

EQ Pro Studio



The complete guide, including the Spectral and Flat bands, upward dynamics and the adjustable slopes.

macOS (VST3, AU) · Windows (VST3) · v1.3.0

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Overview

EQ Pro Studio is a transparent, surgical equalizer with up to 24 freely typed bands over an interactive curve, a real-time spectrum analyzer, dynamics on every band in both directions, Spectral and Flat band types, adjustable slopes on bells and shelves, Mid/Side and Left/Right processing, and selectable phase behaviour. No analog colouring: it does exactly what the curve shows.



The full plug-in: stereo meters and I/O knobs in the margins, the preset browser and A/B in the header, the curve and analyzer in the centre with each band drawing its own coloured response, and the hardware-style control row along the bottom.

The drawn curve and the processed audio share the exact same filter maths, so what you see is what you hear. Every band is an individually host-automatable parameter, so a full automation lane is available for each.

Jeesonic EQ Pro is a separate, free plug-in with the same curve, the same analyzer and the same phase modes. It installs beside Studio under its own name, and a project keeps whichever one it was built with.

Installation

macOS

Run the macOS installer (a notarized `.pkg`). It adds two formats:

- **VST3** to `/Library/Audio/Plug-Ins/VST3`
- **Audio Unit (AU)** to `/Library/Audio/Plug-Ins/Components`

Windows

On Windows, EQ Pro Studio ships as a **VST3** inside a zip (Audio Unit is macOS-only). After downloading, unzip it and copy the folder `Jeesonic EQ Pro Studio.vst3` into your system VST3 folder:

- `C:\Program Files\Common Files\VST3\`

The zip brings two ways to get there, so you do not have to hunt for that path:

- Double-click **Open VST3 folder.cmd**. It opens the folder in Explorer and does nothing else. It copies no files and changes no settings.
- Or press **Windows+R**, paste `%CommonProgramFiles%\VST3` and press Enter. Same folder, no file to run.

Then drag the `.vst3` folder into the window that opens. Writing there needs administrator rights, so Windows asks you to confirm. The plug-in is not code-signed, but Windows does not block VST3 plug-ins, so no security prompt appears; your host simply loads it. `README.txt` in the zip repeats these steps.

After installing on either platform, rescan plug-ins or restart your host so it picks up the new version. If an instance is already loaded, remove and re-insert it (or reopen the project).

Please download EQ Pro Studio from jeesonic.de rather than from a copy elsewhere, so you always get the current build. See the [terms of use](#).

Your license

Your key arrives by email as a file, right after the purchase. It carries your name and your email address, and it is checked on your own machine: nothing goes over the internet, ever.

There are two ways to install it:

- **Drop the file** on the bar along the bottom of the plug-in window.
- **Paste the key** with *Enter license* in the settings menu.

The bar then goes away, and *Licensed to* with your name appears in the control strip, under the MODE / SAMPLING / AUTO switches, and in the gear. The name stays in view: it is what makes the key yours. A new key file can be dropped on the name at any time. The key is stored once per user and counts for every host and both formats:

- macOS: `~/Library/Application Support/jeesonic/Jeesonic EQ Pro Studio/license.eqkey`
- Windows: the same path under your Roaming folder

Lost the key? Have it sent again at jeesonic.de/eqstudio/resend, or pick *Lost your key...* in the gear. Enter the email address you bought with, and the key goes to that address.

Without a key the plug-in still runs in full. It only interrupts the audio briefly after the first ten minutes of each session, so you can hear what it does before you decide. *Remove license* in the gear takes the key off again, which is what you want before you move to another machine.

The interface



Every control at a glance. The numbers match the list below.

The window has four areas: the **header** along the top, the **meter margins** left and right, the **curve and analyzer** in the centre, and the **control strip** along the bottom, laid out like a piece of hardware on one axis from Input to Output.

- 1. Preset browser.** Factory starting points and your own presets; the arrows step through them. The **undo** and **redo** arrows sit at the top right, beside the tooltips and settings buttons.
- 2. A/B compare.** Holds two versions of your settings so you can flip between them; the arrow copies one side to the other.
- 3. Tooltips.** The speech bubble turns the hover help on and off. It lights up while they are on.
- 4. Settings.** Manual and website, window scale, Make Default, version, and your license.
- 5. Input meters.** Stereo peak meters with a peak-hold value in dBFS.
- 6. Output meters.** The same, after the EQ.

- 7. Curve and analyzer.** The grid, the live spectrum, the summed response and one thin coloured line per band.
- 8. Analyzer settings and view buttons.** Along the top of the curve: **Show**, **Slope** and **Decay** for the analyzer in the middle, each with its own list, and at the right **spectrum landmarks** on or off and the **piano keyboard** on or off.
- 9. Band handle.** Drag to set frequency and gain, scroll to set Q or slope, right-click for type, channel and delete.
- 10. Inline band panel.** The selected band's values and switches, with the dynamics controls when DYN is on.
- 11. Piano keyboard.** Reads any spot on the curve as a musical note.
- 12. Input.** Level going into the EQ.
- 13. Bypass.** A true bypass : input, EQ and output all drop out, and the signal passes as it comes in.
- 14. Gain Scale.** Scales every band's gain at once.
- 15. Selected band.** Freq / Gain / Q / Slope, the ON and SOLO switches, and the arrows that step from band to band.
- 16. Mode, Sampling and Auto Gain.** The switch row: phase mode (Digital, Standard, Natural or Linear), oversampling (Off / 2x / 4x) and Auto Gain, which compensates the EQ's own gain change.
- 17. Output.** Level leaving the EQ.

