E42 Equalizer

User Guide | Parish Audio

Ten-band static and dynamic EQ with responsive visual control.

Product page: https://parishaudio.com/products/e42-equalizer

E42 combines conventional EQ shaping with per-band dynamic control, so the same interface can handle broad tone shaping, surgical correction, and frequency-dependent movement.

1. Quick Start

1. Insert E42 Equalizer on the track, bus, or master you want to shape.
2. Click + Add Band to create a Bell band at 1 kHz, or right-click the graph to add a specific band type at the frequency you clicked.
3. Select a node and use Frequency, Gain, and Q to shape the band. You can also drag the node directly in the graph.
4. Choose Static when you want a fixed EQ change. Choose Dynamic when you want the band to change only when energy around that frequency becomes strong enough.
5. For a Dynamic band, set Threshold to decide when it reacts, Range to set the maximum additional boost or cut, and Attack/Release to control how quickly it moves.
6. Use multiple bands together for broad tonal shaping plus focused dynamic control. Up to 10 bands can be active at once.

2. Static EQ and Dynamic EQ

Static EQ applies the selected filter shape continuously. If a Bell band is set to -3 dB, that cut remains in place whether the problem frequency is active or not.

Dynamic EQ starts from the normal Gain setting, then adds a level-dependent change when the detector around that band rises above Threshold. This makes it useful when a frequency is only occasionally too strong - or when you want a boost that appears only during stronger moments.

Mode	What it does	Typical use
Static	Applies the band's EQ shape continuously.	Tone shaping, shelves, corrective cuts, pass filters, fixed notches.
Dynamic	Adds a variable gain change when the band detector exceeds Threshold.	Harshness control, resonance control, low-end tightening, level-dependent presence or air.

A useful way to think about Dynamic mode is: Gain sets the starting EQ shape, while Range determines how far that band is allowed to move when triggered. A negative Range creates additional attenuation; a positive Range creates additional boost.

3. Spectrum Display and Band Editing

- The spectrum display provides a live frequency reference behind the EQ response curve.
- Click a numbered node to select its band. The lower inspector updates to show that band's controls.
- Drag a normal band left/right to change Frequency and up/down to change Gain.
- For High-pass and Low-pass bands, vertical dragging changes Q instead of Gain.
- Hold Shift or Alt while vertically dragging a band to adjust Q directly.
- Use the mouse wheel over a band (or over the selected band) to change Q.
- Right-click the graph to add Bell, Low Shelf, High Shelf, High-pass, Low-pass, or Notch bands exactly where you want them.
- Right-click an existing band to delete it or switch between Static and Dynamic mode when supported.
- Delete or Backspace removes the currently selected band.
- The bright base curve shows the normal EQ response. When a Dynamic band is actively moving, the display also shows the effective dynamic response and the area between the two curves.

4. Band Types

Band type	What it does	Good for
Bell	Boosts or cuts around a center frequency. Q sets how narrow or broad the shape is.	Resonances, presence, body, harshness, surgical correction, dynamic control.
Low Shelf	Raises or lowers the spectrum below the selected frequency.	Weight, warmth, low-end cleanup, dynamic low-end control.
High Shelf	Raises or lowers the spectrum above the selected frequency.	Air, brightness, softness, dynamic top-end control.
High-pass	Removes frequencies below the cutoff. Q shapes the transition/resonance.	Rumble removal, low-frequency cleanup.
Low-pass	Removes frequencies above the cutoff. Q shapes the transition/resonance.	Top-end filtering, darkening, cleanup.
Notch	Creates a narrow rejection at the selected frequency.	Fixed hum, whistle, ringing tones, narrow resonances.

Important: *High-pass and Low-pass bands are static by design. For dynamic narrow resonance control, use a Bell band rather than a Notch.*

5. Primary EQ Controls

Frequency (20 Hz - 20 kHz)

Sets the center or cutoff frequency of the selected band. The exact role depends on the chosen band type.

Practical note: *Move the band to the frequency that needs changing, then adjust Gain/Q by ear rather than choosing a frequency from the spectrum alone.*

Gain (-18 to +18 dB)

Sets the fixed gain for Bell and Shelf bands. In Dynamic mode, this is the starting gain before the dynamic Range is added.

Practical note: *A Dynamic band can start at 0 dB for purely conditional processing, or it can combine a static shape with additional dynamic movement.*

Q (0.20 - 12.00)

Controls the width or sharpness of the selected band. Higher values are narrower; lower values are broader. Q also defines the frequency region listened to by the dynamic detector.

Practical note: *Use narrow Q for resonances and broader Q for tonal shaping. Very narrow settings can sound more surgical and obvious.*

6. Dynamic Controls

Threshold (-60 to 0 dB)

Sets the detector level above which a Dynamic band begins moving toward its Range setting.

Practical note: *If a band never reacts, lower Threshold or make sure Frequency and Q are targeting the energy you want to detect.*

Range (-18 to +18 dB)

Sets the maximum dynamic gain change. Negative values create dynamic cuts; positive values create dynamic boosts.

