QUADRAVOX™

User Guide

Eventide®

Contents

Welcome

1.1 About This Product

The Eventide Quadravox plug-in is a powerful audio engineering plug-in for Avid AAX, Apple Audio Units, and Steinberg VST formats. Quadravox brings you our time-based diatonic harmonizer technology presented in an easy to use and unique interface. Four voices of pitch-shifting and delay are combined in the Notation Grid™ to let you create simple harmonies or complex rhythmic sequences. Eventide Quadravox features:

- Four Voices of Diatonic, Time-based Pitch Shifting and Delay

- Notation Grid™ provides a unique and musical way to create harmonies

- Unique Snapshots allow you to quickly store, recall, and automate up to 32 presets

- Integrated mixer for placing voices on the sound stage

- Complete automation support for Snapshots

Eventide Quadravox   PART 2

This chapter details the overall operation of the plug-in as well as what each of the parameters do. Please take some time to familiarize yourself with what each parameter does and be sure to read the section on Snapshots. Snapshots are a new and unique part of the product and may take a little getting used to in order to utilize them fully. The Quadravox user interface (below) is a compact yet intuitive environment that uses consistent conventions throughout. It should take you no time at all to effortlessly navigate through each part of the plug-in.
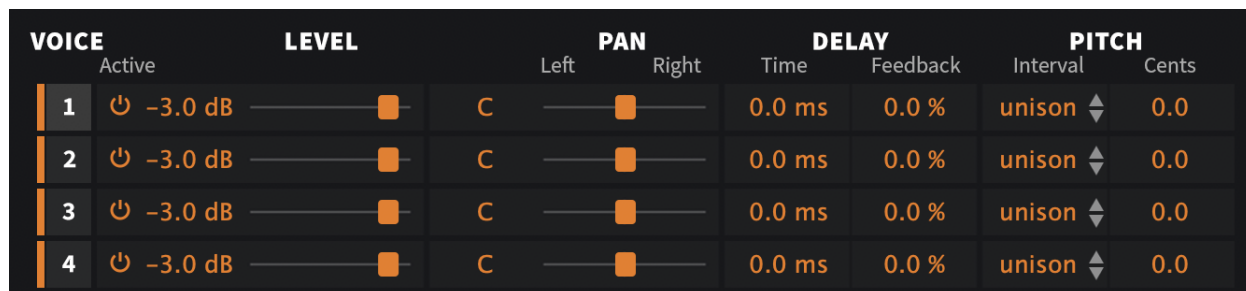
2.1   I/O Formats

Quadravox is available for use on either mono or stereo channels, although it is a mono input effect. When using it to process stereo audio sources, it will mono-sum stereo inputs. The plug-in will always produce a stereo output converting a mono channel into a stereo channel.

2.2 Using the Controls

The control set offered by Quadravox consists mainly of faders and number boxes, although the Notation Grid provides a new way of controlling the pitch and timing of voices. These controls have been designed to work in the most intuitive way, allowing you to quickly and easily adjust parameters or type in values. To adjust a parameter, simply click on its fader and move it in the direction it is headed. In other words, if the fader moves left-to-right, click and drag the mouse left and right. If it's a vertical fader, click and drag up and down. You can also click directly in the number box associated with each parameter and drag the mouse up or down to increase or decrease the parameter's value. Most parameters allow you to drag the mouse a convenient distance to cover the parameter's full value range. However, you can hold the Command key on the Macintosh keyboard while setting values and gain fine resolution control over that parameter values. Every number box also 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 will become highlighted and ready for typing. Try to type in values that correspond to the parameter; IE 1.2 Seconds would be typed as 1200.

2.3 Pitch and Delay Controls

Derived from such flagship effects processors as the Orville™ and Eclipse, Quadravox produces high quality harmony effects available from Eventide. An extensive set of useful parameters is offered to give you the freedom to create the sound you need, quickly. Each of these parameters is detailed below.

