecliptic will open with these settings.
- **Open Preset...** to load a preset file from anywhere.
- **Show Preset Folder** and **Refresh Preset List**, for when you have moved files around outside the plugin.
- **Copy Preset to Clipboard** and **Paste Preset from Clipboard**, for moving settings as text.

Factory presets are restored if they go missing from the presets folder, but your own changes to them are never overwritten.

Undo and redo

Every change you make on the panel can be undone and redone, including A/B switches.

AUTO GAIN

Auto Gain matches the output loudness to the input loudness. The button has two parts.

- **The power symbol** lights when a correction is in place. Click it while unlit to match the output to the input in one go. Click it while lit to clear the correction back to 0 dB.
- **The AUTO GAIN text** opens the panel with the details.

The panel shows the measured input and output loudness (click the heading to restart the measurement), lets you choose how the loudness is measured (Integrated, Short-term or Momentary), and has a **Match Input Gain** button and a correction slider of ±20 dB that you can set by hand. Integrated averages over the whole time since the measurement started. Short-term and Momentary react faster.

Match Input Gain needs audio to have played through first, so there is something to measure.

Oversampling

Sets the oversampling for this instance: 1x, 2x, 4x, 8x, 16x or Auto. Higher settings reduce high-frequency artifacts from the transformer and drive stages, and use more CPU. **Auto** is the default and picks for you: 4x at 44.1 and 48 kHz, 2x at 88.2 and 96 kHz, and 1x above that. **Advanced...** opens the oversampling page in Global Settings.

A/B states

ecliptic can hold up to five complete settings, A to E. Click the letter to open the menu, pick a state to switch to it, or choose **Copy to new...** to copy the current settings into the next free letter and switch to it. Changes are stored in whichever state is active. Switching states is an undo step. The states last until you close the session; they are not saved with it.

Settings

The gear opens Global Settings.

11. Global Settings

These settings apply to every instance of ecliptic on your computer, and they stay as you left them between sessions.

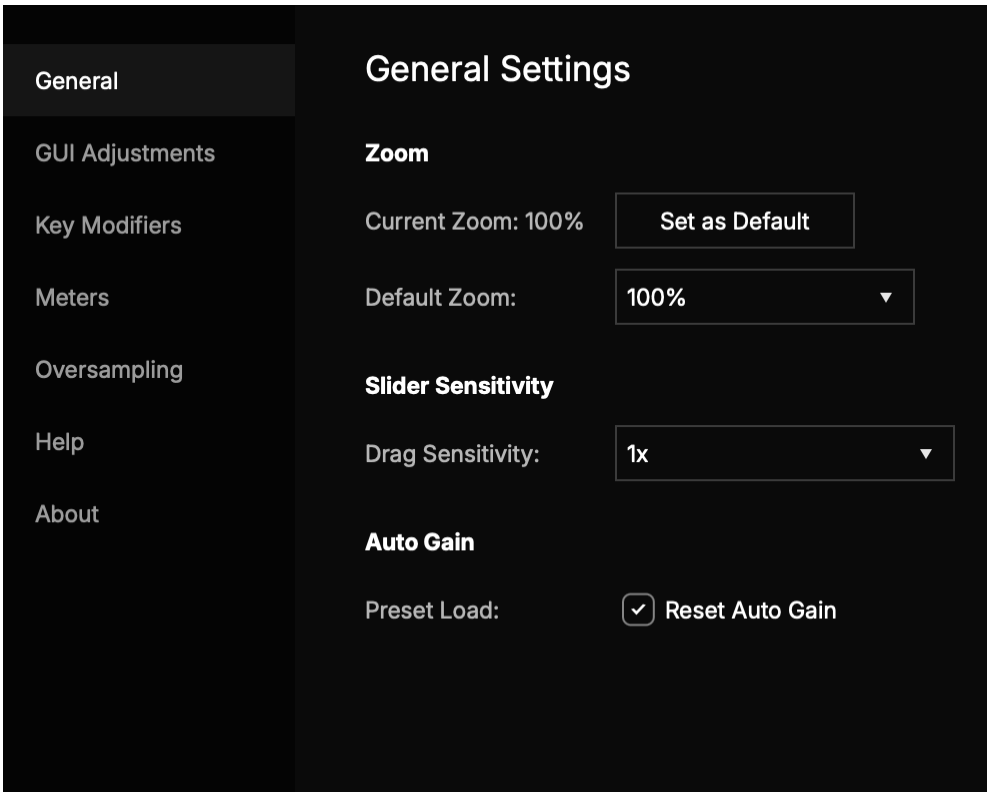


Figure 6. Global Settings, General tab.

General

Setting	What it does
Zoom	Shows the current zoom. **Set as Default** makes it the size new windows open at; you can also pick a default from the list.
Drag Sensitivity	How far you need to move the mouse to turn a knob, from 0.5x (very sensitive) to 4x (precise). Default 1x.
Auto Gain: Preset Load	When checked, loading a preset clears any Auto Gain correction.

