D-DynEQ

Multi-band dynamic EQ that combines the flexibility of a parametric EQ with the ability to automatically respond to the audio signal (internal or external sidechain). Each band can then adapt in real time to changes in level and/or frequency content, offering more precise and creative control than a traditional static EQ.

Overview

The key idea of D-DynEQ is that each of its belts – be it Peak EQ, shelves (Shelf) or cutting filters (High Pass) – can operate statically **and** at the same time have a dedicated compression/expansion module (dynamic sidechain). This makes it possible, for example, to attenuate a frequency band only when the signal exceeds a certain amplitude threshold, or even to control that band using the signal of another track (external sidechain).

The plugin offers:

- **5 main bands**:
    1. **Low Shelf** (LS)
    2. **Peak EQ 1** (P1)
    3. **Peak EQ 2** (P2)
    4. **Peak EQ 3** (P3)
    5. **High Shelf** (HS)

- **Additional High Pass (HP) filter** , to cut unwanted bass.
- **Individual dynamics per raid**: each band can have its own Threshold, Attack, Release, etc., and choose the sidechain source (internal or up to 5 external inputs).
- **Output Trim Control** and Global Bypass option.

With these elements, D-DynEQ can act as a normal equalizer, or as a dynamic processor in each band (de-essing, selective resonance attenuation, enhancement only when the signal is weak, etc.).

Main Parameters

Below are the essential controls and how they work. For simplicity, I'll group the parameters by band (LS, P1, P2, P3, HS) and the HP filter, followed by the dynamics controls.

1. Low Shelf (LS)

- **ON/OFF:** Turns the band on or off.
- **Gain (dB):** Adjusts how much the bass band is boosted (positive) or attenuated (negative). Typical range of -24 dB to +24 dB.
- **Freq (Hz):** Sets the center or "start" frequency for the shelf.
- **Q (f/B):** Determines the slope or resonance of the shelf. Low values (w) generate a smoother curve; High values (N) A steeper curve.

2. Peak EQ 1, 2 & 3 (P1, P2, P3)

Each one works as a peak equalizer:

- **ON/OFF:** Allows each peak band to be individually enabled or deactivated.
- **Gain (dB):** Adjusts the gain of the band (it can be positive for enhancement or negative for attenuation).
- **Freq (Hz):** Selects the center frequency of the peak.
- **Q (f/B):** Controls the "width" of the peak. A high Q means a narrower (more selective) peak, while a low Q means a wider peak.

3. High Shelf (HS)

- **ON/OFF:** Turns the band on or off in the high frequencies.
- **Gain (dB):** Enhances or attenuates the treble (range -24 dB to +24 dB).
- **Freq (Hz):** Fixes the point from which the shelf is applied.
- **Q (f/B):** As in Low Shelf, it defines the slope or "resonance" of the shelf in high frequencies.

4. High Pass Filter (HP)

- **ON/OFF:** Allows you to turn the high-pass filter on or off.
- **Freq (Hz):** Adjusts the cut-off frequency to remove (or attenuate) bass frequencies below this value.
- **Slope (dB/Oct):** Indicates the slope of the cut. A low value (6 dB/Oct) is a smoother crop; Higher values generate a more drastic cut.

5. Dynamic Controls (per band)

Each band (LS, P1, P2, P3, HS) can enable a dynamic section with the following parameters:

- **Threshold (dB):** Level from which the band "reacts" (e.g. to automatically attenuate or enhance).
- **Sensitivity (Sensivity):** It works as a "Ratio" or factor of how much the band reacts to the excess of level over the threshold.
- **Attack (ms**): The time it takes for the band to apply attenuation (or expansion) once the signal exceeds the threshold.
- **Release (ms):** The time it takes to return to normal after the signal is lowered below the threshold.
- **Range (dB):** Determines how many dB are attenuated or maximally enhanced. Negative values imply dynamic attenuation; Positive values, expansion.
- **On/Off**: Enables or disables dynamic response in that band.

6. Sidechain Input (SC Input)

Each band can take the **internal** signal (the same track) or any of the 5 external sidechain inputs (SC1, SC2, SC3, SC4, SC5). This allows, for example, peak 3 to be attenuated only when an external track (vocals, kick drum, etc.) triggers the sidechain signal.

7. SC Listen (S)

It allows "only" the signal used as a sidechain in the band, to monitor what the dynamic section is firing.

8. Output Trim (dB)

It controls the overall output gain of the plugin, useful for compensating for global level rises or falls after the EQ/dynamic process.

9. Bypass

Turn off processing entirely. It's equivalent to skipping the entire plugin.

Usage Tips

1. **Use as a traditional static EQ**
    - If you don't need the dynamic part, leave the Dynamics controls (Threshold, Sensitivity, etc.) on "Off" or with neutral ranges (Range = 0).
    - Adjust each band (Gain, Freq, Q) on a regular basis to correct and/or enhance frequencies.
2. **De-essing or sibilance control**
    - Use a Peak or High Shelf band focused on the 5–10 kHz zone.
    - Set a low **Threshold** to "catch" wheezing.
    - A fast Attack and moderate Release usually work well.
    - Adjust the **Range** to define how much maximum attenuation will be applied to those "S".
3. **External sidechain for ducking**
    - Set up a band to attenuate bass frequencies.
    - Select the SC1 input (for example), which will come from a kick track.
    - When the kick drum plays, the bass will be attenuated on the track where D-DynEQ is inserted (ideal for "cleaning" the mix).
4. **Selective enhancement**
    - Set Range to positive (expanding).
    - Leave a Threshold that is only surpassed in the soft or harmonic passages that you want to highlight.
    - Thus, the band will enhance desired frequencies only when the signal is weakest.
5. **HP Filter for cleaning mixture**
    - Activate and adjust the slope to remove sub-bass frequencies that mask the mix.
    - Keep it at a prudent value so as not to "take away" from instruments that do require those frequencies.
6. **Monitoring with SC Listen**
    - To calibrate thresholds and sensitivity, use Listen (S) mode and listen for the sidechain signal. This helps you fine-tune the exact point where you want the band to react.

Acknowledgment "Powered by Tukan Studios"

This plugin is based on technology and libraries created by Tukan Studios. Special thanks are due to John Matthews, whose exceptional work served as the basis for the plugin series. On that basis, Edu Serra has added and modified features – such as interface design and parameter adaptation – to achieve a graphical interface in the style of ReArtist Pro.

Summary

D-DynEQ (ReArtist Pro) gives you the best of both worlds:

- **Full Parametric EQ** (5 bands + HP filter).
- **Dynamic processing** in each band, with internal or external sidechain, which allows attenuation/enhancement frequencies only when required by the signal.

With this, you can tackle advanced mixing tasks (de-essing, ducking, selective enhancements, etc.) or simply make classic EQ adjustments. Set the Threshold, Sensitivity, Attack, and Release appropriately, choose the sidechain source (internal or external), and adjust the output gain to compensate for volumes.

Experiment with its features and discover how dynamic EQ can transform your mixes with precision and creativity!