

# DELAY BOX OPERATION MANUAL



BY SYNTHESCIENCE



## Delay Box Operation Manual

First of all congratulations and thank you for choosing the Delay Box by Synthescience. We hope that you'll find this a useful plugin for your processing needs. To get the best from its features, please take some time to read this manual as it provides vital information about the plugins performance.

The Synthescience Team.

### 1. Introduction

The Delay effect is used ever since to enlivening almost sound sources, it instantly imparts spaciousness and dimension to the sound and probably is one of the most fun to use. Following that, our Delay box was designed with just the right amount of features to make it a useful and rewarding tool to use, where noting is left behind in order to create those evocative and lustful echoes that so many of us crave that much.

Please notice that the Delay Box is intended to be used as a Stereo insert plugin, if however the plugin is inserted in a mono track some of its functions like Tap 1/2 and Spread will become less noticeable, yet it is still possible to take a lot from it even with the obvious limitations that comes out when working in mono mode.

The Delay Box is fully automatable and has the ability to store 64 presets. It ships with a few already pre programmed ones that will show what its all about and may be the starting point to your individual creations.

**Installation procedure:** Unzip the file, then copy the DLL's into your VstPlugins folder.

## 2. Front Panel controls



**The controllers in the Delay Box may be operated in four different ways:**

**Circular type controls** – The grey knobs like Predelay, Time, Division, Delay Mode, Feed, Input and Mix.

**Toggle controls** – Pre Dly on/off, Host Sync, Tap 1/2, Spread and Effect on/off.

**Vertical type controls** – Beat Division (active when Host Sync switch is on)

**Click controls** (only active while clicked) – The effects nameplate which shows additional information about the plugin (like plugin version and credits).

### Description of controls

**Time** - This sets the delay time in milliseconds, default values goes from 8 to 2000ms

**Millisec / Bpm reader** – Placed right next to the Time knob, those twin readers provides visual information about the delay time both in milliseconds and beats per minute.

**Division** - This switch sets the division factor of the delay time control. Values are 0, 2, 4 and 8, this means that if the time setting is pointed at 2000ms (maximum value), setting it to 0 means it remains unchanged, set it at 2 and the result will be 1000ms, setting it at 4 goes to 500ms and at 8 gives 250ms, meaning that shorter delay ranges could be more accurately tuned. (The mere fact of tweaking this control provides interesting rhythmic changes that the user is encouraged to try)

**Delay Mode** – The delay mode selector allows the user to select between five distinct delay modes such as:

**Digital** - the cleanest of the bunch..

**Lp1** – A delay with smooth decay, interpolated with a non resonant low pass filter in the feedback chain

**Lp2** - Similar to Lp1 this mode is a more drastic type and closely resembles the older analog delays based on the infamous Bucket Brigade Delay chips or BBD for short, where in each repetition the delayed signal loses some part of its original harmonic content and accumulates resonant peaks over each repeat, generating a delay sound with a dirtier character.

**Brt** – The delay repetitions are interpolated with a band reject filter providing a thinner decay over each repetition cycle

**Hps** - The delay repetitions are interpolated with a high pass filter providing an even thinner decay over each repetition cycle

**Feed** - This sets the feedback or repetition rate of the effect, with values from 0 to 10. Set this to 0 (or near 0) for short repetition rates (or for slapback style delay when using short delay times) or increase the values for a more echoey style effect.

**Input** - This control determines the amount of direct sound to be processed by the delay effect. At 0 no sound is processed and at 10 the direct sound is processed at full.  
(This control makes possible the creation of interesting swell like effects when combined with the Mix knob set at full 10)

**Mix** - Adjusts the balance between the unprocessed and processed sound or in other words the dry/wet balance, ranging from 0 (only the dry signal is heard) to 10 (only the processed delay sound is heard). At middle value 5, the dry and wet signals are mixed in equal proportions i.e. 50/50 providing an overall balanced sound from the effect.

**Predelay** – Another relevant feature from the Delay box is the inclusion of an optional delay line that is placed right before the main delay line, this way providing an additional rhythmic element to the entire delay equation. Here’s the description of its controls:

**Pre Dly on** – Switches the optional predelay line on or off.

**Predelay** - This sets the Predelay time in milliseconds, with values ranging from 1 to 500ms

**Millisec / Bpm reader** – Placed right next to the Predelay knob, those twin readers provides visual information about the predelay time both in milliseconds and beats per minute.

(Notice that if the Pre Dly on switch is off the readers will accuse 0 for Millisec and ----- for Bpm)



(Predelay stage off)



(Predelay stage on)



**Host sync** – Syncs the main delay time to the host set tempo.

By activating the Host sync switch the “Time” and “Division” knobs are replaced by two new features as we are going to describe ahead, but first check the differences below.



(Host sync off)



(Host sync on)

Notice that when Host Sync is on the “Time” knob is replaced by a “**Host Bpm**” indicator that reveals the tempo in beats per minute as set in the host and the “Division” knob is also replaced by the “Beat Division” control. (Explained in detail below)

**Beat Division** – The Beat Division selector allows the host tempo to be divided or multiplied in values ranging from T:4 (slowest) to TX8 (fastest). Here’s the values that can be selected: (T stands for Time) T:4, T:3, T:2, T:1.5, T:1, TX1.5, TX2, TX3, TX4, TX, TX6, TX7, TX8 (Please pay attention to the fact that if the host set tempo is less than 120 bpm the lowest division factors like T:4, T:3, T:2 or T:1.5 may not work properly because the lowest delay value that the Delay Box plugin can handle is 30 bpm or 2000 milliseconds delay time, keep that in mind if you are likely to work with slow beat times)



**Tap 1/2** - This control if switched on (highlighted in red), divides the time of the right channel delay by half, allowing a nice rhythmic stereo tap sound at its output.



**Spread** - This control adds an interesting stereo dimension to the delay effect, this is made by inverting the phase of the effects right channel output. (Notice that if "Tap" is on this will have little or no effect in the resulting sound)



**Effect on** – Switches the entire delay effect on or off

**(About Box)** - By clicking and holding the mouse arrow over the effect nameplate shows additional information about the plugin (like plugin version and credits).

### 3. Midi Controllers

*There is a total of 13 different midi controllers assigned to The Delay Box plugin as shown in the below box.*

#### Delay Box Midi Controller List

10 Manual time
11 Manual division Factor
12 Delay mode selector
13 Feedback
14 Delay input
15 Delay mix
16 Predelay on/off
17 Predelay time
18 Host sync sw sw
19 Beat division - Sync mode
20 Tap 1/2
21 Spread sw
22 Effect on/off

## **4. Credits and Acknowledgement**

Manual by Synthescience

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Synthescience products are developed with SynthEdit development system

By Jeff McClintock.

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