The window is **freely resizable**: drag the corner and the whole UI scales smoothly at any size between 75 % and 200 %. The size is remembered with the project. The settings menu still offers the fixed scale steps as quick presets. (In the Audio Unit the window uses the fixed steps only, because the main AU host has trouble with continuous resizing.)

Hover help

Rest the pointer on any knob, button or value and a short explanation appears, including the controls in the inline band panel. Turn it on or off with the **speech bubble** at the top right; it lights up while they are on, and the choice is remembered with the project.

Presets

The preset browser sits in the centre of the header.

- **Factory templates** give you a starting point rather than a finished mixing decision: High Pass, Low Pass, Tilt, Dynamic EQ, plus a flat Default.
- A **Spectral** starting template is included as well.
- **Your own presets:** *Save as* stores the current setup, *Delete* removes one, *Reveal preset folder* opens it on disk.
- The **arrows** step through the whole list. The display shows the current preset name, with a * once you edit away from it.

Make Default

Make Default in the settings menu saves the current setup (all bands plus the analyzer and UI options) as the state every new instance opens with. Once you have set one, the entry reads **Update Default**, and a **Factory Default** entry appears to return new instances to the built-in default. A project you reopen always restores its own saved state; only fresh instances start from your default.

Undo and Redo

The two curved arrows at the top right, beside the tooltips and settings buttons, take back the last edit, and put it back again. They are lit while there is something to do and dim when there is not.

A step is one **action**, not one value: adding or deleting a band, a handle you dragged and let go, a type or channel you picked, a value you typed, a knob you turned, a switch you flipped, a preset you loaded, an A/B switch. Dragging a handle across the screen is a single step, not one per pixel.

The plug-in keeps the last 50 steps. They belong to the instance and are not saved with the project: a session you reopen starts with nothing to undo, because the history would otherwise lead into a state you never saw.

Undo covers what you did to the sound. It leaves your view alone: the analyzer settings, the window size, the tooltips, the span and the keyboard stay as you set them.

Your host has its own undo, but it only knows single parameters. A band is about twenty of them, so the host cannot bring a deleted band back. That is what these two buttons are for.

A/B

The **A** and **B** buttons in the header hold two versions of your settings so you can flip between them and hear the difference instantly. Click A or B to switch. The arrow between the letters copies the current version to the other (it points at the destination and flashes it), so you can branch an alternative from where you are. Both versions are remembered with the project.

Working with bands and the curve

The canvas maps frequency across its width (log scale, 10 Hz to 20 kHz) and gain over its height (up to +/-24 dB shown). Each band is a coloured dot sitting on its own response curve.

Every band also draws its **individual response** as a thin coloured line behind the summed curve, so you can always see which feature in the result belongs to which band without selecting it first. The active band draws brighter. A band's handle always sits on its own per-band curve, so marker and curve line up. (For a dynamic band the handle stays at the static gain and the ring around it sets the far end of its travel; the summed curve shows the live movement.)

Creating, selecting and removing bands

- **Add a band:** double-click an empty spot on the curve. A band dropped near the far left or right edge defaults to a low cut or high cut. New gain bands start at 0 dB, so the handle lands on the existing curve; the cursor then follows the new marker so you can drag it straight away.
- **Select a band:** click its handle. The bottom Freq / Gain / Q knobs and the inline panel follow the selection. The arrow steppers next to the knobs walk through the bands in frequency order.
- **Delete a band:** double-click its handle, or use the button in the inline panel, or right-click the handle and choose Delete.

Shaping with the mouse

- **Drag a handle** to set frequency (horizontal) and gain (vertical) at once. Dragging is relative to where you grab: a band that overlaps others moves smoothly from the grab point, with no jump.
- **Scroll** over a handle to set **Q** (bells, shelves, notch) or the **slope** (cut bands, 6 to 96 dB/oct).
- Hold a **modifier** while you drag: **Shift** for fine steps, **Cmd** (Ctrl on Windows) to lock the drag to one axis, **Alt** to set **Q** with the vertical move instead of the gain. The axis lock follows the direction you actually took, so you do not have to decide before you start.

- **Right-click** a handle for a menu of type, slope, channel and delete. Right-click empty space for an add menu.

Span

Span at the top left of the curve sets how many decibels the curve shows: ± 60 , ± 30 , ± 24 , ± 18 , ± 12 , ± 9 , ± 6 or ± 3 dB. Click it and the list drops open underneath, like Show, Slope and Decay beside it. Close in when a band needs a fraction of a dB: at ± 3 dB the whole height of the display is six decibels, so a handle moves in tenths. The span never hides a band: it widens on its own when a band sits outside it, and a step that would not hold every band is greyed out in the list. On its own it widens to ± 60 dB only when Gain Scale is above 100 %. The setting is saved with the plug-in instance. The analyzer keeps its own scale.

Filter types

Right-click a handle (or use the shape button in the inline panel) to pick the band type:

TYPE	USE	CONTROLS
Bell	Boost or cut around a centre frequency.	Freq, Gain, Q, Slope
Low Shelf	Lift or drop everything below a corner.	Freq, Gain, Q, Slope
High Shelf	Lift or drop everything above a corner.	Freq, Gain, Q, Slope
Low Cut	High-pass: remove lows below the corner.	Freq, Slope
High Cut	Low-pass: remove highs above the corner.	Freq, Slope
Notch	Deep, narrow removal at one frequency.	Freq, Q
Tilt	Tilt the whole spectrum darker or brighter around a pivot.	Freq (pivot), Tilt amount
Spectral	Dynamically tame (or lift) resonances inside a range.	Freq, Q, Amount, AUTO
Flat	A full-spectrum gain trim, or a wideband compressor.	Gain, dynamics

Bells and both shelves are **symmetric (constant-Q)**: a cut is the exact mirror of the boost of the same Q. Cut types are only offered when no other band sits further out on that side, so a cut never swallows bands beyond it.

