ULTRACHANNEL™
User Guide

Eventide®

Contents

Chapter 1

Introduction

1.1 About This Product

The Eventide UltraChannel plug-in is a powerful audio engineering plug-in for Avid AAX, Apple Audio Units, and Steinberg VST formats. It provides you with a routable Gate, Parametric EQ, two Compressors, a Micro Pitch Shift section, and Stereo Delays. Its flexible modular design accommodates different signal processing routing, its graphical displays provide you adept precision in frequency adjustment, and its suite of controls give you a near infinite number of ways to generate exactly the tone and frequency characteristics you're seeking. Additionally, through its support for side-chaining, you can use an alternative audio source to color the characteristics of your main signal. Whatever your audio application may be, UltraChannel will be invaluable for its remarkable versatility and industry benchmark performance. 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).

1

Chapter 2

Registration, Activation, and Installation

Eventide uses PACE's ilok.com licensing system, with or without an 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 UltraChannel license, the Serial Number will start with UC (i.e. UC-######). 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 UltraChannel 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 UltraChannel 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 Eventide UltraChannel Plug-In.

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 UltraChannel in two locations at the same time.

Chapter 3

UltraChannel

The UltraChannel user interface 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. UltraChannel is comprised of the following discrete components, which collectively or individually provide you a robust and precise tone-shaping and frequency-manipulation environment.

- Input
- Gate
- Compressor
- O-Pressor
- 5-Band Parametric EQ
- Micro Pitch Shift Module
- Stereo Delays
- Output Stage

Clicking the In/Out button enables or disables that particular module. Because of its modular design, the signal processing sequence can be shuffled. For instance, you can click on upper left corner of the Gate module and drag it to the right of the Compressor, thereby switching the order of those functions. You can move the Gate, Compressor, O-Pressor, and EQ modules to any position in the processing signal chain you wish. The Input, Micro Pitch Shift, Stereo Delays, and Output stages, however, are static, the input coming before, and others coming after the routable sections. The remainder of this manual describes the characteristics of each module, their controls, their capabilities, their technical specifications, and any tips or tricks.

3.1   Input

This stage is where the signal is introduced into the E-Channel plug-in. Its sequence cannot be shuffled, and it cannot be disabled. The active signal is represented dynamically on the bar input meter, from -60 dB to 0 dB.

The Input module is comprised of the following features and controls:

3.1.1   Invert Phase

Click this button to invert (reverse) the phase of the input signal.

3.1.2   Input Meter

The Input section contains a large mono or stereo meter which shows signal level from -60 dBfs to 0 dBfs. This meter is stretched to have more resolution at higher levels.

Figure 3.1: UltraChannel Input Section

3.1.3 Overload Display

When a signal transient peaks above -0.1 dBfs, the area directly above this point on the bar frequency graph displays red to indicate an overload. If an overload is detected, the overload light will stay lit until it is cleared by clicking on it.

3.1.4 Input Gain

The Gain control is specific to the Input module. It can be adjusted from -60 dB to +12 dB. Click on the circular Gain button and drag its vertical marker to the left or right to decrease or increase the gain. Alternatively, you can also designate the gain by entering it into the text box provided. The gain value displays numerically beneath the Gain button.

3.2 Gate

The Gate module allows you to effectively remove signals occurring below the designated threshold. To enable the Gate module, click the In/Out button to display green. Click on the upper left corner and drag the module to move it to another position in the signal chain.

The Gate module is comprised of the following features and controls:

3.2.1 Side Chain

Click this button to invoke the Gate's Side Chain feature. Please consult your DAW's documentation for help on routing audio to the UltraChannel side chain input.

3.2.2 Input Meter

This meter displays the input signal exactly as it is perceived in the Gate's level detector, allowing you to easily set the gate threshold by pulling it up or down alongside the meter. Any time the input meter is below the Threshold fader, the signal will be removed.