VOICE		LEVEL			PAN		DELAY		PITCH	
	Active				Left	Right	Time	Feedback	Interval	Cents
1	⏻ –3.0 dB		■		C	■	0.0 ms	0.0 %	unison ⬍	0.0
2	⏻ –3.0 dB		■		C	■	0.0 ms	0.0 %	unison ⬍	0.0
3	⏻ –3.0 dB		■		C	■	0.0 ms	0.0 %	unison ⬍	0.0
4	⏻ –3.0 dB		■		C	■	0.0 ms	0.0 %	unison ⬍	0.0

Screenshot from Octavox plug-in

VOICE SELECT   More of tool than a parameter, Voice Select allows you to bring voices forward when manipulating them in the Notation Grid. You may find voices that share similar delay times and pitches end up stacking up on top of each other. Grabbing with the mouse may not pick the one you'd like to edit. Use the Voice Select button to bring the desired voice to the top, making it easier to grab it and move it with the mouse.

VOICE LEVEL   Each voice offers level control from 0dBfs down to –100dBfs.

VOICE ENABLE   Each Voice can be quickly turned on or off using this button. When a voice is turned off, its note graphic is removed from the Notation Grid.

VOICE PAN   Each Voice offers a pan control to place it anywhere in the stereo field.

DELAY TIME   This lets you set the amount of time that passes before the voice is heard.

DELAY FEEDBACK   Each voice has its own feedback loop that causes its own output to feed back into the input, post pitch-shifter. It works best with some amount of delay. Be careful with cumulative feedback–when the four voice feedback amounts add to 100% or greater, run away feedback will occur and the audio will mute.

PITCH INTERVAL   This parameter sets the interval of diatonic pitch shift that is applied to the individual voice. Up to 2 octaves are available in diatonic steps and appropriate intervals are created based on the selected key and scale. If you're trying to create harmonies that will always be in key, use these parameters. These pitches can be combined with the Pitch Cents parameter. The two values will be added together to create a final pitch shift amount.

PITCH CENTS   This parameter sets the amount of pitch shifting regardless of key or scale. If you desire a fixed pitch shift amount no matter what the key or scale, use these parameters. Cents is most widely used when creating micropitch or detune effects and can be used to offset the Pitch Interval for detuned diatonic harmonies. If you want to create chromatic intervals that ignore the key or scale, use this field. For reference, here's a cents-to-interval conversion chart:

Cents	Pitch Interval	Cents	Pitch Interval
100	Minor 2nd	700	Perfect 5th
200	Major 2nd	800	Minor 6th
300	Minor 3rd	900	Major 6th
400	Major 3rd	1000	Minor 7th
500	Perfect 4th	1100	Major 7th
600	Tri-tone (Flat 5)	1200	Octave

> **ⓘ** *Add 1200 cents to these numbers for anything beyond the first octave.*

2.4   Pitch Setup Controls

These parameters determine the quality and overall performance of the pitch shifting.
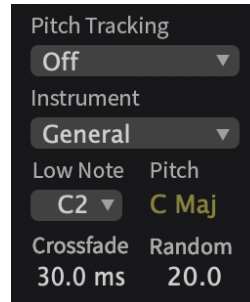
PITCH TRACKING	This is used to turn off the pitch detection entirely when using Quadravox on non-pitched or polyphonic instruments. By turning off Pitch Tracking, the plug-in will act as though the incoming pitch is always the root note of the scale. This allows the plug-ins to be used on drum tracks and many other types of instruments.
INSTRUMENT	This pop-up menu sets the Low Note and Crossfade parameters with preset values making pitch setup more convenient.
LOW NOTE	Low Note determines the lowest note that the pitch detector will be listening for. This can be very helpful in filtering out any false readings that may be caused by extraneous low frequencies.
CROSSFADE	Crossfade sets the window of splicing that occurs during the pitch shift process.
RANDOMIZE	Inspired by the H949's Random Pitch algorithm, the Randomize control will randomly apply a random amount of micropitch to any enabled voices. This is a quick way to create the random detuning that can be useful when creating chorused or choir effects.
GLIDE SPEED	Glide Speed sets the time it takes for each voice to glide to its new pitch. This will effectively set how quickly voices appear to track the changes in source pitch.

