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# ULTRAREVERB™

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## User Guide

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## 1.1 About This Product

UltraReverb plug-in is a powerful audio engineering plug-in for Avid AAX, Apple Audio Units, and Steinberg VST formats. Just like the original Pro Tools TDM version, UltraReverb brings you our best reverb effects from our most prestigious hardware products and combines these with full multi-effect capabilities all within a single plug-in. UltraReverb features:

- Nine Reverb effects: Hall 1 & 2, Chamber 1 & 2, Room 1 & 2, Plate 1 & 2 and Ambience
- Dual delays for echo effects that can be moved before or after the reverb
- Pre-EQ and post-EQ – Independent, three band parametric equalizers for shaping the audio before and after the reverb and delays
- Movable Compressor provides dynamics before or after the reverb
- Lo-fi effect

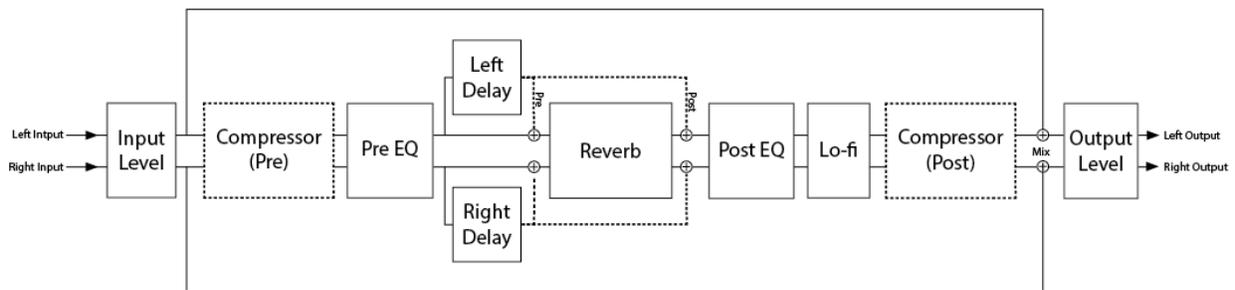
- Unique Snapshots allow you to quickly store, recall, and automate up to 32 presets
- Graphical EQ interface for intuitive tone shaping
- Complete automation support

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

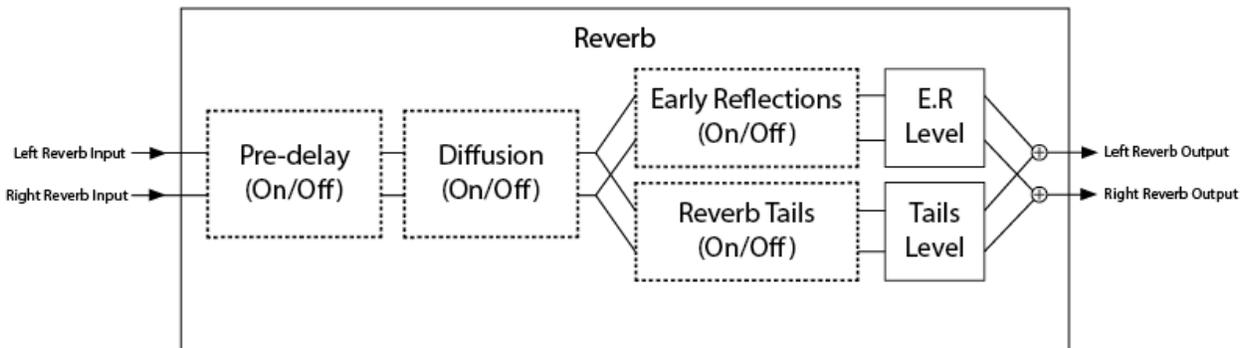
- Reverb Controls
- EQ Controls
- Lo-Fi
- Levels
- Delay Section
- Compressor Section
- Snapshots

## 2.1 Signal Flow Diagram

Below are block diagrams depicting the signal flow of UltraReverb. Figure 3.2 shows the overall plug-in structure whereas Figure 3.3 shows the inner workings of the Reverb block. Dotted lines signify that the presence of the block is dependent on a parameter being On/Off or Pre/Post.



