EQ45™
EQ65™
User Guide

Eventide®

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1.1   About This Product

The Eventide EQ45 equalizer and EQ65 filter set plug-ins are powerful audio engineering plug-ins for Avid AAX, Apple Audio Units, and Steinberg VST formats. Each provides you an elegant and easy to use environment to perform myriad types of frequency-based signal processing. Each plug-in boasts a streamlined, easy to use interface, seamless integration with various plug-in hosts, and Eventide's legacy of quality design and accuracy. The EQ45 is an accomplished four-band parametric equalizer with high- and low-cut filters, width and gain controls for each frequency band, and an overload protection mechanism. The EQ65 is a two-band notch/band pass filter set that allows you to quickly find a selected frequency and perform a boost or cut on the signal. Whatever your audio application may be, the EQ45 and EQ65 will provide you with flexible new options.

1.2   About This Manual

While we're very confident you'll be able to use your new plug-in without reading this manual, we urge you to have a quick look. There are several unique features and interesting options presented in EQ45/EQ65 and a cursory glance will illuminate any features you may overlook. We'll try to keep it all relevant and highlight any tips or cool tricks for you. We also won't cover much at all about the operation of your plug-in host or the Macintosh or Windows environments, as their owner's manuals or online help should provide you with the answers you need. We've made every attempt to integrate the standard controls and features from the major plug-in hosts into our EQ45/EQ65 plug-ins so that you don't have to learn anything new. If you find the need to get more information from us than this manual can provide, please visit our support forum available via our website (`http://www.eventideaudio.com`).

Chapter 2

Registration, Activation, and Installation

Eventide uses PACE's ilok.com licensing system, with or without and iLok hardware dongle, to license our plug-in products. Each license provides two activations which can reside on either your computer or on an iLok license dongle. Once you've purchased your plug-in, you'll need to register it on Eventide's website, activate your license, and install the plug-in on to your computer.

2.1   Registering Your Plug-in

When you purchase an Eventide Native plug-in, you'll receive a Serial Number and License Key. The Serial Number will be two letters followed by 6 numbers. If you have an individual EQ45/EQ65 license, the Serial Number will start with EQ (i.e. EQ-######). If you purchased a group license, the Serial Number will be in the same format, but correspond to that group license (e.g. AX-###### for Anthology X). The License Key will be 3 sets of 4 characters, a letter or a number, each; like XXXX-XXXX-XXXX.

Once you've received these codes, you can register your plug-in on the Eventide website. To do so, please log in to `http://www.eventideaudio.com`, navigate to My Account in the top right corner, and select Register a New Product. Then, fill out the form by selecting Native Plug-in (VST, AU, AAX) in the Product Category field, select EQ45/EQ65 or the applicable group license in the Product list, and enter your Serial Number, License Key, and iLok.com account name. If you don't yet have an ilok.com account, you can create one for free at `http://www.ilok.com`. Once you've done so, press Register.

Once you've entered this information and pressed the Register button, Eventide will send the applicable plug-in license to your ilok.com account, which you will need to activate to your computer or iLok dongle.

2.2   Activating Your License

To activate and manage your plug-in licenses you'll need to install PACE's iLok License Manager software which you can download from `http://www.ilok.com`. If you don't have this software installed, please download and install it now.

Once you have installed and launched iLok License Manager you should be able to log in to your account by clicking the large Sign In button in the upper left hand corner of the application. Once you have, you should be able to see available licenses by choosing the Available tab at the top of the iLok License Manager application. If you have successfully registered your plugin, your EQ45/EQ65 Native license will be available in this list. Please activate this license by dragging it to either your computer or iLok dongle listed on the left. When you do so, you will be asked to confirm the activation, and you will be able to see it by clicking on the location you have chosen. At this point your license is activated.

2.3   Installing Your Plug-In

You should have been given a link to the Eventide Native plug-in installer when you purchased your plug-in, but if you haven't, you can find downloads for all of Eventide's Native Plug-Ins at `http://https://www.eventideaudio.com/products/plugins`. Please download and launch the correct installer for your system.