3.2.3 Threshold (TH)

Move the slider up or down (or enter a value in the text box) to increase or decrease the threshold level for the signal. Values can be adjusted from -60 dB to 0 dB. The threshold value displays numerically beneath the Threshold slider. (For visual setup, the gate threshold can be set by viewing it against the input meter.) Signals below this threshold will be removed.

Figure 3.2: UltraChannel Gate Section

3.2.4 Gain Reduction (GR) Bar Display

This bar graph displays the gain reduction being applied to the signal, as determined by your threshold setting and input level.

3.2.5 Release Time

The Release control determines how long the gate is triggered. Click on the circular Release knob and drag its vertical marker to the left or right to decrease or increase the release time of the gate. The gain value displays in milliseconds beneath the Release button. Values can be adjusted from 1 ms to 500 ms.

3.3 Compressor

The Compressor permits you to alter the dynamics of your input signal. To enable the Compressor module, click the In/Out button to display green. Click on the upper left corner and drag the module to move it to another position in the signal chain.

The Compressor module is comprised of the following features and controls:

3.3.1 Side Chain

Click this button invoke the Compressor's Side Chain feature. Please consult your DAW's documentation for help on routing audio to the UltraChannel side chain input.

3.3.2 Saturation (SAT)

Click the Saturation button to activate soft saturation at the Compressor's output. This soft saturation sits after the Compressor's gain control and allows will introduce a nonlinearity which will keep the output from going above 0 dBfs. This can also be used to add character to your peaky audio.

3.3.3 De-Ess

The De-Ess control allows you to de-emphasize the hiss associated with prominent "S"es on vocal signals. To active the control, click its button, and set the frequency to the midpoint frequency that the "S"es are being pronounced. This will noticeably reduce this annoying effect. The De-Ess control can be adjusted from 4 kHz to 9 kHz.

Figure 3.3: UltraChannel Compressor Section

3.3.4 Input Meter

This meter displays the input signal exactly as it is perceived by the Compressor's level detector. This allows you to easily set the Compressor threshold by pulling it up or down alongside the meter. Any time the input meter is above the Threshold fader, gain reduction will take place. Because of this, changes in the attack or release time will effect the level of this input meter - this is intentional and to be expected.

3.3.5 Threshold (TH)

Move the slider up or down (or enter a value in the text box) to increase or decrease the threshold level for the signal. Values can be adjusted from -60 dB to +0 dB. The threshold value displays numerically beneath the Threshold slider. (For visual setup, the compressor threshold can be set by viewing it against the input meter.) Signals above this threshold will be reduced.

3.3.6 Gain Reduction (GR) Bar Display

This bar graph displays the gain reduction being applied to the signal, as determined by your threshold setting, input level, and compression ratio.

3.3.7 Ratio

The Ratio control is used to select how much gain reduction occurs for each decibel of signal level above the threshold. The range is from 1:1 (no compression) up to 20:1. To create a hard limiter, set the ratio to 20:1 and the Knee parameter to 0dB.

3.3.8 Attack Time

This control allows you to adjust how quickly the Compressor reacts to signals above the selected threshold. Values range from 100 us to 50 ms. The attack value displays numerically beneath the Attack control.

3.3.9 Release Time

The Release control determines how fast the Compressor responds to decreasing signal levels. Release values range from 1 ms to 500 ms. The release value displays numerically beneath the Release control.

7

3.3.10   Knee

The Knee determines a region above the threshold where the gain reduction transitions from 1:1 to the designated Ratio setting. As the input signal crosses the threshold and moves through this window, its gain reduction increases to the selected ratio value (below). Knee values can be adjusted in 6 dB increments from 0 dB to 24 dB.

3.3.11   Make-Up Gain

The Make-Up Gain control for the compression module allows you to apply make-up gain to the compression output. The Compressor supports gain values from -24 dB to +24 db. The gain value displays numerically beneath the Gain control.

3.4   O-Pressor

The O-Pressor module is a single-knee, compression-only version of Eventide's bestselling Omnipressor hardware product. It is a very aggressive compressor which adds character compression to your signal-processing arsenal. It can be turned on or off with the IN/OUT control and as with the other modules in this section it can be moved earlier or later in the signal chain by clicking and dragging on its upper left hand corner.

