

Big FrEQ Mini-Manual

What is the Big FrEQ?

The Big FrEQ is a 64 bit Equalizer Plug-in for the professional audio engineer. With twelve sections of processing, it should single handedly be able to take care of all your tonal and spectral shaping of individual sources, as well as buss chores, including use as a powerful Mastering tool.

Every section can be bypassed. The six Parametric sections have a dedicated IN/OUT button, and the rest of the sections can be bypassed by clicking on their Heading Text, which turns RED when bypassed. Many sections are bypassed upon insert, in the Default setting (preset).

The GUI can be enlarged by clicking the Window Icon above and to the right of the Output knob.

Below are brief descriptions of the 12 powerful sections.

Six Unique Parametric Bands

Taking up the main body of the Plug-in, are six expanded parametric equalizer sections. Besides the usual three controls, IE Boost/Cut, Frequency, and Bandwidth (Width), is a new control called SLOPE, which allows widening the peak area of frequencies being treated. It can create a flat top (or flat bottom) where a group of nearby frequencies can be gathered without the usual emphasis on a single frequency.

The many features and creative implementation of these parametric EQ controls are explained in detail below.

GAIN Knob - This is your Boost and Cut knob. It has two ranges, selected by the white R button (Range) to the lower left of the knob. The default range is +- 15dB, but clicking on the white Range button expands the range to +-30dB for more severe EQ needs. We also provide Direct entry by double clicking in the middle of the knob and typing in an exact gain value.

- **RANGE** Button - Toggles between +-15dB Gain range, or a +-30dB range.

FREQ Knob - The user selects the center frequency of the section with this knob. By default, all bands can go from 20Hz to 20Khz. With this large range, the user can use Ctrl/Drag to slow the knob speed on both Mac and Windows computers, but we also provide an original FOCUS mode for fun and easy tuning.

- **FOCUS** Button - We provide a new tweaking function called FOCUS, activated with the White button to the left of the Frequency knob. This unique control centers the current frequency to 12:00 on the knob, and narrows the Frequency knob range to +- 1 octave for wonderful easy tuning. Clicking the FOCUS switch again returns the knob to normal 20 - 20KHz operation. You will quickly get accustomed to using this mode.
- **SOLO** Button - Also for tuning, there is a band SOLO button to the right of the GAIN knob to hear the exact frequencies being treated. One can solo multiple bands at the same time, if desired. The SOLO Level is NOT affected by the GAIN control, as it only monitors the *Band Pass filter* being added or subtracted to the full bandwidth signal.

WIDTH Slider - This horizontal slider controls the Bandwidth, or inversely the Q. For intuitive control, the Slider widens the bandwidth to the right (more). And is narrower to the Left, with a higher Q.

SLOPE Knob - This is a 4th control that allows a flat top response, grabbing more frequencies equally, unlike the usual peaking response, that focuses on a single frequency. With the knob all the way CCW, full turned down, the normal peaking response is available, but as it is turned up clockwise, the sides of the band get a steeper "Slope", and the top flattens out grabbing more frequencies equally. Very useful shape, that often accomplishes more with less actual Boost or Cut.

- **Copy Button** - Section Copy - To the right of the Frequency knob is a "Clickable" Blue Copy Icon. This allows you to copy the settings of one section and paste them to another parametric section. This can help quick setup, but is also convenient in re-ordering the sections. For instance if you want the sections to go from low frequency bands to high frequency bands, using the Copy section allows moving the bands around.

Billboard Readout - At the very bottom of each Parametric section is a big readout of the Frequency and Gain of that band. These allow the engineer and producer to quickly identify each active section, and read the center frequency and gain of each band from a distance. These large digits are also clickable for direct entry, typing in desired values.

The UP-TOP SECTIONS: Many more processing sections sit over the Parametric EQ Section.

Hi Pass - On the upper left of the plug-in is a Highpass filter that cuts low frequencies. By default, this section is bypassed, turned off, indicated by RED Hi Pass text. Clicking on the Red section name text will turn on the section.

The knob controls the cutoff frequency by default, and the two part button selects the slope of the rolloff in a dropdown menu, while the small right tab on the button turns the knob into a Q control. Resonance. This small tab turns RED showing the knob is in Q Adjust mode. Clicking again returns the knob to cutoff frequency control. If the Q was adjusted away from the default value, the switch tab will turn Yellow as indication.

Lo Shelf - This is a smooth bass boost or cut control. It is centered around 120 Hz. By default, it is bypassed, indicated with the Red section heading text. Clicking on the text will turn the Low Shelf on.

Lo Pass and Hi Shelf - On the right side of the Spectrum Display, are complimentary controls for high frequencies. IE A Low pass section, and a High Shelf section which operate in the same manner as the previously described controls.

PHASE - A phase switch is provided to the left of the White Output knob. It inverts the phase of the audio.

THE FINISHER - Below the Output knob is a little thing called the FINISHER. No, this isn't an Arnold or ROCK Johnson movie. It's one of Empirical Labs' famous non-linear sections. This processor saturates the signal in a frequency dependant, broad band method. Because of it's simple organic method, it produces mostly ODD, but also lesser Even harmonics. If a high frequency laden signal is saturated above 8%, non-harmonic aliasing can start to occur. Generally, this is a bad thing, although it's audibility is usually masked completely by the lower frequency content. HOWEVER, we provide an Oversampling switch which can eliminate ALL aliasing, at the expense of more CPU usage.

OVERSAMPLE Button - This button is just to the right of the Finisher section, as the Finisher is the processor that can benefit most from oversampling, in some situations. When mastering with the Big FrEQ, and the FINISHER is being used heavily, oversampling is recommended. We give three choices of 2x, 4x, and 8x oversampling.

Spectral Display - Like most modern Eqs, a display of the cumulative EQ curve (white) is shown up top, along with colored curves showing the individual band contributions to the cumulative frequency shaping. Future revisions will expand the features in the Spectral Display area.

SUPPORTED FORMATS

MAC

AU 64bit
AAX 64bit
VST3 64bit

WINDOWS

AAX 64bit
VST3 64bit

