

IIEQ Pro Manual (v3.5)

Installation:

Simply run the installer that you should have received alongside with this manual. For Windows, specify your VST plugin directory during installation. After the install, IIEQPro should show up as an available plugin in your digital audio workstation/host.

Usage: The IIEQPro is a software equalizer with up to 24 bands and 27 filter types per band to choose from. There are two ways to control the settings of the bands:

- a) By direct interaction with the graphical display.
- b) By using the controls in the lower left corner of the user interface

Here is how the mouse-display-interaction is organized:

- Clicking on the display adds a new band, represented by a green circle, with gain and frequency settings corresponding to the coordinates where the click has occurred. Depending on where you click, the filter type of the new band will be different: clicking in the very low or very high frequency region will add a high pass- or a low pass filter. Clicking somewhere between 50 and 100 Hz will create a low shelf filter. Similarly, a double click between about 5 and 10 kHz will create a high shelf filter. All clicks in between will create an analog-type peaking filter by default.
- You remove a circle (along with its corresponding filter band) by double-clicking on it.
- Clicking with the mouse on one of the circles will highlight it; also the settings of the band associated with that button will be shown by the band controls. You can move the dot around with your mouse, thereby changing the frequency and the gain settings of this circle's band. The overall frequency response is shown with a thick white line; if there is more than one active band, the individual contribution of the band that is active at the moment is shown as a thin white line.

Note that there are filter types where gain control is disabled (low/high/band/

allpass and notch). In this case the circle is restricted to the x axis.

Additional mouse controls:

- You can change the 'Q' (which is inverse to the width) of a filter by using the mouse wheel.
- Right-clicking onto an already existing circle lets you choose the filter type again from a drop-down menu.
- Left-clicking on a circle while simultaneously pressing the Alt/Option key bypasses the band in question. The circle is shown with an 'x' to mark its status. You can reactivate the band again by using the same click-key-combination.
- Autolisten: click on one of the circles while holding the Ctrl-key down. This will solo the frequency region around that circle, as indicated by a transparent white stripe in the graphical display. With this feature you can easily hear possible issues in that region.

So far for the mouse controls. All bands can also be controlled by the 'ordinary' controls in the lower row. Choose a band, set its filter type and dial in the appropriate gain, frequency, Q and order (where appropriate, see below for a discussion of the filter types in IIEQPro) values by moving your mouse vertically over the controls with the left mouse button pressed. In most hosts, you can also directly enter the numerical values after double-clicking.

Filter types: The IIEQ Pro offers 27 filter types for each of its 24 bands. The last 15 types are variations of Butterworth filters. The order of these filters can be changed from 1st to 10th order, which changes the slopes from 6 dB/Octave up to 60 dB/octave. The types are:

- I. AnaPeak*: a state-of-the-art peak filter whose high frequency behavior has been adjusted carefully to prevent treble warping. The peaking curve remains symmetrical up to the Nyquist frequency (analogue behavior).
- II. DigiPeak: a standard digital peak filter as found in most software EQs. This is kept mainly for historical reasons, and to be able to compare with more standard EQs.
- III. Notch*: a notch filter that allows you to cut very deep holes into the

frequency spectrum. The “Gain” control has no impact on this filter and is therefore deactivated for notch bands. The notch filter has also been symmetrized at the Nyquist frequency.

- IV. LPF12*: low pass filter with an attenuation of 12 dB/octave.
- V. LPF24*: low pass filter with an attenuation of 24 dB/octave.
- VI. HPF12: high pass filter with an attenuation of 12 dB/octave. The “Gain” control, well, you get the picture...
- VII. HPF24: high pass filter with an attenuation of 24 dB/octave.
- VIII. BPF*: a band pass filter. By changing ‘Q’ you can not only change the width, but also the gain of the filter at the chosen center frequency (which will indirectly influence the filter width as well).
- IX. BPFII*: a slightly different band pass filter. Now the maximum gain is always at 0 dB, the ‘Q’ control influences only the width.
- X. APF: an allpass filter that does not change the frequency, but only the phase response. Can be useful in certain situations with phase distortions.
- XI. LowShelf: low shelf filter. Enhance or decrease frequencies below a certain point.
- XII. HighShelf: high shelf filter. Enhance or decrease frequencies above a certain point.
- XIII. Butter LP: a Butterworth low pass filter with a filter order ranging from 1 to 10 (6 dB – 60 dB slope per octave).
- XIV. Butter HP: same, but high pass instead of low pass.
- XV. Butter BP: same, but band pass.
- XVI. Butter BStop: same, but band stop.
- XVII. Butter LowSh: Butterworth low shelf, again with variable order/slope.
- XVIII. Butter HighSh: same, but high shelf.
- XIX. Butter BandSh: a Butterworth peaking filter, also with variable order.