Figure 3.4: UltraChannel O-Pressor Section

3.4.1   Side Chain

The O-Pressor also has a side chain activation control which allows you to use the key input in your DAW to route a separate signal to the O-Pressor's side chain. This can be useful for side chain ducking or other popular effects. Please consult your DAW's documentation for help on routing audio to the UltraChannel side chain input.

3.4.2   Gain Reduction Meter

The module has a VU meter-type graphical display that reflects the signals gain reduction. Because this is a compression only version of the Omnipressor the meter will only ever swing to the left. Please investigate the stand alone Eventide Omnipressor plug-in for many more features related to this unique product.

3.4.3   Threshold

The threshold control sets the knee level of the O-Pressor's compression circuit. This control ranges from -50 dB to 0 dB.

3.4.4 Ratio

This sets the O-Pressor's ratio from 1:1 (off) to 100:1 compression.

3.4.5 Attack Time

This control allows you to adjust how quickly the O-Pressor reacts to signals above the selected threshold. Values range from 100 us to 50 ms. The attack value displays numerically beneath the Attack control.

3.4.6 Release Time

The Release control determines how fast the O-Pressor responds to decreasing signal levels. Release values range from 1 ms to 500 ms. The release value displays numerically beneath the Release control. At very fast attack and release times the O-Pressor works more like a distortion circuit than a compressor.

3.4.7 Make-Up Gain

The Make-Up Gain control for the O-Pressor module allows you to apply make-up gain to the O-Pressor's output. The O-Pressor supports gain values from -30 dB to +30 db. The gain value displays numerically beneath the Gain control. The gains in these sections also allow you to overdrive any elements that come after them

3.4.8 Bass Cut

The Bass Cut knobs allows you to set the corner frequency of a high pass filter in the O-Pressor's side chain. The O-Pressor's level detection circuit can be particularly sensitive to low frequencies, so this can be very helpful when applying compression to kick drums or bass heavy instruments.

3.5 Five-Band Parametric Equalizer

The Equalizer module of the UltraChannel plug-in consists of five parametric filter sections that collectively cover the entire audio spectrum. An editable EQ curve graphical display renders each equalization filter curve individually, as well as a composite equalization curve for the cumulative EQ setting. Q settings may be assigned for each filter section, and several boilerplate settings are configured for each EQ section. You may change a frequency setting for any filter section by using either their respective parametric controls or by selecting a point for that filter on the EQ curve graphical display and moving it with your mouse. Additionally, each band can be turned on and off individually by using its respective ON button. Each filter section is easily identified by its associated color. Like the Gate and Compressor modules, the EQ module can be docked in another position in the signal processing sequence by clicking on its upper left corner and dragging it right or left.

3.6 Graphical Display

The EQ curve Graphical Display allows you to edit the Frequency, Gain, and Q of each of the EQ sections 5 bands. Each EQ band is shown graphically by a colored dot whose color corresponds to that in the controls below. You can click and drag each dot and change the Frequency and Gain of the associated band. To set the Q for this band, control click and drag on the dot, or use your mouse wheel.

3.7 On

Each EQ band can be turned on or off by clicking ON button at the left of each filter. This can be useful for easily judging the contribution of each filter to the overall frequency response.