2.5   Levels Section

This section offers the necessary wet/dry balance controls as well as the ability to add up to 24 dB of gain through the product.
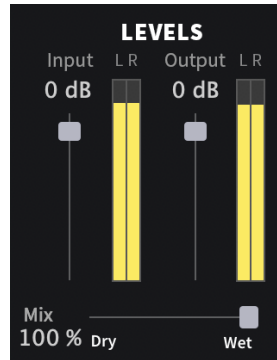
INPUT   This parameter allows you to adjust the signal level in to this plug-in. Up to 12 dB of gain is provided to recover low-level signals.

OUTPUT   This parameter sets the final output level of the plug-in. Up to 12 dB of gain is available.

MIX   This parameter sets the overall balance of wet (effected) signal to dry (original) signal.

2.6   Notation Grid

The Notation Grid takes a very unique and musical approach to creating pitches or rhythmic sequences. As each voice is enabled, it is represented on the grid by an oval note graphic with a corresponding number. By clicking and dragging on the oval, the note can be placed anywhere on the grid. The vertical position reflects the voice's pitch shift amount, relative to the selected key. The note's horizontal position reflects the delay time for that voice.
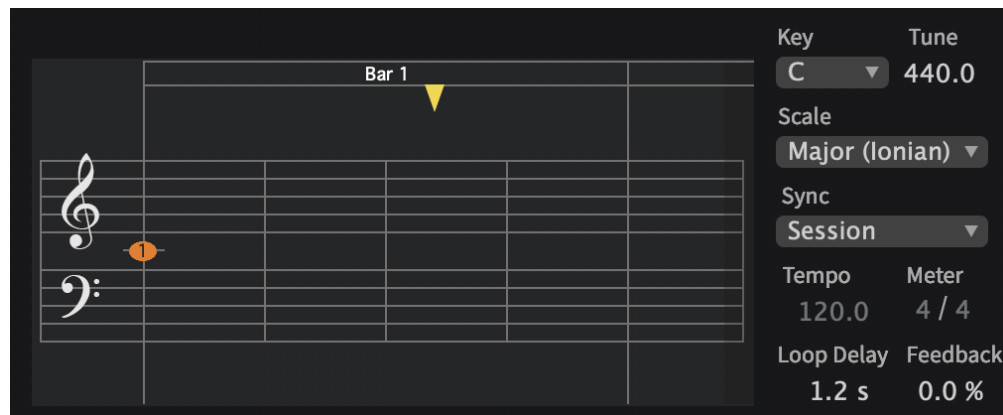
When moving a voice around on the grid, it will automatically snap to quantized pitch and time subdivisions in order to easily create intervals and rhythms. To allow the voices to move freely without being quantized to 16 notes, hold the Command key while dragging the voice. You may find that the Notation Grid is best for creating harmonies or constructing chords and especially when creating a sequence of notes. However, when creating micropitch or fixed-interval effects it may be easier to set up each voice using its individual parameters. Use the way that works best for you. The rest of the parameters that affect how voices are processed are detailed below.

TEMPO BASED   Enabling this button will cause the delay times to be calculated based on the Tempo parameter. As the tempo value changes, the delays will be scaled appropriately to maintain the rhythm. When this parameter is off, changes in the Tempo will be ignored. Note that you can have tempo-based delays and ignore the plug-in host's Tempo (below).

KEY   This parameter sets the Key that will be used as the pitch reference for scales and intervals.

SCALE   This determines the progression of whole steps and half steps that will be used for the chosen intervals.

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MASTER TUNE   This sets the overall tuning reference. The tuning is referenced to A4, with a range of 392Hz to 494Hz.

SESSION TEMPO   When this is enabled, Quadravox's Tempo and Meter parameters will use and follow the Tempo and Meter changes that occur in the plug-in host. Otherwise, when set to off, changes to the plug-in host's Tempo and Meter will be ignored. Note that the Tempo and Meter parameters may still be automated if this parameter is set to off.