Full Block Diagram

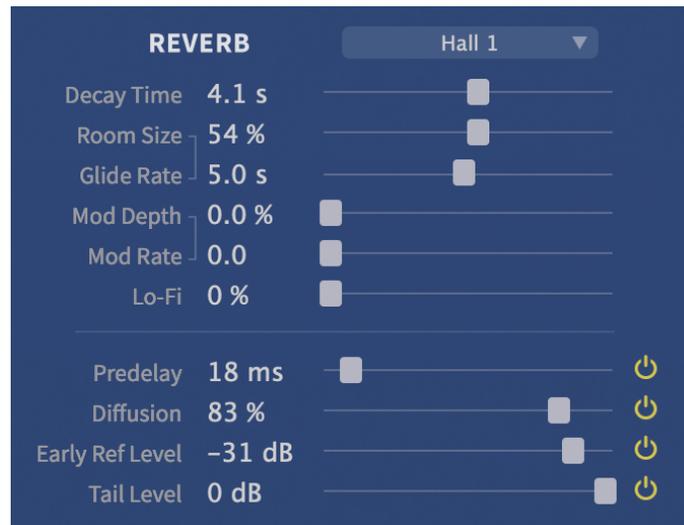


Close-up of the Reverb Block

## 2.2 Reverb Controls

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Derived from such flagship effects processors as the Orville™ and Eclipse, UltraReverb produces the highest quality reverb 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.



UltraReverb Controls Section

### REVERB TYPE

This pull down menu allows you to select among the various types of reverb algorithms. Each Type has a unique flavor of Diffusion, Early Reflections, and Reverb Tail. These internal settings are automatically applied upon loading a Type.

### DECAY TIME

The overall reverb decay time can be set using this slider. Also referred to as RT60, the decay time is the time it takes the reverberated sound to decay to a level 60dB down from its original level.

### ROOM SIZE

The perceived size of the reverberant space is determined by this parameter. It affects both the Diffusion and the Reverb Tail (see Figure 3.3). Due to the structure of our reverb algorithms, a pitch change can be heard when manipulating this control. The amount of shift is determined by how long the Decay Time is as well as the setting of the Glide Rate control. You can use this control as a special effect by automating it and varying its values swiftly.

<b>GLIDE RATE</b>	This is the time it takes the Room Size to glide to its new setting. When used with Room Size, a pitch gliding effect can be created, and even automated as part of the music.
<b>MOD DEPTH</b>	This parameter controls the amount, or level, of reverb modulation that is present in the reverb. The modulation is applied to the Reverb Tails module in the signal flow diagram (see Figure 3.3).
<b>MOD RATE</b>	When used in conjunction with Mod Depth, Mod Rate sets the speed of reverb modulation. Reverb modulation effectively adds a slight detuning to the sound, causing it to sound different every time a sound is passed through.
<b>LO-FI</b>	The Bit Reducer is provided as a special effect, offering that sought-after “vintage digital” sound. The higher the value, the grungier it gets. As Figure 3.2 illustrates, Lo-fi occurs after the Post EQ but before the Post Compressor.
<b>PRE-DELAY</b>	Pre-delay provides additional delay before the Diffusion, Early Reflections, and Reverb Tail. When Pre-delay is set to 0ms, you may still notice an audible delay before the onset of reverb. This is because both Diffusion and Reverb Tails have a slight built-in delay. Consider turning both Pre-delay and Diffusion Off if you desire instantaneous Reverb.
<b>PRE-DELAY ON/OFF</b>	Turning Pre-delay Off is not exactly the same as turning Pre-delay to 0ms. The Reverb Tails block (see Figure 3.3) has built-in delay whose value depends on the selected Reverb Type. Turning Pre-delay off will eliminate this built-in Tail delay in addition to bypassing the Pre-delay module.
<b>DIFFUSION</b>	The Diffusion parameter sets the overall reflectivity of the chosen space. Higher Diffusion settings will cause the reverb to sound more dense and lower settings will give the perception of more discrete reflections. When Pre-delay is turned off, you may still notice a slight delay before the onset of reverb. This is a result of the Diffusion. The larger the Size, the more delay will result from Diffusion. Consider turning Diffusion Off for instantaneous reverb.