Once you've launched the plug-in installer, it will take you through several pages of options. We have tried to choose defaults for these options which will best serve the majority of users, but it is worth a minute to make sure you understand these options before clicking through to the next page. Once you have followed through the installer, your plug-ins and presets should be in your chosen locations, and you can hit finish to end the installer application.

At this point, you should be ready to use your EQ45 and EQ65 Plug-Ins.

2.4   Moving or Removing an Activation

If at any point, you decide to move your plug-in activation, you can do so in iLok license manager. To move an activation between an iLok dongle and your computer, simply plug in the iLok, locate the license in its current location, and drag it to its new location. To deactivate a license, find it in its location, right click on it, and choose deactivate.

Remember that each Eventide Native Plug-In License comes with two activations, which can be used on either a computer or iLok dongle, meaning you can use EQ45/EQ65 in two locations at the same time.

Chapter 3

EQ45 Parametric Equalizer

Eventide's EQ45 is a lightweight, stand-alone parametric equalizer that allows you to gracefully shape the contours of an audio signal by boosting or attenuating its frequency components. The high resolution and flexibility of its filters and the wide number of parameters offered by the user interface enable you to perform subtle or drastic changes to audio material without the unpleasant artifacts that can often result from limited dynamic range in hi Q filters (single precision arithmetic).

The EQ45 includes the following components and controls:

- Three overlapping band controls covering 20 Hz – 16 kHz.
  Frequency Ranges:

    - Low Band: 20 Hz – 500 Hz

    - Mid Band: 180 Hz – 3.6 kHz

    - High Band: 800 Hz – 16 kHz

- One multiband control covering the entire audio spectrum (12 Hz – 20 kHz).

- High-cut and low-cut Butterworth filter sections, with attenuations of 12 dB/octave beyond their respective -3 dB points.

- Cutoff Filters Frequency Ranges:

    - Low cut: 5 Hz – 1000 Hz, continuously tunable

    - High cut: 400 Hz – 20 kHz, continuously tunable

- Accompanying Width and Gain controls for each parametric filter section. The Width controls support values from 1/4 octave to 2 octaves; the Gain facility allows attenuation and boost from -15 dB to 15 dB.

- An overload protection mechanism that responds when a signal's transient extends above -0.1 dBfs.

- An EQ In/Out toggle. Click the object to enable it and to use the full suite of parametric filter; disable it to use only the high- and low-cut filters.

All frequency values are displayed prominently in black print with a white background. You can use the parametric controls to change the settings, or enter a value manually.

3.1   Tracking Your Work

Most parameters let you drag the mouse a convenient distance to cover the parameter's full value range. However, you can hold the Command key on the computer keyboard while setting values to get fine resolution control over that parameter's values. Every number box allows you to type values directly in to immediately set the parameter value. Simply click once in the number box and release the mouse button without moving it. The box becomes highlighted and ready for typing. Try to type in values that correspond to the parameter; for instance, 8 kHz would be entered as "8000."

Chapter 4

EQ65 Filter Set

The EQ65 is a two-band notch/band pass filter set that allows you to adeptly de-emphasize or completely eliminate selected frequencies in an audio recording. This is accomplished through its dual notch and band pass peak filters, which can be precisely configured using the fine tuning control. Designated frequencies also may be attenuated in gradations by using the notch filters in conjunction with the depth controls.

Chapter 5

Controls

5.1 Low Pass Filter

5.1.1 Low Frequency Cutoff Control and Indicator

The Low Frequency Cutoff control knob is used to set and display the 3dB cutoff point of the low pass filter. The filter supports 18 dB/octave cutoffs and impacts frequencies from 5 Hz to 1,000 Hz. Low Cutoff Filter Specifications:

- Slope: 18dB/octave(60dB/decade)
- Frequency Range: 3 dB point continuously tunable from 5 Hz to 1000 Hz

5.2 Notch/Peak Filters

Notch filters are designed essentially to remove a selected portion of the bandwidth while allowing other parts of the signal on either side of the notch to pass through. Band pass filters perform the inverse function; they attenuate all frequencies except the selected bandwidth, thereby boosting its emphasis.