TEMPO   This sets the Tempo of the plug-in.

METER   The Meter parameter consists of two values that determine the meter, or time signature, of the Notation Grid. The left number is the numerator which sets the number of beats that are in a measure. The right number is the denominator which sets the beat subdivision that is referenced in the measure. For example, a setting of 4 on the left and 4 on the right sets the Notation Grid to 4/4 meter and each measure will reference four quarter notes. A seven on the left and an eight on the right creates measures made up of 7 eighth notes.

LOOP DELAY   This sets the loop point for the Notation Grid. By turning up the loop feedback, the notes in the grid can be repeated by the length of the Loop Delay. This Loop Delay is preconfigured to be the longest possible, but can be changed via the parameter's entry box. This can also be dragged with the mouse by clicking on the handle (the little down triangle) that exists at the top of the Notation Grid. As you move it, it will snap to beat subdivisions, or Command-Click to obtain fine control.

LOOP FEEDBACK   This sets the number of repeats heard for the Loop Delay. It can be very useful when you want to create echoes that don't pitch shift on each repeat like the individual voice feedbacks will do.

2.7   Snapshots

Eventide Quadravox incorporates our unique Snapshots feature that allows you to quickly and easily load, save and even automate up to 32 of your favorite Quadravox "scenes." They're very much like presets, but you can load them directly from the plug-in panel. This means that you get the live performance functionality offered from our high-end hardware processors directly in your DAW.
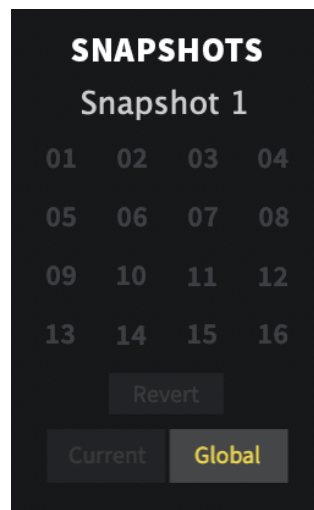
LOADING   To load a Snapshot, simply click on any of the numbered buttons at any time.   The entire Quadravox plug-in panel will change to reflect the settings stored in the chosen Snapshot. You'll also notice that the name of the currently loaded Snapshot is displayed in the text box above the number pad. And, so you know what you're loading before you click, move the mouse over any of the 16 numbered buttons to reveal its name. You can choose from the bank of 16 Current or 16 Global Snapshots by first clicking on the tab at the bottom of the Snapshots area. These are described in the sections below.

RENAMING   Click once on the name in the entry box, and it will be selected for editing. Type up to 16 characters, hit return and the Snapshot has a new name. No need to save it just to rename it.

SAVING   To Save your work and overwrite one of the Snapshots, simply command-click on any of the numbered Snapshot buttons and it's instantly stored. There's no undo, so be very sure before you overwrite a Global Snapshot. Read ahead about the differences between Current and Global to insure your work is repeatable.

REVERT Revert gives you the freedom to return to the effect settings you were working on before you loaded one or more Snapshots. It's very much like compare, except that you can load a gajillion Snapshots, and still get back the same parameter values that you had been editing prior to loading Snapshots. You'll notice that as soon as you click on a Snapshot button, the Revert button glows to indicate that you can press it. Click on some other Snapshots. It's still lit. If you click on Revert, it goes out and you're back to the original edits you'd just been working on. You'll also notice that the selected Snapshot button goes out as soon as you change a parameter's value. This is to indicate that you are no longer listening to a Snapshot.