<b>DIFFUSION ON/OFF</b>	Turning Diffusion off is not the same as setting Diffusion to 0. Setting Diffusion to 0 will result in more discrete reflections, whereas turning Diffusion off will bypass the diffusor altogether. This is an important tool for crafting custom reverb environments. Since Diffusion adds an increasing amount of delay as Size increases, consider turning Diffusion off if you desire an instantaneous reverb despite a large Reverb Size.
<b>EARLY REF LEVEL</b>	This sets the overall level of the Early Reflections path of the reverb algorithm (see Figure 3.3).
<b>EARLY REF ON/OFF</b>	Turning Early Reflections off is equivalent to setting Early Ref Level to -infinity.
<b>TAIL LEVEL</b>	This sets the level of the Reverb Tails path of the reverb algorithm (see Figure 3.3).
<b>TAIL ON/OFF</b>	Turning Tail off is equivalent to setting Tail Level to -infinity.

## 2.3 EQ Controls

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UltraReverb comes complete with two independent and fully parametric equalizers, referred to as Pre-EQ and Post-EQ. There are also shelving filters available for the reverb tail as well as the dual delay lines. All four of these filters have their controls conveniently grouped within a single graphical interface with editable parameters as described below.

Because these four groups of equalizers are available simultaneously, they are also displayed together in the EQ Controls section. To edit one of these groups of EQ, simply select it for editing by clicking the button next to the text under the Graph shows area. As each is selected, its EQ curve is given focus by highlighting the associated colored line, bringing it to the foreground. To change the filter settings, use the number boxes below the graph. Note that some EQ parameters are not available all the time. The Reverb EQ does not offer a Mid filter section, nor does it have adjustments for bandwidth as they are high and low shelving filters. The delay EQ does offer a Mid filter section with an adjustable bandwidth.



UltraReverb EQ Section

**GRAPH SHOWS**

Use these four buttons to select one of the four EQ sections for editing. On/off buttons are located on the right of each EQ section, allowing you to completely bypass any of the different EQ sections.

**EQ POSITIONS**

Pre EQ is located after the pre compressor but before the delay and reverb.

Delay EQ is located in the delay lines.

Reverb EQ is located in the Reverb Tail.

Post EQ is located after the delay and reverb but before Lo-fi and post compressor.

(See Figure 3.3)

**HIGH**

This row of parameters affects the high band filter section.

**MID**

This row of parameters affects the mid band filter section. Not available for the reverb filter.

**LOW**

This row of parameters affects the low band filter section.

**FREQUENCY**

Use these parameters to set each band's center frequency.

**GAIN**

Use these parameters to set the gain or attenuation that occurs at each band's center frequency.

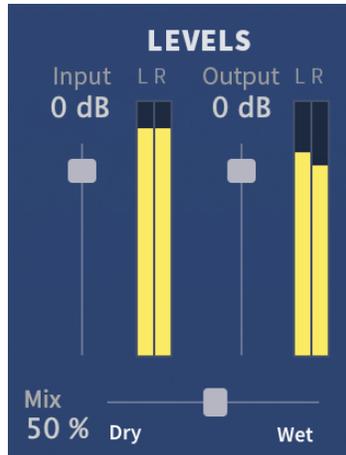
**BANDWIDTH (Q)**

These parameters determine the range of frequencies that are affected by each band, effectively setting the shape of the filter. The bandwidth is equal to the frequency setting divided by Q. Therefore, higher values create a more "notched" filter while lower values affect a broader range of frequencies. To set the Pre- and Post-EQ's Low and High bands to a shelving function, set the parameter to its minimum value.

## 2.4 Levels Section

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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.



UltraReverb Levels Section

### INPUT

This parameter allows you to adjust the signal level into this plug-in. The mark in the meter display indicates -12dBfs of signal while the clip indicators will come on at -0.2dBfs. 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. The mark in the meter display indicates -12dBfs of signal while the clip indicators will come on at -0.2dBfs. Up to 12 dB of gain is available.