3.8 Filter Type

The following list details the characteristics of each filter type. Each filter type listed is available by clicking the down arrow button to the right of that filter section's name.
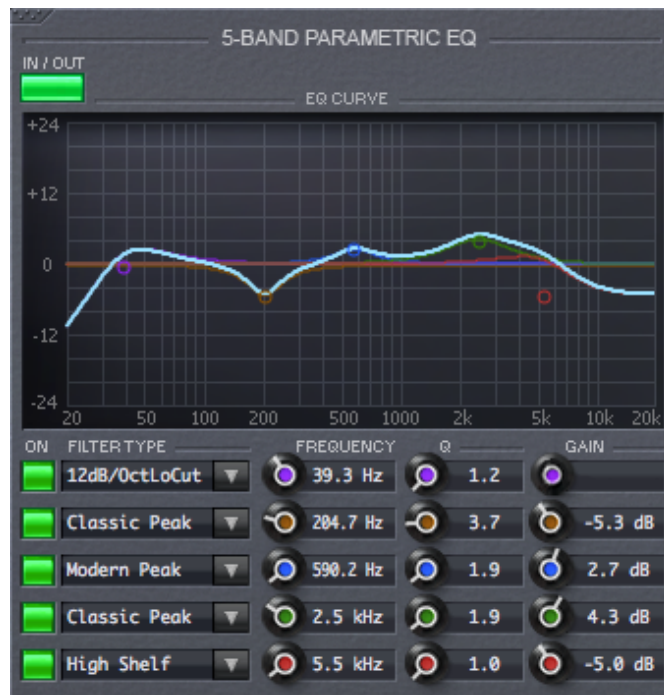
Figure 3.5: UltraChannel EQ Section

3.8.1 Low Filter (20 Hz - 800 Hz)

The lowest frequency filter section supports the following filter types:

- 6 dB/Oct Low Cut
- 12 dB/Oct Low Cut
- Low Shelf
- Classic Peak
- Modern Peak

3.8.2 Low Mid Filter (100 Hz - 2 kHz)

This filter section supports the following preset EQ values:

- Classic Peak
- Modern Peak

3.8.3 Mid Filter (500 Hz - 800 kHz)

This filter section supports the following preset EQ values:

- Classic Peak
- Modern Peak

3.8.4 High Mid Filter (1 KHz - 20 kHz)

The High Mid filter section supports the following preset EQ values:

- Classic Peak
- Modern Peak

3.8.5 High Filter (5 kHz - 20 kHz)

The High Frequency filter section supports the following preset EQ values:

- 6 dB/Oct High Cut

- 12 dB/Oct High Cut

- High Shelf

- Classic Peak

- Modern Peak

3.8.6   Q

Each filter section has its own Q settings control. These are used for determining the range of frequencies that are impacted by each band, thereby setting the shape of the filter. The bandwidth is equal to the frequency setting divided by Q. Larger Q values tend to create a narrower bandwidth; lower values affect a broader range of frequencies. Each Q setting range is from 0.5 to 20.0. The value is numerically displayed to the right of the Q control for each filter section.

3.8.7   Gain

Each filter section also has its own accompanying Gain control. Use these to set the gain or attenuation for each band's center frequency. Each filter's Gain may be set from -24 dB to +24 dB. The gain value is numerically displayed to the right of the Gain control for each filter section.

3.9   Micro Pitch Shift

Figure 3.6: UltraChannel Micro Pitch Shift Section

The Micro Pitch Shift module is unique to the Ultra-Channel plug-in. It provides four controls that allow you to easily control the four main dimensions of the micro pitch shift effect. The Micro Pitch Shift module is routed after each of the modules on the top tier of the plug-in, but before the Output stage, and in parallel with the Stereo Delays.

Click the In/Out button to display green to enable the module.

Descriptions follow for Micro Pitch Shift's four parametric controls. Each control is adjustable from 0-100 percent, with 0 percent being a totally unaffected signal, and 100 percent being a totally affected. The value for each control is displayed numerically beneath each control.

3.9.1   Size

The Size control scales the total amount of pitch shift applied to each voice.

3.9.2   Width

The Width control changes the panning spread from mono to stereo.

3.9.3   Depth

The Depth control scales the total spread of delay in the signal, higher depth spreading the signal further in time.

3.9.4 Mix

Mix changes the blend of wet and dry signal.

3.10 Stereo Delays

The Stereo Delays module is comprised of a pair of delays that can be set either manually or by tempo, and sports individual level, feedback and pan controls. Additionally, the Stereo Delays module contains a powerful feature which allows the delay to feed its signal back into the any of the other modules in the Ultra-Channel plug-in. This feature allows you to easily add filtered, ducked, or gated delays to any signal simply by selecting the feedback destination from a drop down list.