The band frequency runs from 10 Hz (for subsonic high-pass work) up to 20 kHz, the right edge of the display, so the Freq knob and the marker stop at the same place. A band loaded from an older session above 20 kHz is clamped to 20 kHz.

A cut band parked at the edge is off: a Low Cut at 10 Hz or a High Cut at 20 kHz does nothing to the sound or the curve, and its marker dims. This is for hardware controllers such as the SSL UC1, which have no on/off button for the cuts and only a frequency knob. Move the band a little away from the edge and it works again.

The modifier keys

The same three keys mean the same thing everywhere in the window, on the curve and on every knob, slider and value:

KEY	WHILE DRAGGING
Shift	Fine steps
Cmd / Ctrl	Lock to one axis (curve handles only)
Alt	Vertical sets Q instead of gain (curve handles only)

Double-click a knob to return it to its default. Double-clicking its number still opens it for typing, and double-clicking a band handle still deletes the band.

Hardware controllers

For controllers that map the plug-in's parameters (the SSL UC1 through SSL 360, for example), every band has an extra on/off parameter named **Band N Shelf** in the host's parameter list. It is not shown in the plug-in window. Switched on, it turns a Bell into a shelf (Low Shelf below 1 kHz, High Shelf above); switched off, it turns the shelf back into a Bell. It follows the type you pick in the plug-in, so a BELL/SHELF button on the controller always shows the band's real state. Other band types ignore it.

Slope: adjustable bells and shelves

A fourth knob in the band strip sets a **Slope** for bells and shelves too, not just cuts.



- On a **bell** it turns the plain bell into a higher-order shape with a flatter top and steeper skirts, continuously from a plain bell (12 dB/oct) up to 48 dB/oct. It keeps the band's width (set by Q) and only steepens the flanks, a shape you cannot get from Q alone, and it honours your set frequency and gain exactly, for boosts and cuts.
- On a **shelf** it steps through the same ladder as the cut slopes, from 12 up to 96 dB/oct. Turning it up makes the transition steeper and narrower while keeping the resonance you dial in with Q, so the shelf's character stays and only its frequency range tightens.

Steeper settings add a little group delay near the band, as any steep filter does; **Linear Phase** mode removes it. On a **cut** band the fourth knob sets the roll-off (dB/oct) as before.

Spectral bands

A **Spectral** band tames resonances *dynamically* inside its range, pulling down only what sticks out of the surrounding spectrum rather than cutting statically. It is the tool for a lively region that would go dull under a fixed cut.



A Spectral band around 2.7 kHz: the square handle marks its frequency and static gain, the shaded area below is the ground its Amount may cover, and the line inside it shows the reduction it applies at this moment, only where something stands out.

- **Freq** and **Q** set the region. At low Q the range widens far enough to cover the whole spectrum.
- The **handle** sets frequency and **Gain**, the same way it does on a bell. A Spectral band carries a plain static bell under its dynamic action, so one band can shape a region and react to it at once.
- The **Amount** knob in the band strip sets how strongly the dynamic part works, from -100 % to +100 %. Its centre is off: to the left the band tames (**TAME**), to the right it lifts (**LIFT**, see below).
- A square **frame** sits around the handle and carries the Amount: drag it up for LIFT and down for TAME, the way the ring around a dynamic band's handle carries its Range. Double-click the frame to put the Amount back to zero. The wheel sets the band's Q there as well.
- A **shaded area** opens below the band's curve as the Amount grows, the same way it does on a dynamic band. It is the ground the band may cover, not a prediction of any single moment: how deep the band really goes depends on what sticks out of the spectrum. At full Amount it reaches the engine's own ceiling, 24 dB either way. It is as wide as the band's region and stays

that wide at any Amount, so it never suggests the band reaches further to the sides than it does. A small grip (two short lines) appears at its lower edge as you come near it, so the Amount can be set right where you see it.

- Switching **AUTO** off adds **Ratio**, **Density**, **Attack** and **Release**, the same way it does on a dynamic band.
- The band draws its live reduction on its own curve , so the shaded area hangs off the bell instead of off the zero line. It works per channel (Stereo, Mid, Side, Left, Right).

Lift

Turn the **Amount** knob to the right of its centre to turn the band around (the readout reads **LIFT** with a plus sign): instead of taming peaks it raises masked, quiet detail toward the surrounding spectrum, bringing back what louder neighbours bury. It reaches as far up as the tame reaches down , so how much is too much is yours to find, not ours to decide. The lift keeps out of pauses and the noise floor, so silence stays silent.

External sidechain

An **EXT** toggle switches the band to the external sidechain: instead of its own signal it then detects on the sidechain spectrum and makes room where the sidechain is present (as a spectral ducker does), within the band's range. It falls back to its own signal when no sidechain is connected.

Like Linear Phase, a Spectral band adds a little latency while it is active (one FFT window, 85 ms at 48 kHz). In Linear Phase mode the two share that one window, so a Spectral band costs no extra delay there.

Flat bands

A **Flat** band is a clean, full-spectrum gain trim. It draws a horizontal line at its gain level.

Switch its dynamics on and it becomes a **wideband compressor**, moving the whole spectrum together with the same threshold, ratio, knee, attack and release as the per-band dynamics. Like every other dynamic band it rests at the gain you drew and the **Range** sets how far it may move from there. Range starts at zero, so DYN on its own changes nothing: open it on the ring around the handle, or on the arrow at the far end of the shaded travel.