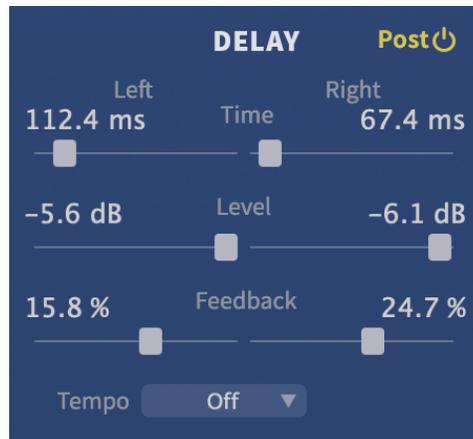
### Mix

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

## 2.5 Delay Section

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As mentioned previously, this plug-in offers two independent delay lines with filtering. Use them as straight delays or add filtering for use as echo effects. Delays can be routed pre-reverb, post-reverb, or completely bypassed using the on/off switch in the top right corner of the delay section. The 6 parameters are defined below in groups of two (left and right) to reduce redundancy.



UltraReverb Delay Section

**DELAY PRE/POST/OFF** Pre or Post determines whether the delayed signal is added to the signal path before or after the reverb algorithm. It is never in series with the reverb, only added in parallel before or after (See Figure 3.2). Turning delay off is equivalent to setting Delay Level to -infinity.

**LEFT/RIGHT TIME** These two parameters set the amount of delay time in each channel of delay. If Tempo is off, this time will be displayed in milliseconds. If Tempo is set to Sync or Manual, the Time parameters are displayed as note values. Maximum delay time is 1 second regardless of Tempo mode.

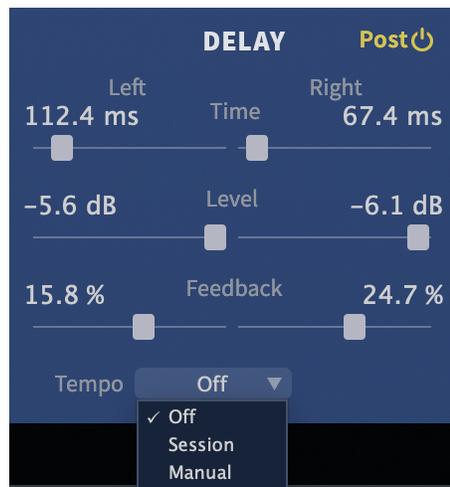
**LEFT/RIGHT LEVEL** These parameters adjust the overall level of each delay.

## LEFT/RIGHT FEEDBACK

These parameters set the amount of audio that is fed back into each delay. Also known as regeneration, feedback controls the number of repeats that heard when a signal is fed into it. This parameter offers a range of -100% to 100%. Zero percent results in no feedback (only one repeat), while higher numbers produce increasing amount of feedback. Negative numbers produce a feedback signal that is 180 degrees out of phase.

## TEMPO

This drop-down menu allows you to sync the delays to a tempo.

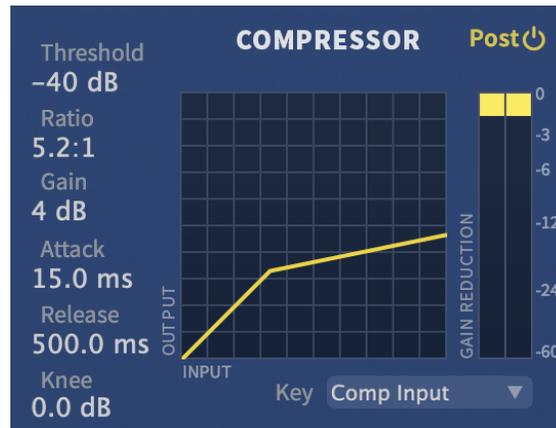


Setting Tempo to Off disables tempo sync and delay time is controlled in milliseconds. Setting Tempo to Sync sets the delay tempo equal to the plug-in host's tempo. Setting Tempo to Manual allows you to manually set the tempo for the delays by changing the BPM value to the right of the drop-down menu.

## 2.6 Compressor Section

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A fully parametric and movable compressor is offered via the Compressor section. Compression can be routed pre-reverb, post-reverb, or completely bypassed using the on/off switch in the top right corner of the Compressor section.



