SP2016 REVERB
User Guide

Eventide®

P/N: 141311, Rev 2

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Contents

Welcome

PART 1

1.1 About This Product

Thank you for your purchase of the Eventide SP2016 Reverb plug-in. This product contains reverb algorithms from the legendary SP2016 multi-effects unit in Avid AAX, Apple Audio Unit, and Steinberg VST formats. For over 40 years, innovative effects like these have made Eventide an industry leader, and we are proud that they continue to be in demand today.

We'll get into more depth on the product soon but, before you forget, please take a few minutes to register online. This helps us keep you informed of any important software updates, and any special offers that may only be available to registered users.

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 SP2016 Reverb 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 macOS 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 SP2016 Reverb plug-in 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 (www.eventideaudio.com).

SP2016 Reverb features:

- Recreations of the Eventide SP2016 Stereo Room, Room, and Hi-Density Plate algorithms
- Reverb parameter controls including Predelay, Decay, Diffusion, and a unique Position control
- Low and high shelving filters
- Intuitive, easy to use GUI

Registration, Activation, and Installation PART 2

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 then 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 SP2016 Reverb license, the Serial Number will start with SP (e.g., SP-000000). The License Key will be 3 sets of 4 characters (letters or numbers) separated by dashes, e.g., ABCD-XXXX-1234.

1. Log in to www.eventideaudio.com, navigate to **My Account** in the top right corner, and select **Register a New Product**.
2. Select **Native Plug-in (VST, AU, AAX)** in the **Product Category** field.
3. Select **SP2016 Reverb** or the applicable group license in the **Product** list.
4. 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 www.ilok.com.
5. 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 signed in, 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 SP2016 Reverb 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 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 SP2016 Reverb 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 the **iLok License Manager** application. 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, each of which can be used on either a computer or iLok dongle, meaning you can use SP2016 Reverb in two locations at the same time.

SP2016 Reverb PART 3

3.1 About Reverb

Creating a reverb algorithm is part art and part science.

The science bit is all about the naturalness of the sound – whether the simulation convincingly conveys the feel of a real room. Some digital reverbs don't have the horsepower to run a sufficiently complex program to achieve naturalness. Without enough processing power, the effect will suffer from low echo density or unnatural density growth with time or comb filter effects, etc. As Einstein is alleged to have said "things should be as simple as possible, but no simpler." This principle certainly applies to reverb algorithms.

The art of reverb algorithm design begins with simulating a room that actually sounds good. Needless to say, rooms that sound awful exist in the real world. The structure of the reverb algorithm combined with the choices of delay lengths, interconnects, filter placement, early reflections, etc., all contribute to the overall sound. The final element of the art of reverb design is the designer's choice of the ways in which, and the extent to which, the artist/engineer/producer is permitted to modify the effect. What are the parameters and what do they do?

The degrees of freedom available to the designer guarantee that no two (sufficiently complex) reverb algorithms will sound the same. Each will be unique. There are a number of popular digital reverberators for good reason. Each has a distinctive sound; each has a particular set of possibilities. The SP2016 reverbs have attracted a loyal user base because of a particular blend of art and science. They sound natural. They sound distinctive. And, while they allow the user to vary the effect dramatically, the controls can't be set in a way that will create an unnatural sounding effect.

The algorithms naturally simulate every aspect of the sound of a real enclosure – from the complex early reflections, to the natural way in which the echo density increases with time, to the smooth Gaussian decay of the reverb tail. It's a powerful simulation that lends itself to parametric control.

3.2 Control Overview

Operating the plug-in is simple and intuitive: drag the sliders up and down to adjust the parameters. You can hold down the Option (macOS) or Alt (Windows) key prior to click-dragging the slider to have the slider move more slowly, giving you a finer degree of control over the parameter. The parameter value for the control is displayed underneath the slider and is updated in real time. You can also click on the displayed value and use the keyboard to enter a value.

The controls are divided into five main sections: Status, Levels, Parameters, EQ, and the Preset Bar.

3.3 Status

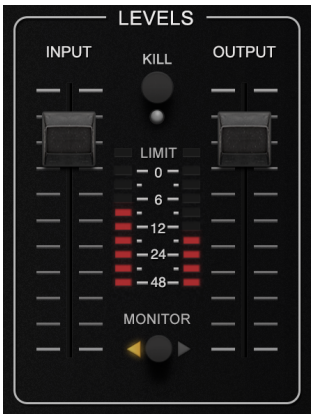
BYPASS Mutes the input and output of the reverb.

LED DISPLAY Shows the currently selected algorithm as well as the current value of a slider when dragging.

PROGRAM Selects the current algorithm. SP2016 Reverb features three reverb algorithms, Stereo Room, Room, and Hi-Density Plate. Each algorithm is available in two versions: Vintage and Modern. The Vintage algorithms are modeled on the original SP2016's algorithms and hardware, and feature a lower bit-depth than the modern versions. The Modern algorithms are brighter, more diffuse, and use a higher bit-depth.

The POSITION, DIFFUSION, and EQ controls are disabled for the vintage Hi-Density Plate algorithm because they were not present in the original SP2016 algorithm.

3.4 Levels



INPUT Controls the input level to the plug-in, the range is between -inf dB and +10 dB. The INPUT control can be used to attenuate the input so as not to overdrive the reverb and produce distortion. Like most audio gear, and digital gear in particular, you want to keep the input gain as high possible while still keeping the reverb from being overdriven into distortion as indicated by the LIMIT LEDs at the top of the meters. This control affects the input level for the wet and dry signals.

