UltraChannel

User Guide

Eventide®

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Welcome

PART 1



1.1 About This Product

The Eventide UltraChannel plug-in is a powerful all-in-one channel strip for mixing and mastering. 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 let you generate the exact tone and frequency characteristics you're seeking. Additionally, through its support for sidechaining, 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 versatility.

UltraChannel **PART 2**

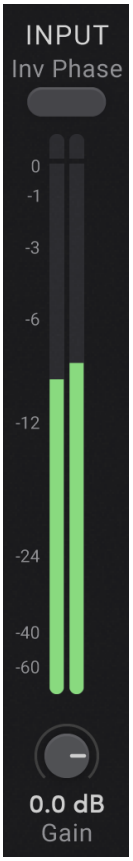
UltraChannel is comprised of the following discrete components, which collectively or individually provide you a robust and precise tone-shaping and frequency-manipulation environment.

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

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.

2.1 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:

Invert Phase Click this button to invert the phase of the input signal.

Input Meter The Input section contains mono or stereo meters displaying signal level from -60 dBfs to 0 dBfs. The meters are stretched to have greater resolution at higher levels.

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 indicator will stay lit until it is cleared by clicking on it.

Input Gain Drag this knob up or down to decrease or increase the input gain. Alternatively, you can enter a value directly into the text box below the knob. It can be adjusted from -60 dB to +12 dB.

2.2 Gate

The Gate module allows you to effectively remove signals occurring below the designated threshold. Click anywhere on its panel and drag the module to move it to another position in the signal chain.



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 UltraChannel's sidechain input.

Input Meter This meter displays the input signal exactly as it is perceived in the Gate's level detector, allowing you to 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.

Threshold (TH)	Increases or decreases the threshold level for the signal, ranging -60 dB to 0 dB. The threshold value displays numerically beneath the Threshold slider. Signals below this threshold will be removed.
Gain Reduction (GR)	This bar displays the gain reduction being applied to the signal as determined by your threshold setting and input level.
Release Time	The Release control determines how long the gate is triggered, ranging 1 ms to 500 ms.

2.3 Compressor

The Compressor allows you to alter the dynamics of your input signal. Click on the upper left corner and drag the module to move it to another position in the signal chain.



SIDE CHAIN Activates the Compressor's Side Chain feature. Please consult your DAW's documentation for help on routing audio to Ultra-Channel's side chain input.

SATURATION (SAT) Activates soft saturation at the Compressor's output. This soft saturation sits after the Compressor's gain control and 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.

DE-ESS Allows you to de-emphasize the hiss associated with prominent "S"es on vocal signals. Toggle the button to activate it, and set the frequency to the midpoint frequency that the "S"es are being pronounced. Ranges 4 kHz to 9 kHz.

Input Meter

This meter displays the input signal exactly as it is perceived by the Compressor's level detector, allowing you to 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 affect the level of this input meter - this is intentional and to be expected.

Threshold (TH)

Increases or decreases the threshold level for the signal, ranging -60 dB to +0 dB. The threshold value displays numerically beneath the Threshold slider. Signals above this threshold will be reduced.

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.

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.

Attack Time

This control allows you to adjust how quickly the Compressor reacts to signals above the selected threshold. Values range from 0.1 to 50 ms. The attack value displays numerically beneath the Attack control.

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.

Knee

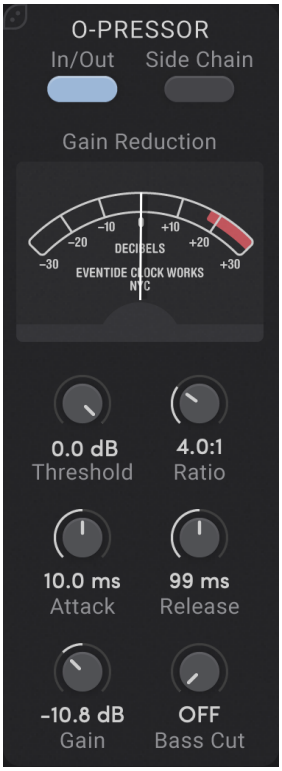
The Knee determines a region above the threshold where the gain reduction transitions from 1:1 to the designated Ratio setting. As the input signal crosses the threshold and moves through this window, its gain reduction increases to the selected ratio value (below). Knee values can be adjusted in 6 dB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

Make-Up Gain

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.

2.4 O-Pressor

The O-Pressor module is a single-knee, compression-only version of Eventide's best-selling Omnipressor hardware product. It is a very aggressive compressor which adds character compression to your signal-processing arsenal. 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.



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.

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.

Threshold Sets the knee level of the O-Pressor's compression circuit, ranging -50 dB to 0 dB.

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

Attack Time Allows you to adjust how quickly the O-Pressor reacts to signals above the selected threshold. Values range from 0.1 to 100 ms.