With **UP** on it works the other way round, on the whole spectrum:

- A Flat band with a **positive Range** rests at the far end of its travel and hands that back as the signal rises past the threshold. That is a **wideband upward compressor**: quiet passages come up, loud ones stay where they are.
- A Flat band with a **negative Range** rests cut and opens back up to its drawn gain once the signal passes the threshold. That is an **expander**, and at a high ratio with a fast attack it is a **noise gate**: the noise floor between the notes stays down by the Range, and the signal itself passes untouched.

The Range is the limit in both cases, so the gate never closes further than that. Attack and Release set how fast it opens and shuts.

The gain reduction of a dynamic Flat band is reported to the host the way a compressor plug-in reports it. Hosts with their own gain reduction display (the channel strip in Studio One or Cubase, the meter on an SSL UC1) show it without the plug-in window open. Several dynamic Flat bands add up to one value. Other band types are not included, because they only move part of the spectrum. VST3 only.



Spectrum landmarks

Spectrum landmarks (the button at the top right of the curve) mark where something keeps going on in your spectrum. The plug-in listens to the energy of the incoming signal over a few seconds and marks the narrow peaks that stand out of their surroundings, rather than just the loud regions. A peak that stays in one place is emphasised the longer it holds, while ones that drift around stay faint or drop away, so what is structural separates from passing spectral movement.

The colour tells the two cases apart: a **red** marker is a frequency that holds its place over time, a **green** one wanders. A steady red marker is the typical room mode, ringing note or resonance; green is more often musical movement that only passes through.

A landmark is **a place to look, not a verdict**. Whether the note, room mode or resonance it points at is a problem or the character of the instrument is your call: the marker only tells you something is consistently there. Listen first, then decide what the EQ should do about it, if anything.

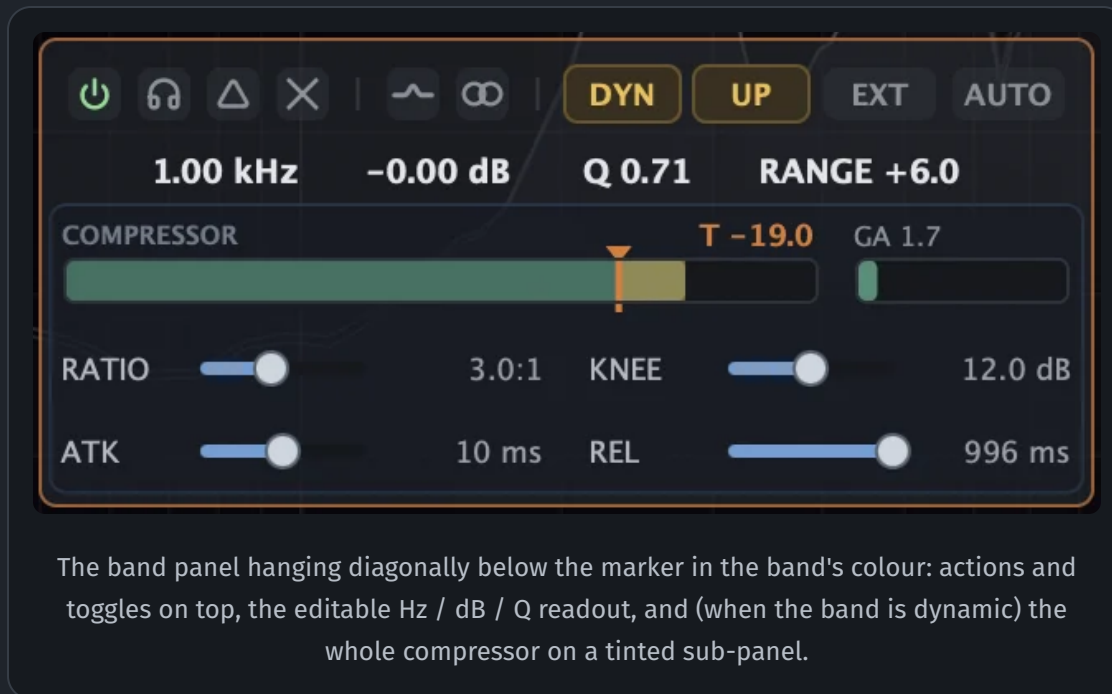
- Small **markers** stand on the frequency axis at the bottom of the curve, each with a faint guide line rising through the spectrum to line a band up on.
- **Hover** a marker to see its exact frequency, its nearest note, and how far it stands out.
- **Press and hold** a marker to hear it on its own for as long as you hold it (a momentary, narrow audition). **Drag up** onto the curve to sweep the audition continuously across any frequency, snapping back to the markers in the bottom strip. Releasing goes straight back to normal.

Nothing is judged, created or changed, it is purely a listen. Click the icon to switch it on or off; the state is remembered with the project. It is otherwise display only.

The inline band panel

Selecting a band shows a panel floating at its handle. Everything for that band lives here, so the bottom strip never reflows.

The panel keeps itself clear of the curve as you work, sliding to the other side of the marker when the band would otherwise be hidden. Its frame and the short leader line to the handle carry the band's own colour, so it is always clear which band the panel is editing.



Top row

- **Power:** switch the band on or off without deleting it.
- **Solo** (headphone): audition just this band as a band-pass, to find the exact spot. It is a listen tool, not a mute, so it does not change the mix. On a dynamic band the dynamics stay active in solo, so you hear exactly what the band is doing. The button lights up and the curve carries a **SOLO** banner while it runs.
- **Delta:** hear only what this band changes (see below).
- **Delete:** remove the band.
- **Shape** button: open the filter-type popup.
- **Channel** button: set the stereo placement (see Mid/Side and Left/Right). It shows the stereo mark for Stereo, and **M**, **S**, **L** or **R** otherwise.
- **DYN / UP / AUTO / EXT:** the dynamics toggles (see Dynamic EQ). **UP** turns the band around, so it rests at the far end of its travel and gives that move back as its range gets loud.