OUTPUT Controls the output level of the plug-in, the range is between -inf dB and +10 dB. This parameter sets the signal level after the mix control.

KILL The KILL button is a quick way to remove the input from the reverberator so that you can listen to the tail (reflections) caused by your input. The button lights up when it is depressed, so that you can tell that the input is interrupted. This button also kills the dry signal to the mix.

MONITOR Switches the source for the meters and LIMIT LEDs. The illuminated arrow indicates the active source; the left and right arrows correspond to input and output, respectively.

PEAK METERS The PEAK METERS show the peak level of the signals at the input or output of the plugin.

LIMIT

The LIMIT LEDs illuminate when the peak amplitude of the input or the output has exceeded 0 dBFS (also known as digital clipping or overload) on the Left or Right channels. The LEDs will remain lit until you clear them; click either LIMIT LED to clear Left and Right channels. The LIMIT LEDs display the overload indicator for the currently selected mode (Input or Output). If you are monitoring the input and want to see if the output has clipped, simply toggle the MONITOR button. If the LEDs illuminate (or stay lit if the input has also clipped), the output has clipped.

When Output is selected for the monitor, the LIMIT LEDs also illuminate when the internal reverb "matrix" is overdriven into digital clipping. This may–and usually will–occur even if the PEAK METERS are nowhere near their maximum level indication. Digital clipping will also commonly occur if the DECAY slider is at its longest setting, or if you add gain at low frequencies using the LOW GAIN slider. The remedy is simple: lower the input level using the INPUT slider. This is a normal operating scenario; it is not a defect.

3.5 Parameters

Mix Controls the mix between the unprocessed input and the reverberated output. This is especially useful when some pre-delay is added. The Mix Lock button in the menubar can be used to keep the level of the Mix slider constant while you browse presets.

Predelay Introduces a delay before the reverb effect. If you want to control the delay change more accurately, hold down the command key before you click and drag this slider. The SP2016 Reverb is capable of long pre-delays, up to 999 milliseconds, and these can be used to create echo effects as well.

Decay (RT60) Decay (RT60) sets the time (in seconds) for a full amplitude 1 kHz sine wave to decay by 60 dB. In other words, this control sets the reverb time.

Position Position is used to move your "listening position" from the front of the "room" to the rear. You'll find that Position is one of the most useful controls in adjusting the reverb to fit your mix. A simplified explanation: it changes the mix between the early and late reflections; what actually happens in the algorithm is more complex than this, however.

Diffusion Diffusion alters the character of your space – from the sharp reflections of flat, hard surfaces (low) to the diffused reflections from rough, irregular ones (high). The Diffusion control doesn't change the decay time, but it does have an effect on the evident nature of the decay by thickening or thinning its density. Note that this can often be a subtle difference and may be difficult to hear with some types of program material and/or with long decay times. The effects of the control will be most apparent with short decays and program material with percussive attacks.

3.6 EQ

The EQ (Equalization) section provides controls for high and low shelving filters. These controls affect parameters deep within the feedback structure of the reverberator and the effect may be subtle or dramatic depending on the program material and other reverb settings such as DECAY, POSITION, or DIFFUSION. In general, the controls will have more pronounced effects at longer decay times and more distant position settings. Additionally, it's usually easier to hear the effect of changes to the high frequency controls than it is to hear changes to the low frequency controls. The KILL button can be helpful in evaluating the how the EQ is affecting the sound.

LOW FREQUENCY Sets the corner frequency for the low shelving filter; the range is from 50 to 500 Hz in increments of 50 Hz.

LOW GAIN Adjustable gain for the low shelving filter, from -8 to +4 dB.

HIGH FREQUENCY Sets the corner frequency for the high shelf filter; the range is from 1000 to 8000 Hz in increments of 500 Hz.

HIGH GAIN Adjustable gain for the high shelf filter, from -8 to 0 dB.

Boosting the low frequencies when the DECAY control is set for a very long decay time can cause the effect to "run away". You can avoid this by lowering either the DECAY or the LOW GAIN. The reverb's internal feedback is also limited to help protect your speakers.

Some users, however, may find this type of sustained feedback interesting, and the parameters and EQ can be used to steer the feedback.

3.7 Preset Bar

When SP2016 Reverb is installed, a library of presets is placed into the <user>/Music/Eventide/SP2016 Reverb/Presets folder (Mac) or the <user>/Documents/Eventide/SP2016 Reverb/Presets folder (Windows). These presets have a **.tide** extension and can be saved or loaded from the SP2016 Reverb preset bar in any supported DAW.

In many DAWs there is an additional generic preset bar that saves DAW-specific presets to a separate location. We recommend saving your presets using the Eventide preset bar to ensure that your presets will be accessible from any DAW. You can also create sub-folders inside the preset folders, if you wish.

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.

I/O LOCK I/O LOCK allows for flexible preset browsing. When I/O LOCK is on, the current input and output gains will be preserved when new presets are loaded.

MIX LOCK MIX LOCK behaves similarly to I/O LOCK. When MIX LOCK is on, the current MIX value will be preserved 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 this button to edit user interface settings for all instances of the plugin.

When "Always show slider values" is checked, slider values will not automatically hide when the mouse is not over them.

Conclusion

PART 4

We hope you enjoy the SP2016 Reverb 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.