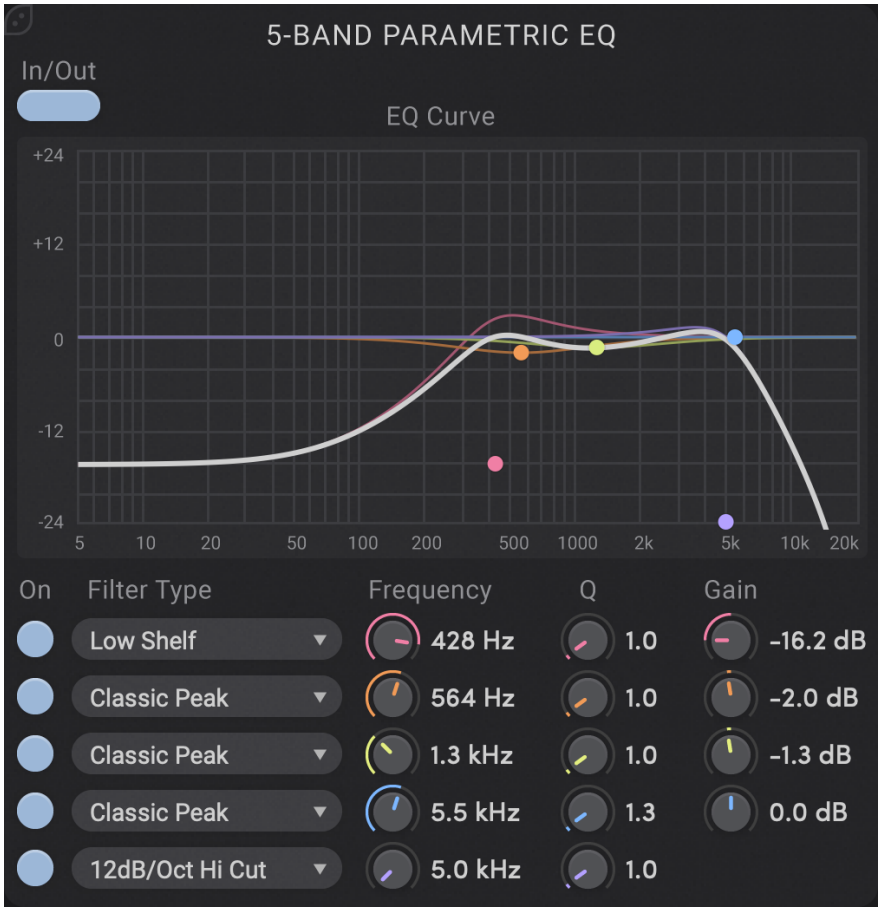
Release Time Determines how fast the O-Pressor responds to decreasing signal levels. Release values range from 1 ms to 1 s. At very fast attack and release times the O-Pressor works more like a distortion circuit than a compressor.

Make-Up Gain 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 gains in these sections also allow you to overdrive any elements that come after them.

Bass Cut 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 help when applying compression to kick drums or bass-heavy instruments.

2.5 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. 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.



Graphical Display The EQ curve Graphical Display allows you to edit the Frequency, Gain, and Q of each of the EQ section's 5 bands. Each EQ band is shown graphically by a colored dot whose color corresponds to that of 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.

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.

Filter Type, Frequency

The following list details the type and frequency range 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. The frequency is controlled by the knob to the right.

Low Filter (5 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

Low Mid Filter (100 Hz - 2 kHz):
Mid Filter (500 Hz - 8 kHz):
High Mid Filter (1 KHz - 20 kHz):
These filter sections each support the following preset EQ values:

- Classic Peak
- Modern Peak

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

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.

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.

2.6 Micro Pitch Shift

The Micro Pitch Shift module provides four controls corresponding to 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.

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.



Size Scales the total amount of pitch shift applied to each voice.

Width Changes the panning spread from mono to stereo.

Depth Scales the total spread of delay in the signal, higher depth spreading the signal further in time.

Mix Changes the blend of wet and dry signal.

2.7 Stereo Delays

The Stereo Delays module is comprised of a pair of delays that can be set either manually or by tempo, with individual level, feedback and pan controls. Additionally, the Stereo Delays module allows the delay to feed its signal back into the any of the other modules in UltraChannel. 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.



Tempo Sync The Tempo Sync dropdown allows the delay times to be synchronized with either the host tempo or a local tempo. When in a tempo-synced mode, a tempo textbox and beat sliders will appear. When the delays are tempo-synced and the tempo changes, the delay times will change to maintain the same delay in beats.

Left/Right Delay Time The Delay time for each delay can be set either in ms by the delay knob or in 16th notes by dragging vertically on the textbox above the control. The range of sixteenth notes is limited by the 600 ms delay and the tempo of the plug-in.

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

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

Left/Right Feedback Destination

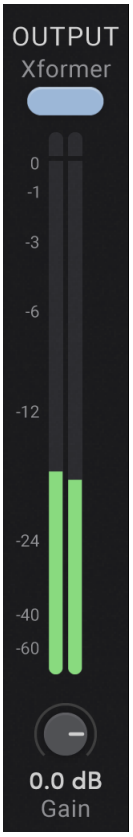
Above the Feedback control is a drop down list which allows you to choose the destination of the feedback control, effectively looping other modules from UltraChannel into the delays feedback chain and affecting the feedback tails. In combination with the UltraChannel main module routing, this will allow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

Left/Right Pan

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

2.8 Output

The final stage of UltraChannel is, fittingly, Output. It is used to set the final output level for the audio being processed.



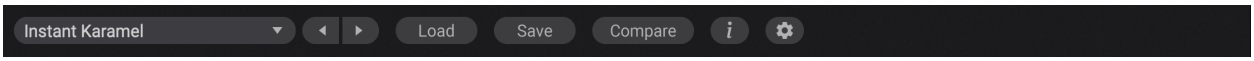
TRANSFORMER The final signal processing element, the Output module contains a model of a Transformer which can be driven into saturation. This analog model is after the output level control so that it can be driven if desired. Unless driven very hard, it is a subtle yet distinct effect which is most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

OUTPUT METER The Output section contains mono or stereo meters which show signal level from -60 dBfs to 0 dBfs. This meter is stretched to have more resolution at higher levels.

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.

OUTPUT GAIN The Output Gain control can be adjusted from -60 dB to +12 dB.

2.9 Preset Bar



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

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

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

Presets for UltraChannel have a **.tide** extension and can be saved or loaded from the UltraChannel 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 UltraChannel 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.

Conclusion PART 3

We hope you enjoy the UltraChannel 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.