The Stereo Delays are after the main modules, in parallel with the Micro Pitch Shift, and before the Output Module.

Figure 3.7: UltraChannel Stereo Delays Section

3.10.1 Tempo Sync

The Tempo Sync control allows the delays to be synchronized to the tempo, or to be set in mS. When the Tempo Sync control is on, changes in the tempo will change the delay time such that the delays stay synchronized. When this button is off, changes in the tempo will not effect the delay time.

3.10.2 System Tempo

The System Tempo control allows the UltraChannel plug-in to receive its tempo value from the plug-in host. When the button is lit, the tempo will come from the host, when it is unlit the tempo can be set in the text box below the button.

3.10.3 Left/Right Delay Time

The Delay time for each delay can be set either in mS by the delay knob or by 16th notes using the horizontal bar above the control. The tempo selection bar range is limited by the 600 mS delay and the tempo of the plug-in.

3.10.4 Left/Right Level

Each delay has a level control which is set from -100 dB to 0dB.

3.10.5 Left/Right Feedback

Each delay also has an independent feedback control set from -100% to 100%. Negative values invert the phase of the feedback.

3.10.6 Left/Right Feedback Destination

Above the Feedback control is a drop down list which allows you to choose the destination of the feedback control, effectively looping other modules from the UltraChannel into the delays feedback chain and effecting the feedback tails. In combination with the UltraChannel main module routing, this will allow you to easily create very powerful combinations of gated, ducked, and EQed delay tails. Some experimentation with this feature is highly encouraged.

3.10.7 Left/Right Pan

Each delay also has a pan control, allowing you to place its output in the stereo field.

3.11 Output

The final stage in the UltraChannel plug-in is, fittingly, Output.

Figure 3.8: UltraChannel Output Section

The Output module is used to set the final output level for the audio being processed.

3.11.1 Transformer

The final signal processing element, the Output module contains a model of a Transformer which can be driven into saturation. This analog model is after the output level control so that it can be driven if desired. Unless driven very hard, it is a subtle yet distinct effect which is most noticeable on signals with a lot of low frequency content.

3.11.2 Output Meter

The Output section contains a large mono or stereo meter which shows signal level from -60 dBfs to 0 dBfs. This meter is stretched to have more resolution at higher levels.

3.11.3 Overload Display

When a signal transient peaks above -0.1 dBfs, the area directly above this point on the bar frequency graph displays red to indicate an overload. If an overload is detected the Overload Display will stay lit until it is cleared by clicking on it.

3.11.4 Output Gain

The Output Gain control can be adjusted from -60 dB to +12 dB. Click on the circular Gain button and drag its vertical marker to the left or right to decrease or increase the gain. Alternatively, you can also designate the gain by entering it into the text box provided. The gain value displays numerically beneath the Gain button.

3.12 Saving and Recalling Plug-In settings

When UltraChannel is installed, a library of settings is placed into the
<user>/Music/Eventide/UltraChannel/Presets folder (Mac) or
<user>/Documents/Eventide/UltraChannel/Presets folder (Windows). In this folder is a series of .tide files which will show up as options in Eventide's plug-in preset bar. From inside the Eventide UltraChannel you can load or save these settings. We recommend saving your own settings to this folder to ensure that
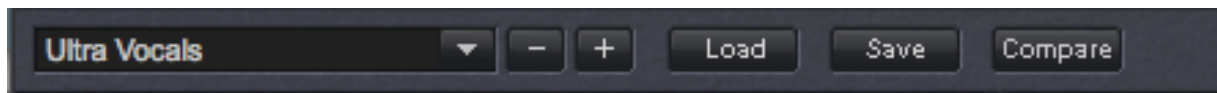
Figure 3.9: UltraChannel Preset Bar

they are available to any instance of the plug-in you're working with. You can also create sub-folders inside the UltraChannel Plug-In Folder if you wish.

Chapter 4

Conclusion

We hope you enjoy the Eventide UltraChannel plug-in and put it 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.