Delta listen

Delta plays exactly the difference a band makes to the audio. Unlike Solo, which plays the band's part of the audio (on a dynamic band with its dynamics applied), Delta plays only what the band takes away or adds. Solo helps to find where a band should sit, Delta shows what it does there.

On a static bell that is mostly a curiosity. On a **dynamic** band and on a **Spectral** band it is the only way to hear the band's work, because the curve shows a single moment while the band keeps

moving. Put Delta on a de-esser and you hear the S it pulls down, and nothing else. Put it on a Spectral band and you hear the resonances it removes, so you can tell a resonance from the instrument.

- The other bands step aside while Delta runs, so what you hear belongs to this band alone.
- While Solo or Delta is on, a coloured line runs along the top of the curve and the word **SOLO** or **DELTA** stands in the middle of the row above it. Click it to go back to the normal signal. Both states change what you hear, so they are never quiet about it.
- **Auto Gain** steps aside too. It would weigh the difference, and the plain difference is the point.
- It works on **every band type**, including Spectral, which has no Solo.
- One band at a time. Selecting another band releases it, and **Solo and Delta do not run together**: switching one on releases the other.
- Switch the band off with its power button while Delta runs and you hear silence, because a band that is off changes nothing.
- With **Oversampling** on, a faint remainder of the source stays in the delta. The oversampler's own filters sit in the processed path and not in the dry one, so the two no longer cancel exactly. Switch oversampling off while you audition if that remainder gets in the way.
- Delta is a listen tool and nothing else. No parameter is touched, nothing is stored with the project, and loading a preset or closing the window ends it. **Bypass** still wins over it.

A delta is usually much quieter than the mix, so turn the monitor up to judge it, and back down before you leave it.

Editable readout

The Hz / dB / Q (or slope / tilt) values are editable both ways: **drag** a value up or down to nudge it (hold Shift for fine steps), or **double-click** it to type a number. Enter **k** for kHz. The four compressor values (Ratio / Knee / Attack / Release) are typed by double-click, on top of dragging their sliders; for Ratio you can type **Inf** for brickwall limiting.

When a band is dynamic, its whole compressor sits on a tinted sub-panel, set apart from the Hz / dB / Q main values that stay the focus above it.

Dynamic EQ

Any bell or shelf can be made dynamic: its gain engages only when the signal inside that exact band crosses a threshold. The detector listens to precisely the band you drew, at its own **frequency** and **Q** and on its own channel (Stereo, Mid, Side, Left or Right), so it reacts only to what that band covers, nothing else.



Gain, Range and Threshold

A dynamic band carries two gains. **Gain** is the static one: the filter shape you draw, exactly as on any other band. **Range** is the distance the dynamics may move that shape, and it appears in the band panel as soon as DYN is on.

A minus sign moves the band down, a plus sign up; a small Range is a gentle move, a large one is firmer. It starts at zero, so switching DYN on never changes the sound by itself: you pull the Range

open afterwards, the way you would on any dynamic EQ.

The **Threshold** is separate and **absolute** (in dBFS): the band starts to act as the in-band level rises above it and reaches the full Range as the level climbs further. The three are decoupled, so you shape the region with Gain, set how far the band may pull with Range, and set where it starts pulling with Threshold.

On the curve the band's own handle marks the Gain, and the **ring around it** carries the Range: drag the ring up or down. Two small arrows above and below the ring of the selected band show that it can be dragged. The shaded area that opens is the ground the band can cover. A small grip (two short lines) appears at the far edge of that area as you come near it, so you can also set the Range right where you see it. Double-click the ring or the grip to put the Range back to zero. The wheel sets the band's Q on the ring and on the grip too, not just on the handle, so you can set the width without going back up to it. The filled marker is always where the band rests, so **UP** is something you can read off the curve.

Press and hold a band's handle for a moment to make it dynamic on the spot: the ring around the handle appears and the same drag opens the Range, with no trip to the band panel. Press and hold the handle of a dynamic band to make it static again. If you drag after all, it stays dynamic and the drag sets the Range. Because the band keeps its Range while static, a press and hold switches its dynamics off and back on, for a quick comparison with and without them.

Rest the pointer on a static band's handle for a moment and its ring appears. Drag the ring to make the band dynamic. Drag the Range back to zero and the band is static again.

In AUTO the Range is the only control you need. The Threshold follows the material there: it sits on a slow average of what the band is hearing, so the band always works on what is loud *for this passage* rather than on a fixed number. The same setting therefore does the same thing on a quiet track and a loud one. It holds its place through gaps, so the pauses between vocal phrases do not drag it down and the next entry is met where it should be. Ratio, knee, attack and release follow the material too, and the knee is kept wide so the band eases in rather than switching.

Opening the Range further also digs deeper: the Threshold moves further below that average, so a wide Range really does take more away than a narrow one.

The marker on the meter shows where the Threshold is sitting right now, and the number beside it reads the same. In AUTO both move with the music and cannot be dragged.

Switching **AUTO** off hands you everything: the Threshold becomes a fixed level again, and ratio, knee, attack and release are yours. The Threshold is taken over where it stood, so nothing jumps;

if the band has not heard any audio yet, it starts at the top of the meter (0 dBFS). The ratio starts at 4:1 unless you have already set it by hand. A Range of zero starts at -6 dB (+6 dB with UP), so the band acts right away; the same happens when you switch DYN on while AUTO is off. Switch AUTO back on without touching the Range and it returns to zero.

How the band reacts to the threshold

By default a dynamic band reacts to content **above** the threshold: it rests at the Gain you drew and adds the Range on top as the region gets loud. With a Range that lifts it pushes loud content further up, with a Range that cuts it holds loud content down (the classic de-esser).