Practical note: *For transparent correction, start with a modest negative Range such as -2 to -4 dB and increase only if needed.*

Attack (1 to 250 ms)

Controls how quickly the dynamic change responds when the detector rises. Faster values catch short events; slower values let more of the initial sound through.

Practical note: *For harsh vocal peaks or resonances, faster attacks are useful. For drums and bass, a slower attack can preserve more punch.*

Release (5 to 900 ms)

Controls how quickly the band returns toward its normal Gain after the detector falls.

Practical note: *If the EQ seems to pump or flutter, use a longer Release. If it stays engaged too long, shorten it.*

7. Practical Workflows

Goal	Starting approach
Control a harsh vocal only when needed	Create a Bell around the harsh region, switch it to Dynamic, keep Gain near 0 dB, set a negative Range, then lower Threshold until the band reacts primarily on the harsh words. Use a fast-to-medium Attack and a moderate Release.

Goal	Starting approach
Tame low-end buildup without thinning the whole track	Use a Dynamic Bell or Low Shelf in the low end with a modest negative Range. The low frequencies remain intact most of the time and are reduced only when they become excessive.
Add presence that follows the performance	Use a Dynamic Bell with a positive Range. Set Threshold so the boost appears only when the selected region becomes active, rather than applying the same boost constantly.
Combine broad tone shaping with surgical control	Use Static shelves or broad Bell bands for the overall tonal balance, then add narrower Dynamic Bell bands for resonances or harshness that appear only at certain moments.
Mastering / bus polish	Work with broad Q values, small Gain changes, and restrained Dynamic Range. Several subtle bands generally sound more natural than one extreme correction.
Remove a fixed ring or whistle	Choose Notch for a constant narrow tone. If the problem is intermittent instead, use a narrow Dynamic Bell so the cut can back away when the resonance is absent.

8. Factory Presets

Preset	Purpose
Blank Canvas	A neutral 1 kHz Bell band for building a curve from scratch.
Weight + Air	Low-end weight and top-end air with dynamic upper-mid control.
Surgical Control	High-pass cleanup plus focused dynamic control in the low mids and upper mids.
Vocal Tuck	Vocal cleanup, upper-mid control, and a gentle high-shelf lift.
Punch Shelf	Low-end cleanup and a dynamic low shelf for controlled punch.
De-Harsh Dynamic	Two dynamic high-frequency control bands with a gentle air shelf.
Master Polish	Subtle low/high shaping with restrained dynamic cleanup through the mids.
Low-End Control	High-pass cleanup with two dynamic low-frequency bands and a small presence lift.
Presence Lift	High-pass cleanup, dynamic lower-presence control, and static presence/air boosts.
Air Tamer	Static upper-mid shaping plus dynamic high-frequency control and an air shelf.

Preset	Purpose
Acoustic Gloss	Broad acoustic-instrument polish with dynamic top-end control.
Kick Tightener	Sub cleanup, low-frequency weight, dynamic low-mid control, and added attack presence.

9. Presets, Undo/Redo, and Resizing

- E42 includes factory presets and supports saving, loading, renaming, and deleting user presets through the Parish Audio menu system.
- Parameter and band edits participate in the plugin's undo/redo system, making it easy to compare changes or recover from an edit.
- The window is resizable and remembers its saved size with the plugin state.
- Band settings, active bands, preset state, and window state are stored with the DAW session.

10. Troubleshooting

Symptom	What to try
A Dynamic band is not moving.	Confirm the band is in Dynamic mode, set Range away from 0 dB, lower Threshold, and make sure Frequency/Q are aimed at energy that actually exceeds the threshold.
The Dynamic band is reacting too often.	Raise Threshold, reduce the magnitude of Range, narrow Q, or lengthen Attack/Release for smoother behavior.
The EQ sounds too aggressive.	Reduce Gain and Range, use broader Q values, and check whether several overlapping bands are stacking more change than intended.
High-pass or Low-pass will not switch to Dynamic.	That is expected. Pass filters are forced to Static mode in the current implementation.
A Notch is not behaving like a dynamic cut.	Use a narrow Bell band in Dynamic mode for an intermittent resonance. Notch is best treated as a fixed rejection filter.
I cannot add another band.	E42 supports a maximum of 10 active bands. Delete an unused band before adding another.
The lower controls disappeared.	Click a numbered band node in the graph. The inspector only shows controls for the currently selected band.

11. Technical Reference

Item	Specification
Processing type	Up to 10 bands of static and dynamic equalization
Band types	Bell, Low Shelf, High Shelf, High-pass, Low-pass, Notch
Frequency range	20 Hz - 20 kHz
Gain range	-18 to +18 dB for gain-based band types

Item	Specification
Q range	0.20 - 12.00
Dynamic Threshold	-60 to 0 dB
Dynamic Range	-18 to +18 dB
Attack	1 - 250 ms
Release	5 - 900 ms
Stereo behavior	Dynamic detection is stereo-linked; the same band movement is applied to both channels
Plugin formats	Windows VST3; macOS VST3 and AU

12. Product Information and Support

For current downloads, product information, and updates:

https://parishaudio.com/products/e42-equalizer

Parish Audio support: https://parishaudio.com/contact