



D-ReEQ

Advanced Parametric EQ

Description

D-ReEQ is a **multi-band parametric EQ**, based on Justin Johnson's classic ReEQ but with modifications and graphical enhancements for the **ReArtist Pro** suite. It offers up to 16 bands to shape the audio spectrum with great precision, plus advanced **Mid/Side**, **Left/Right**, **limiter**, **AGC** (automatic gain control) and **oversampling** controls to ensure higher fidelity.

Among its main features are:

- **Channel modes:** Stereo, Mid, Side, Left, Right, ideal for selective spatial EQ.
- **HQ oversampling** to minimize aliasing (with the low-latency "ECO" option).
- **AGC** (Automatic Gain Control) mode that balances the output if the levels go up or down.
- **Limit Output** (built-in limiter) that prevents saturation if the 0 dB level is exceeded.
- **Advanced graphical interface** with spectrum, real-time EQ curve, and display customization options.

Internally, this plugin internally manages up to 16 bands. Each band can be located in Stereo/Left/Right/Mid/Side and selected from various **filter types** (Low Cut, High Cut, Shelf, etc.). It has a "listen" mode to isolate the band and listen to the affected area, and context menus to edit filter shape, slope and more.

Parameters

The plugin features numerous parameters and variables that are displayed (or not) on the interface. For practical purposes, they are divided into **core controls** and **controls on each node**.

General Controls

1. Stereo_Mode

- Values: 0 = *Mid/Side*, 1 = *Left/Right*.
- Determine how the plugin will interpret and process signals internally.
- *Mid/Side* facilitates center-channel (Mid) focused equalization and/or "stereo information" (Side).
- *Left/Right* works with the left and right channels independently.

2. Quality

- Values: 0 = *Eco*, 1 = *HQ*.
- Enable **oversampling** in HQ mode to reduce aliasing, at the cost of higher CPU usage and some latency.

3. Gain

- Range: -136 dB to +30 dB.
- General gain control for the **final output**.

4. M/LGain

- Range: -136 dB to +30 dB.
- Specific gain setting for the *Mid* (in M/S mode) or *Left* (in L/R mode) channel.

5. S/RGain (slider5)

- Range: -136 dB to +30 dB.
- Specific gain setting for the *Side* (in M/S mode) or *Right* (in L/R mode) channel.

6. Scale

- Range: 0% to 200%.
- Global scale of the **gain factor** of the bands. At 100% the configured gain values are applied; at 50% the action of each band is reduced by half, etc.

7. Spectrum_Mode

- Values: 0 to 6 (Full, Mid, Side, Mid/Side, Left, Right, Left/Right).
- Determines how the primary spectrum (and the secondary spectrum, in the case of combined spectra) will be displayed.

8. **Display_Mode**

- Values: 0 = Fill, 1 = Line, 2 = None.
- Drawing mode in the spectrum: fill, line, or undrawn.

9. **Ceiling_Value** and **Floor_Value**

- *Ceiling_Value*: 0 = 0 dB, 1 = 20 dB, 2 = 40 dB
- *Floor_Value*: 0 = -90 dB, 1 = -140 dB, 2 = -200 dB
- They adjust the upper and lower margins (ceiling and floor) on the scale of the spectrum.

10. **Tilt_Value**

- Values: 0 to 4, which correspond to 0, 1.5, 3, 4.5, 6 dB/Oct.
- Defines the spectral tilt slope for visualization.

11. **Type_Value** and **Block_Value**

- *Type_Value*: Select the FFT window (Hamming, Blackman-Harris, Blackman, Rectangular).
- *Block_Value*: FFT block size (2048, 4096, 8192, 16384) for spectrum calculation.

12. **Show_Piano**, **Show_Peaks**, **Show_PreEQ**

- Flags that can enable the display of a piano in the spectrum, signal peaks, or the EQ curve prior to processing.

13. **Db_Range**

- Values: 6 dB, 12 dB, 18 dB, 24 dB or 30 dB.
- Adjust the range of the EQ scale on the graph.

14. **MidPolarity**, **SidePolarity**

- Each can be turned on/off to reverse the polarity of Mid or Side (or Left/Right).
- Useful for phase corrections or special mixing techniques.

15. **Limit Output**

- Enable/disable a simple limiter after processing, clipping the signal to [-1.0, +1.0].

16. **AGC Enabled**

- Enables Automatic Gain Control: compares input and output RMS to compensate for differences.

17. **Panel Enabled**

- Shows or hides the **advanced control panel** (FREQ, GAIN and Q dials, etc.), above the graph.

In the Menu

When you click on the "Settings" button (top right, by default), a pop-up menu appears with these sections:

- **Spectrum:** Selects whether the analysis is based on Full, Mid, Side, Mid+Side, Left, Right, or Left+Right.
- **Display:** *Fill, Line, or None* mode for spectrum curve.
- **Range (Ceiling/Floor):** Adjusts the ceiling (0, 20 or 40 dB) and floor (-90, -140 or -200 dB) of the spectrum plot.
- **Tilt:** Tilts from 0 dB/oct to 6 dB/oct for visual representation.
- **Window Type:** Different FFT windows (Hamming, Blackman-Harris, etc.).
- **FFT Size:** From 2048 to 16384.
- **Pre-EQ Display:** Displays the pre-processing curve (useful for before/after comparison).

In addition, by right-clicking on a node (in the graph), another **context menu is displayed** where you can:

- **Disable:** Enable/Disable/Delete the node.
- **Invert Gain:** To invert your profit (invert dB).
- **Zero Gain:** Set profit to 0.
- **Shape:** Change the filter shape (Peak, Low Cut, Notch, etc.).
- **Slope:** Adjust the slope for cut-off filters only.
- **Stereo Placement:** Change your stereo placement (Stereo, Mid, Side, Left, Right).
- **Split:** (to duplicate in 2 nodes: one Mid, one Side) or **Duplicate** (replicate the same node in another slot).

Usage Tips

1. Start with a single node

- Turn on Node1 only and select the filter type. This will help you familiarize yourself with the interface and the corresponding curve before enabling additional nodes.

2. Use Mid/Side sparingly

- Switching to *M/S* (Mid/Side) can be very powerful for opening up the mixture on the sides or cleaning up the center, but it's easy to throw the phase out of balance. Adjust the polarity if you notice problems.

3. Leverage Global Scale

- If you've already defined multiple nodes and want to dim or boost the overall effect, adjust *Scale* (slider6). At 50% it halves the action of all nodes.

4. AGC and Limit to gain security

- With *LimitOutput* active and the *AGCEnabled* option, the plugin takes care of keeping the signal under control. Still, review the output to prevent throttling from negatively impacting dynamics.

5. "Listen" mode to isolate a band

- Hold down the [ALT] key (or the one set to *listen*) and click/drag on a node to hear only the affected band or frequency zone. This makes it quick to find resonances or adjust specific ranges.

Acknowledgments

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Summary

In conclusion, **D-ReEQ** provides a **comprehensive parametric EQ** with powerful spectrum, **Mid/Side**, or **Left/Right** functions, various filter types, and gain control options (manual or automatic). Its advanced panel and detailed graphical interface allow for a smooth workflow, making it an excellent tool for mixing and mastering in Reaper. With the ability to "split" and "duplicate" nodes, its power covers everything from subtle adjustments to very creative sound modeling. It is, without a doubt, a highly versatile equalizer that will elevate the quality of any music or post-production production.