The **UP** toggle turns the band around: instead of resting at the Gain, it **rests at the far end of the travel** and gives that move back as the region rises past the threshold. With a Range that lifts, it holds quiet detail up and lets it duck out of the way once the region gets loud (upward compression), bringing back what a mix buries. With a Range that cuts, the region rests cut and opens up when it gets loud (a per-band expander, or a gate at a high ratio). Threshold, ratio, knee, attack and release work as usual.

Either way the filled marker on the curve is the resting position, so you can see which end the band sits at without checking the toggle.



The dynamics meter

Whenever a band is dynamic, the panel shows a per-band dynamics meter, the standard view:

- The **level bar** is the level in the band's frequency range, for setting the threshold. It has its own fixed meter fall and does not follow the band's attack and release. The part that sits above the threshold (what actually drives the move) is drawn in amber.
- The **threshold marker** (a small triangle in the band's colour) sits on the level track. Drag it to set the threshold; the **T** readout shows its dBFS value.
- **GR** shows the live move the band is applying right now: **GR** (coral) for a cut band and **GA** (green) for a boost band, so the meter fills whichever way the band works.

Toggles

- **DYN** turns the dynamics on for the band.
- **UP** switches the band to react below the threshold instead of above it (see above).

- **AUTO** lets the band set itself up: the threshold follows its own frequency range and ratio, knee, attack and release follow the material, so the Range is all you touch. Switching it off puts the four in your hands, below the meter as two rows of sliders: **Ratio** and **Knee**, then **Attack** and **Release**.
- **EXT** drives the detector from the external sidechain bus instead of the band's own signal. An amber dot warns if EXT is on but no sidechain signal is arriving (the band then falls back to internal detection).

Automatic or by hand

With **AUTO** on, the band uses automatic, program-adaptive ballistics and shaping, a good starting point.

An automatic band now **levels gently** rather than limiting: the strength of the grab follows the Range you set, so a small range (say -3 dB) eases its region down softly (about 1.5:1) and a large range grabs firmly (5:1 at -24 dB). This is the **Musical** default. By hand you still get the exact ratio you set, including brickwall.

Dynamics in the settings menu picks how the dynamics behave. It is stored with the project, and a project always loads on the setting it was mixed with:

- **Adaptive** is what a new project starts on. With AUTO on, the threshold follows the level of the band's own frequency range, the knee is wide, and the ratio comes from the Range. The Range grip is then the only control, and the threshold on the meter moves with the music instead of being dragged. With AUTO off, the release is adaptive (see The full compressor below).
- **Fixed threshold:** the ratio comes from the Range, but the threshold and the knee stay yours.
- **Classic** is the original: only the timing is automatic, and the band limits at the threshold.

The two older settings keep the older band panel as well, with the level meter and a threshold you can drag. Switching down hands the threshold back where it stood, so nothing jumps.

Switching AUTO off no longer jumps the Ratio to brickwall: on a musical automatic band it starts at the value the automatic reduction was already using, so the sound stays continuous while you take over. The moment you set the Ratio by hand it is kept from then on; a band you never touch follows the automatic value.

The full compressor (AUTO off)

With **AUTO** off, the band is a complete compressor on its own frequency region. Together with the Threshold (on the meter) and the Range, the controls are:

- **Ratio** sets how much of the level over the threshold is removed, from **1:1** (nothing) up to **Inf** (brickwall). The Range still caps the maximum move.
- **Knee** is the soft-knee width (0 to 24 dB) around the threshold, so the onset can be a gradual ease-in (wider) or a hard switch (0 dB). The default is 6 dB.
- **Attack** and **Release** set how fast the band reacts and recovers.

With **Dynamics** set to **Adaptive** in the settings menu, the band recovers in two stages. A short gap between notes opens the band less, and after a long loud passage the band lets go more slowly. The Release control then shows a step from 1 (fast) to 10 (slow) instead of milliseconds, here and in your host's automation. With **Fixed threshold** or **Classic**, the band recovers at the Release time. The Spectral band always recovers at its Release time.

Solo keeps the dynamics running. When you audition a dynamic band on its headphone solo, you hear exactly what its compressor is doing, on exactly the frequencies it reacts to, so the meter and your ears agree.

Dynamic bands work in every phase mode, including **Linear Phase**: their detectors keep running and the moving gain is applied through the linear-phase engine itself, so threshold, ratio and timing behave as in the other modes while the phase stays linear. Because the linear-phase path looks ahead of its own output, the dynamics react with a natural lookahead there; very fast attacks are a little softer than in the zero-latency modes, which is inherent to any linear-phase dynamic EQ.

Mid/Side and Left/Right

Each band can act on a chosen part of the stereo field. Click the channel button in the panel, or use the **Channel** submenu at the top of a band's right-click menu, and pick:

MODE	ACTS ON	HANDLE BADGE
Stereo	Both channels equally (the default).	none
Mid	The mono (centre) sum only.	amber
Side	The stereo difference only.	violet
Left	The left channel only.	coral
Right	The right channel only.	teal

The right-click Channel submenu and the panel's channel button stay in sync. When non-stereo bands are present, the curve splits into colour-coded component lanes (Mid and Side, or Left and Right) so you can see each placement's own response. A band's handle rides its own lane.

Spectrum analyzer

A time-smoothed FFT analyzer sits behind the curve, on a log-frequency display with an interpolated low end (no staircase). Its three settings stand along the top of the curve, above the preset display. Each one shows its value; clicking one drops its list open underneath. **Show** picks the mode:

- **Off:** no analyzer.
- **Post:** the processed (output) spectrum, filled.
- **Pre + Post:** the input spectrum as a faint line behind the filled output, so you can see what the EQ did.