- Frequency Range: Continuously tunable from 20 Hz to 20 kHz
- Notch/Peak Width Select: Selectable: 5%, 10%, or 50% of center frequency
- NotchDepth: 0dB minimum, to full maximum

5.2.1 In/Out Switch and Indicator

Each notch/peak filter can be switched on or off independently. The corresponding indicator display is lit when the notch/peak filter is active.

5.2.2   Center Frequency Control and Indicator

The Center Frequency control knob is used to select the center frequency of the notch/peak filter. The display indicates the 3 dB points of the filter.

5.2.3   Depth Control

The Depth Control allows you to incrementally remove some or all of a designated audio signal. Depth can be set from a minimum of 0 dB to a maximum of 150 dB.

5.2.4   Notch/Peak Selector

The Notch/Peak selector switch is used to select the filter type and the width of the notch/peak. Each selector supports three selectable widths: 5%, 10%, or 50% of the center frequency at the filter's 3 dB points.

5.2.5   Fine Frequency

The Fine Frequency control accommodates high-sensitivity tuning to help locate the filter's center frequency.

5.3   High Pass Filter

5.3.1   High Frequency Cutoff Control and Indicator

The High Frequency Cutoff control knob is used to set and display the 3dB cutoff point of the high pass filter. The filter supports 18 dB/octave cutoffs and can be set to frequencies from 400 Hz to 20 kHz. High Cutoff Filter Specifications:

- Slope: 18dB/octave(60dB/decade)
- Frequency Range: 3 dB point continuously tunable from 400 Hz to 20 kHz

Chapter 6

Using the Eventide EQ65

The EQ65 is a valuable addition to the sound professional's toolkit. This section lists only a few of its many uses. As you become more familiar with its design and capabilities, you'll be sure to find numerous ways to utilize it that are not listed here.

6.1 Notching Narrow Band Coherent Noise

With its precision frequency selectivity and high Q, the EQ65's notch filter is extremely effective at eliminating undesirable coherent signals such as hums and whistles. To do this, set the center frequency to the fundamental of the unwanted signal using the coarse and fine controls. Use the notch/peak shape selector to select the most effective notch shape. It is often helpful to select the peak mode to help zero in on the target frequency. You can audition the filter's effect using the in/out switch. Signals with significant harmonic content can be attenuated by combining the pair of notch filters. Set one to the frequency of the fundamental and the other to the most prominent harmonic. If additional harmonics are present, you can gang additional instances of the EQ65 and tune the additional notch filters to the higher harmonics.

6.2 Eliminating Broad Band Low Frequency or High Frequency Noise

The EQ65's low pass and high pass filters have sharp roll-offs and extreme stop-band attenuation. This optimized design facilitates eliminating low-frequency rumble and high-frequency hiss.

6.3   Timbre Shaping

The EQ65 can be used to subtly shape the tonality of a note of voice or single instrument with rich harmonic content by tuning the notch/peak filters to the fundamental and/or any combination of the harmonics. By adjusting the relative levels of the harmonics, a wide palette of tonality is possible. As described above, multiple instances of the EQ65 can be ganged to handle any number of harmonics.

6.4   Simulations/Special Effects

The precise frequency control and flexibility of the EQ65 can be used to simulate distorted phone lines, cell phones, etc.

6.5   Saving and Recalling Plug-In settings

When EQ45/EQ65 is installed, a library of settings is placed into the
<user>/Documents/Eventide/EQ45/Presets and
<user>/Documents/Eventide/EQ65/Presets folders. In these folders are a series of .tide files which will show up as options in Eventide's plug-in preset bar. From inside the Eventide EQ45/EQ65, you can load or save these settings. We recommend saving your own settings to this folder to ensure that they are available to any instance of the plug-in you're working with. You can also create sub-folders inside the EQ45/EQ65 Plug-In Folders if you wish.

Chapter 7

Conclusion

We hope you enjoy the Eventide EQ45 and EQ65 plug-ins and put them to good use in all of your mixes. Please be sure to check over Eventide's other Native Plug-In offerings for more unique and interesting effects.