GLOBAL VS. CURRENT There are two kinds of Snapshots, Global and Current, and they are grouped in banks of 16. During installation, the Global bank is created as a preference file on your hard drive. You can over-write each of these 16 defaults at any time and they will be available for every instance of the Quadravox plug-in, on every DAW session on the hard drive. Use these like your favorite 16 Quadravox effects. You can even copy this file and move it to other systems that have Eventide Quadravox installed so you can take your favorites with you. Remember, there's no undo for Global Snapshots, so be very sure before you overwrite one. Now, the Current bank is a little different. When the plug-in is first inserted on a channel, the Global bank is copied into the Current bank. At this point, they are the same. The only difference is that the Current Snapshots are saved with the current instance of the Quadravox plug-in. If you save changes to one of the Current Snapshots, you won't be able to load that Snapshot into another instance of Quadravox. This Current bank is unique to the current plug-in instance. Why are there Global banks and Current banks? The main reason to have two is because you can automate the loading of Snapshots. This is a very powerful feature, however if you only had Global Snapshots, and they had been modified since you last loaded the session, the Snapshot that gets loaded is likely to sound different. Therefore, we offer you two kinds.

PROPER SNAPSHOT HYGIENE

Snapshots can be very powerful in use, but knowing how they work will help ensure that your Eventide Quadravox Snapshots load and sound right every time. So, if you want to load or automate a Snapshot, load it from the Current bank. If you want to build yourself your favorite 16 and use them everywhere, use the Global Snapshots. If you want to copy a cool Current Snapshot into the Global bank, simply load it from the Current tab first, then command-click on the desired Snapshot button from the Global tab.

RESTORING GLOBAL DEFAULTS

If you need to restore the factory Global Snapshots at any time, simply run the plug-in installer again, as it will place the default Global Snapshots back into the Snapshots folder.

AUTOMATING SNAPSHOTS

As mentioned earlier, you can use your DAW's automation lane to select and load any of the 32 Snapshots. Be sure to read the sections above on using Snapshots for predictable loading every time.

2.8   Preset Bar

Located at the top of the Quadravox Plug-In, the Preset Bar lets you load and save presets, along with several other features.

When Quadravox is installed, the factory preset library is placed in the following platform-specific location:

Mac	`<user>/Music/Eventide/Quadravox/Presets`
Windows	`<user>/Documents/Eventide/Quadravox/Presets`

Presets for Quadravox have a **.tide** extension and can be saved or loaded from the Quadravox preset bar in any supported DAW. You can also create sub-folders within the preset folder for organizing your presets if you wish.

> ⚠ *Many DAWs offer an additional generic preset bar that saves DAW-specific presets to a separate location. We strongly recommend only saving your presets using the Quadravox preset bar to ensure that your presets will be accessible from any DAW.*

LOAD/SAVE   Use these buttons to load and save your presets in **.tide** format.

COMPARE   Click to toggle between two different settings for the plug-in. This is useful for making A/B comparisons.

INFO   Click this button to open this manual.

SETTINGS   Click the gear icon to open a drop-down menu with scaling settings for changing the overall size of the plugin.

LIVE MODE   Located in the top right corner of the plug-in, Live Mode tog-
                         gles the latency of the plug-in. When turned off, Quadravox
                         uses 40ms of latency and the benefit of delay compensation in
                         your DAW to improve pitch detection, while still sounding in
                         time during playback. If you would like to use Quadravox for
                         a real time application, just turn on Live Mode and the latency
                         will return to normal.

KEY LOCK   Located at the top right of the plug-in next to the Live Mode and
                         Mix Lock buttons is a button called "Key Lock", which performs a
                         similar function to Mix Lock. Pressing this will keep the key and
                         scale related parameters the same as you flip between presets,
                         meaning that all preset values will be modified to stay in the key
                         you currently have selected. This allows you to set instrument
                         and pitch detection parameters for your instrument and click
                         through the presets without hearing out of key notes or bad
                         pitch detection.

MIX LOCK   Located at the top right of the plug-in next to the Live Mode and
                         Key Lock buttons is a button called "Mix Lock". Pressing this will
                         enable a global mix value that will be the same on every preset
                         that is loaded. Meaning that, with Mix Lock on, setting a mix
                         value of 50% will load every preset with a mix value at 50%.

Conclusion PART 3

We hope you enjoy the Quadravox plug-in and put it to good use in all of your mixes. Please be sure to check out Eventide's other native plug-in offerings for more unique and interesting effects.

For further questions or support, head over to the user forums.