GUI Adjustments

Setting	What it does
View Mode	**Realism** shows the full lit panel. **Flat** shows a simple drawn version that uses less graphics processing. Every control works the same in both.
Lighting	Day or Dusk, for the room the panel sits in.
Perspective	Tilts the panel away from the viewer. Default is 0 (flat on).
Frame Rate	Caps how often the panel redraws: 30, 60 or 120 FPS. Lower settings use less graphics processing.

Key Modifiers

Choose which keys and clicks do what. These apply to every control on the panel.

Setting	What it does	Default
Fine Key	Hold this while dragging for fine adjustment.	Shift
Fine Amount	How much finer a fine drag is than a normal one.	4x finer
Reset to Default	The click that returns a control to its default.	Cmd-click (Mac), Ctrl-click (Windows)
Value Entry	The click that opens a box for typing in an exact value.	Double-click
Reset A/B	With **Second click toggles** checked, using the reset click a second time puts the control back where it was before you reset it.	On

The click options are right-click, double-click, Option/Alt-click and Cmd/Ctrl-click. Fine Key can be Shift, Option/Alt or Cmd/Ctrl. Each key or click can only do one job: if you pick one that is already in use, the other action becomes **Unassigned** and is outlined in red until you give it something else.

Meters

Setting	What it does
Ballistics Preset	How quickly the LED meters rise and fall. Options: Digital Peak, Fast, Ultra Fast, Slow, K-System, Broadcast IEC, DIN PPM (Type I), BBC/EBU PPM (Type II), VU Meter and Swiss Field PPM.
dB Range	The span of the LED meters. Default is Wide (–72 to +8 dB). Also Standard (–60 to 0), Normal (–54 to +6), Narrow (–36 to +4) and Close (–18 to +2). The printed scale on the display follows your choice.
Peak Behavior	**Follow Ballistics** lets the peak marker fall with the meter; **Hold** keeps it at the highest level reached.
VU Calibration	The level that reads 0 VU on the VU meters. Default is –18 dBFS.

Each list also has a **Default** entry that returns to ecliptic's own setting.

Oversampling

Setting	What it does
Default Factor	The oversampling new instances start with. Auto unless you change it.
Filter Type	**Minimum Phase** has zero latency. The three **Linear Phase** options (Smooth, Standard, Steep) add latency.
Offline Factor / Offline Filter	Separate settings used when your host bounces faster than real time. **Use Realtime** keeps them the same as playback.

The page shows the current sample rate and the delay the oversampling adds. Your host compensates for it automatically.

> If the offline settings differ from the realtime ones, the delay changes between playback and bounce. Some hosts, particularly with AU plugins, do not handle that change well. If a bounce comes out shifted, set both offline options to Use Realtime.

Help and About

Help links to this manual and to bug reporting. About shows the version and credits.

12. Working with the controls

- **Drag** up and down on a knob to turn it. Hold the fine key (Shift by default) for smaller steps.
- **Scroll** over a knob to nudge it.
- **Hover** over a knob, key or meter to see its value.
- **Reset** a control with Cmd-click (Mac) or Ctrl-click (Windows). Do it again to go back to where you were.
- **Type a value** by double-clicking a knob.
- **Collars:** the MID/SIDE and OFFSET indices around each gain knob are dragged in the same way as a knob.

All of these can be changed under Global Settings > Key Modifiers.



Figure 7. Hovering over a knob shows its value.



Figure 8. Double-click a knob to type in an exact value.

13. Specifications

Channels	Stereo
Formats	AAX, AU, VST3
Platforms	macOS, Windows
Oversampling	1x to 16x, or Auto (default)
Latency	0 with the Minimum Phase oversampling filter; the Linear Phase filters add latency, which is reported to the host and compensated automatically
TMT	20 channels, Analog or Digital stereo mode

Control reference

Control	Range	Default
INPUT	–24 to +12 dB	0 dB
XFORMER	0 to 100%	0%
LOW FREQ	20 to 200 Hz	58 Hz
CONTOUR FREQ	300 Hz to 2 kHz	1.2 kHz
MID FREQ	200 Hz to 5 kHz	640 Hz
HIGH FREQ	800 Hz to 22 kHz	15 kHz
Band gain	0 to 12 dB boost; up to 15 dB cut (LOW, MID, HIGH)	0 dB
BANDWIDTH	0.3 to 1.0 (MID 0.3 to 2.0)	0.71 / 0.61 / 0.5 / 0.71
MID / SIDE	–100% (mid) to +100% (side)	0%
OFFSET	–2 to +2 octaves	0
HPF	Off, then about 20 to 250 Hz	Off, Smooth
LPF	Off, then about 20 kHz to 700 Hz	Off, Smooth
DRIVE	0 to 100%	25%
TILT	–100% to +100%	+50%
OUTPUT	–24 to +12 dB	0 dB
MONO	Off, 20 to 250 Hz	Off
WIDTH	–100% to +100%	0%
TMT AMOUNT	0 to 100%	100%