All filters shown with an asterisk (*) have been carefully treated to prevent treble warping (standard digital filters approach a gain of 0 at the Nyquist frequency,

independent of the filter settings, which can lead to an unbalanced sound). This way the frequency response of analog filters is followed as closely as possible.

Further controls:

Right next to the band controls you find a button with which the dB resolution can be set. This can be helpful if you want to make very fine adjustments.

Right to the frequency curve display you find five further controls, which are, from top to bottom:

I: the overall out gain. The overall gain can be set to a value between -80 dB and +24 dB.

II: a global bypass button.

III: the Series/Parallel button: by clicking on this button, the wiring of the 10 filters changes from “in series” to “in parallel”. This unique feature of the IIEQPro opens up a lot of interesting possibilities not available in most other EQs. Especially interesting are phase cancellation/enhancement effects in the “Parallel” configuration: while the frequency response of filters wired in series is the sum of the individual frequency responses, this is no longer the case for filters wired in parallel! Try, for instance, a peak filter in one band and an allpass filter in another band and switch to “Parallel”. See how the phase response of the allpass filter influences the frequency response of the peak filter? When you’re stuck in a difficult mixing situation, it can often be beneficial to switch from “Series” to “Parallel” to get a new perspective. Just try it!

IV: the “A/B” button: the IIEQ Pro offers two independent configurations. Simply switch and compare between two alternative settings by switching between “A” and “B”.

V: the “Copy” button: copies the current program (A or B) to the program not in use (B or A). This way you can test the effect of small parameter changes, starting from identical setups.

Spectrum analyzer:

The built-in spectrum analyzer allows you to view the frequency content of your audio material in real time. The analyzer is activated/deactivated by clicking on the “Analyzer” button. The spectrum of the signal at the input of the equalizer is

shown in dark green, the spectrum at the output in light green. This way you can immediately judge the changes you have made.

Zooming/shifting the analyzer curve: when holding the “shift” key pressed on your keyboard while dragging the mouse vertically with the left mouse button pressed will shift the analyzer curve up and down. When you keep the “Ctrl” button pressed while dragging the mouse, you can zoom in and out of the analyzer curve (increase/decrease the dB resolution).


True Stereo Operation:

IIEQPro offers the possibility to equalizer either the left and the right or the mid and the side channel of the stereo signal separately. When clicking on the “2-channel” button to the right of the main display, a second IIEQPro instance will show up. By default the upper user interface acts on the left and the lower interface on the right channel, as indicated by “L” and “R” on the left side of the GUIs. You can now make independent settings on each channel or lock both channels with the “Locked” button that appears in two channel mode. You can also change the mode from “LR” to “MS”, so that the upper GUI will refer to the mid signal (L+R) and the lower to the side signal (L-R).

Multi-track operation:

A CPU-efficient equalizer like IIEQPro is typically loaded on many tracks all over a project. Sometimes it can be difficult to keep a good overview over which instance does what, and too many open user interfaces tend to clutter your monitor space. This is where IIEQPro's multitrack feature will come in handy: you can interact with all instances in a project through only one GUI! The best way to do this is first to give all loaded instances meaningful names, which can be done by double-clicking the “name” column in the multi-track section on the left of the GUI. Initially the names will be “#1, #2, ...” but you will probably use something like “guitar, drums, vox,...”. Next, select one of the instances by clicking to the right of the desired track's name. Make your changes in the user interface and switch back and forth between other instances by clicking right next to their names. You can also look at the spectrum of all loaded instances in parallel: first, activate the spectrum analyzer on the GUI (see the info under “spectrum analyzer” above). Then, click on the left side of the name of a currently not selected instance. The spectrum of the currently selected instance will be shown in green, the comparison spectrums in other colours, which will be shown in the

coloured circle next to each selected track's name. This makes it easy to make changes to all such that frequency clashes are avoided!

Demo restrictions: Noise bursts will be added every now and then. If you haven't done so yet, you should buy the full version at <http://www.ddmf.eu> 

Questions/Feedback: support@ddmf.eu