Decay and display slope

The other two stand beside it, both display only and both remembered with the project:

- **Decay** sets how quickly the spectrum falls back after a peak, from **Fast** (a snappy trace that follows the signal down) to **Very slow** (a steady, heavily damped display where peaks linger), with **Medium** the default.

- **Slope** tilts the spectrum by **3, 4.5** or **6 dB/oct** (pivoting at 1 kHz) so the top octaves are easier to read and a typical mix sits flatter, or leave it **Flat** for the raw spectrum. It affects only the display, not the audio.

While a state banner is running, the three step aside: the middle of that row carries it instead.

Piano keyboard

A **piano keyboard** along the frequency axis lets any spot on the curve read as a musical note. The selected band's key lights up in the band colour, and its note is written in a small field at the right end of the keyboard, where the keys are above 15 kHz and no longer say anything. The keyboard is switched on and off by the note button at the top right of the curve.

Use the analyzer to find problem frequencies, but trust your ears for the final move.

Phase modes and oversampling

The mode sits as a switch in the bottom strip under the MODE legend. Digital, Standard and Natural Phase are all zero or near-zero latency; only Linear Phase adds real delay.

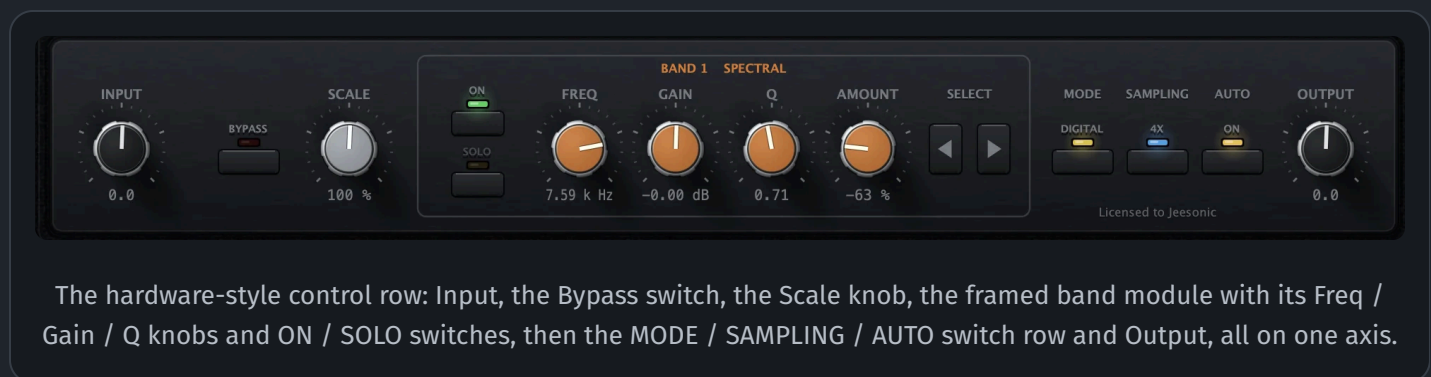
MODE	CHARACTER	LATENCY
Digital	The plain bilinear filter design. Like a classic digital EQ, high bells and shelves narrow (cramp) near the top of the spectrum.	None
Standard	Analog-matched magnitude, so the top octave stays true. Minimum-phase and the default.	None
Natural Phase	Standard's magnitude, with the top-octave phase aligned to the analog reference by a short correction filter. It does not flatten phase: it is still minimum-phase-family with a full phase response, only the very top is matched to the analog curve. Reach for it when that last bit of top-end phase behaviour matters and you cannot spend Linear Phase's delay.	About 1 ms
Linear Phase	Analog-matched magnitude with no phase shift at all, via an FFT. This is the only mode that removes phase shift. Best for mastering and parallel paths.	Adds latency (tens of ms)

Dynamic bands work in all four modes (see Dynamic EQ). **Oversampling** sits next to MODE as the **SAMPLING** switch (Off / 2x / 4x): left-click cycles it, right-click picks directly, and its LED is dark at

Off and lights when engaged (green at 2x, blue at 4x). It runs the filters at a higher internal rate for cleaner behaviour near Nyquist on steep or high-frequency moves, applies to the IIR paths (Digital, Standard and Natural Phase), and uses a low-latency design.

On CPU. Digital and Standard are the lightest and cost the same, so choose between them by ear, not by load. Natural Phase and Linear Phase cost a bit more (a correction filter and an FFT, respectively); the practical difference between them is latency, not CPU. Oversampling roughly doubles the load per step (2x, 4x). The heaviest combination is many dynamic bands in Natural Phase, since each moving band re-fits its correction filter; even then a single instance stays well within real time on a modern machine.

Gain Scale and Auto Gain



The hardware-style control row: Input, the Bypass switch, the Scale knob, the framed band module with its Freq / Gain / Q knobs and ON / SOLO switches, then the MODE / SAMPLING / AUTO switch row and Output, all on one axis.

Gain Scale

The **Scale** dial (0 to 200 %) scales every band's gain at once: 100 % is as drawn, 50 % is half the moves, 0 % is flat, 200 % is double. The whole curve, the handles, the on-curve readouts and the Gain knob follow the Scale, while the stored per-band values stay untouched. Use it to dial the whole EQ in or out, or to A/B a gentler version of your curve. Cut and notch bands have no gain, so they are unaffected.

Auto Gain

The **Auto** switch level-matches the output so bypassing the EQ compares at an even loudness. It is **deterministic**: the trim is computed purely from the filter response (the average level the curve adds or removes), never from a level measurement. That means it has no detector of its own and never acts like a compressor, which is exactly what you want from an EQ. A broadband boost gives a downward trim, a broadband cut gives an upward trim, and a balanced curve leaves the level essentially unchanged.