UltraReverb Compressor Section

### **COMPRESSOR PRE/POST/OFF**

Pre or Post determines the compressor's position in the signal path. Pre places the compressor immediately after Input Level. Post places the compressor immediately before Output Level (See Figure 3.2). Off bypasses the compressor.

### **THRESHOLD**

Threshold sets the level at which gain reduction begins to take place. Signals that pass above the Threshold value will begin to have their gain reduced by the amount set via the Ratio parameter.

### **RATIO**

The Ratio parameter sets how much gain reduction will occur for every dB of signal level above the Threshold. The range is from 1:1 (no compression) up to 100:1. To create a hard limiter, set the Ratio to 100:1 and the Knee parameter to 0dB.

### **GAIN**

This parameter allows you increase the compressor's output level in order to make up for the level lost due to gain reduction.

### **ATTACK**

This parameter determines how fast the compressor will react to signals above the Threshold.

### **RELEASE**

This parameter determines how fast the compressor will react to decreasing signal levels.

**KNEE**

The Knee determines a region above the Threshold where the gain reduction transitions from 1:1 to the Ratio setting. As the input signal crosses the Threshold and moves through this window, its gain reduction is increased up to the Ratio value.

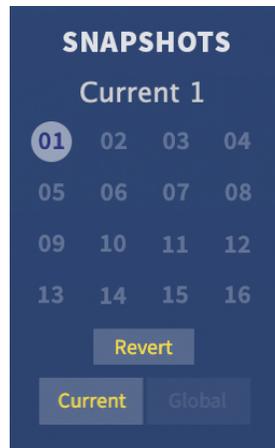
**KEY**

The Key allows you to select the audio signal that controls the amount of compression. Selecting Comp Input uses the input to the compressor as the key. Plug-In Input uses the dry input to the plug-in as the key. Sidechain Input uses an external source as the key.

## 2.7 Snapshots

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UltraReverb incorporates our unique Snapshots feature that allows you to quickly and easily load, save and even automate up to 32 of your favorite Reverb "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.



UltraReverb Snapshots Section

### LOADING

To load a Snapshot, simply click on any of the numbered buttons at any time. The entire Reverb plug-in panel will change to reflect the settings stored in the chosen Snapshot. The name of the loaded Snapshot will be 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.

**SAVING**

To write or overwrite one of the Snapshots, simply command-click on any of the numbered Snapshot buttons and it will instantly be stored. Note that Current Snapshots are associated with a specific preset, so while command-click will write your settings to a specific Snapshot location, you must additionally save the preset in the preset menu to permanently store your changes. This extra step is not required for Global Snapshots since they aren't tied to any specific presets. Command-Click will add that Snapshot to your UltraReverb/Presets/Snapshots/ directory and it will instantaneously be available from any UltraReverb preset. There's no undo, so be very sure before you overwrite a Global Snapshot.

**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. In the case of Current Snapshots, remember to save your preset as well.

**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. Both are grouped in banks of 16. Global Snapshots are accessible from any preset in any instance of the UltraReverb plug-in in any DAW session on your harddrive. Use these to keep your 16 favorite reverb effects readily available. The Global Snapshots are stored in a directory at the same location as your Preset directory. (<user>/Documents/Eventide/UltraReverb/Snapshots). Any change to Global Snapshots will be effective immediately. Remember, there's no undo for Global Snapshots, so be very sure before you overwrite one. The Current Snapshots are a little different because they are saved within the currently loaded preset. If you make a change to the Current Snapshots you'll need to save the Preset in order for your changes to be permanently stored within the preset.

**PROPER SNAPSHOT HYGIENE** Snapshots can be very powerful in use, but knowing how they work will help ensure that your UltraReverb Snapshots load and sound right every time. So, if you want to load a Snapshot specific to that preset, 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.

## 2.8 Preset Bar

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

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

**Mac** <user>/Music/Eventide/UltraReverb/Presets

**Windows** <user>/Documents/Eventide/UltraReverb/Presets

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

**Mix Lock** Starting in version 2.0.5 UltraReverb includes a Mix Lock button for flexible preset browsing. When Mix Lock is illuminated, the current Mix value will remain unchanged as new presets are loaded. This is especially useful on an effect return track where the mix should always be set to 100.

**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.



We hope you enjoy the UltraReverb 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](#).