Its LED turns **amber** while Auto Gain is on and a band it cannot fully level-match is present, so an incomplete level match is never invisible.

Auto Gain follows the dynamics

Auto Gain also folds in what the dynamic bands are doing right now. It reads each dynamic band's live gain (which the band's own dynamics already determine) and keeps the broadband loudness steady as the band moves. The result is a dynamic EQ that **changes the spectrum without changing the level**: the notch or peak still acts, but the track does not get quieter or louder as it does.

This is still not a second compressor: the only thing that moves over time is the band's own dynamic gain, and the compensation is feed-forward (the detector listens before it), so it cannot pump or run away. It holds the perceived (equal-energy-per-octave) loudness, so it tracks real program material closely.

Because Auto Gain neutralises a dynamic band's level change, a band you *want* to reduce level (a classic de-esser) is also level-matched while Auto Gain is on. Turn Auto Gain off if you want that level reduction to come through.

Auto Gain reflects whatever Gain Scale is doing, so the two work together: pull Scale up and Auto Gain keeps the level steady. The manual Output knob still works on top of Auto Gain.

Input, output and metering



Stereo input metering: the left and right bars inside one shared frame with the dB scale, the peak-hold value in dBFS underneath, and the OVER lamp lit at the top after a peak reached 0 dBFS.

- **Input** knob (left margin): gain applied before the EQ. The input meters follow it.
- **Output** knob (right margin): trim applied after the EQ.
- **Stereo meters** flank the curve: a pair on the left for input, a pair on the right for output. The outer bar of each pair carries the dB scale.
- **Bypass** (bottom left): a true bypass . Input, EQ and output all drop out, so the bypassed signal is exactly the signal coming in. It keeps any added latency (Linear Phase, for example), so playback does not pop or shift. The host's own bypass does the same.

For an honest bypass comparison, turn on Auto Gain so the levels match.

Settings

The button at the top right of the header, two small sliders, opens the settings menu:

- **UI Scale:** fixed steps (75 / 85 / 100 / 125 / 150 / 175 / 200 %) as quick presets; the window is also freely resizable by dragging its corner.

- **Dynamics:** how the dynamics behave, in three settings (see Dynamic EQ). A project always opens on the one it was mixed with, so switching it changes that mix.
- **Make Default / Update Default / Factory Default:** the state new instances open with (see Presets).
- **Licensed to / Not licensed:** your license state. Under **Manage license** below it are *Enter license*, *Lost your key* and *Remove license* (see Your license).

Under **Help**, at the bottom, are the manual, the website, **Version** with the format and build stamp, and:

- **Check for updates:** when on (the default), the plug-in looks for a newer version at most once per day, the first time you open its window that day. If one is available, the **settings button tints green**; opening the menu shows a link that opens jeesonic.de. Nothing is ever downloaded or installed automatically. It is a plain request for a small public version file, sends no personal data, and can be turned off here. See the [privacy note](#).

All plug-in state (every band and setting) is saved with your host session.

Mouse and keyboard reference

ACTION	RESULT
Double-click empty curve	Add a band (a cut at the far edges, at 0 dB elsewhere)
Double-click a handle	Delete that band
Click a handle	Select the band
Undo / Redo arrows in the header	Step back or forward through your edits
Click the triangle in the panel	Delta: hear only what that band changes
Drag a handle	Set frequency and gain
Scroll over a handle	Set Q (bell / shelf / notch) or slope (cuts)
Shift while dragging	Fine steps, anywhere
Cmd / Ctrl while dragging a handle	Lock to frequency or to gain
Alt while dragging a handle	Vertical sets Q
Double-click a knob	Back to its default
Right-click a handle	Type / slope / channel / delete menu
Right-click empty curve	Add-band menu
Double-click a value	Type a number (k for kHz)
Press and hold a landmark marker	Audition that spot; drag down to sweep
Arrow steppers	Select the previous / next band by frequency

Tips

- **Find then fix:** solo a bell and sweep to locate a resonance, then back the gain off to cut it. Or turn on spectrum landmarks and let them point you at the steady peaks first.
- **Tame dynamically:** for a frequency that is only a problem on loud notes (a harsh vocal S, a boomy kick), use a dynamic cut instead of a static one so it only acts when needed.

- **Tame a lively region without dulling it:** a Spectral band pulls down only what sticks out of the surrounding spectrum, so the region keeps its life. Drag its handle up to lift buried detail instead.
- **De-ess in stereo or Side:** a dynamic high-shelf or bell on the Side channel can tame sibilance or harsh cymbals without dulling the centre.
- **Bring quiet detail up:** an upward (UP) dynamic band holds soft passages in its range up and steps out of the way as soon as the region gets loud. On a Flat band it becomes a wideband upward compressor, or a gate when you set a negative Range.
- **Check what a band really removes:** put **Delta** on a dynamic or Spectral band and listen. If you hear the instrument instead of the problem, the band is too wide, too deep or sitting on the wrong frequency.
- **Shape, don't squash:** with AUTO off, dial a softer Ratio and a wider Knee for a gentle, musical move instead of hard limiting; the Range still caps how far it can go.
- **Tone without loudness:** keep Auto Gain on with your dynamic bands and the EQ changes the spectrum while holding the loudness steady, so you hear the tone change, not a level change.
- **Match loudness:** turn on Auto Gain before A/B-ing against bypass, so you judge tone and not level.
- **Linear phase for masters:** switch to Linear Phase on a mix bus or master where phase smear matters; use Digital or Standard while tracking to avoid delay.
- **Scale to taste:** build an aggressive curve, then pull Scale back to 60 to 80 % for a more natural version without redrawing every band.

Credits

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