# Echobox D7
## Digital Echo

**INSTALLATION**

The package should contain the following files:

*EchoboxD7 (no GUI).dll*         – 32bit GUI-less version

*EchoboxD7.dll*                          – 32bit version with GUI

*EchoboxD7 (no GUI) x64.dll*    – 64bit GUI-less version

*EchoboxD7 x64.dll*                   – 64bit version with GUI

*EchoboxD7_manual.pdf*          – manual (this file)

To install the plug-in, copy the DLL files of the version(s) you wish to use to the respective VST plug-in folders. Tested with Cubase 5.1 (32-bit) and Cakewalk 2019 (64-bit). In order to use manual BPM sync (see Controls) in Cakewalk, enable the "Configure as tempo-based effect" option in Utilities > Cakewalk Plug-in Manager > VST Audio Effects (VST) > Plug-in Properties.

**CREDITS**

Echobox D7 uses biquad algorithms by Robert Bristow-Johnson as found in "*Cookbook formulae for audio EQ biquad filter coefficients*", 2005 [1], and also original code of pink noise PRNG by Andrew Simper, 2006, which is based on algorithms by Allan Herriman, James McCartney, Phil Burk, Paul Kellet and Robin Whittle [2].

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[1] https://www.musicdsp.org/en/latest/Filters/197-rbj-audio-eq-cookbook.html

[2] http://www.firstpr.com.au/dsp/pink-noise/

## DESCRIPTION AND GENERAL USAGE

Echobox D7 is a model of the echo mode of a particular Japanese digital stomp-box, which itself is a remake of a pretty legendary analog tape echo. Click and drag the knobs vertically or horizontally to increase or decrease their value. Alternatively, use keyboard arrows to increase their value by one tick, and Shift+arrow to increase their value by one tenth of a tick. Ctrl-click the knobs to reset them to their default values.

## CONTROLS



Figure 1. - GUI (default settings)

1) **Delay Time:** Turning this control clockwise increases the delay time in the range specified by *Range* switch (see below).

2) **Repeat:** Turning this knob clockwise increases the amount of feedback. Values above 5 make the plug-in go into (self-)oscillation.

3) **Delay Level:** Adjusts the level of delays mixed with the dry signal.

4) **Range:** Switches the range of delay time.

5) **Mute:** Bypasses the plug-in and also clears the delay buffer.

6) **Manual BMP sync:** This set of six "kick" buttons and one three-way led switch allow for manual adjustment of *Delay Time* and *Range* to preset values relative to current project tempo. Think of them as helpers that can help you quickly dial in a musically aligned delay time.

7) **Cross-fade:** Adjusts the feedback cross-fade between left and right channels from stereo (0%), through mono (50%), to inverse (100%). This control has no effect on mono tracks.

8) **Pan:** Sets the overall panning of the delayed signal. 0% pans the signal hard left, 100% pans the signal hard right, and  50% sets the pan to the center position. This control has no effect when the plug-in is used on mono tracks.

9) **Dry:** Adjusts the level of dry signal.

10) **Mono Out:** Switches the whole output of the effect to dual mono. This control has no effect on mono tracks.

11) **Dust:** Switches the "vinyl static" of the *Delay Time* knob on and off. When on, *Delay Time* knob exhibits random noise artifacts reminiscent of a dusty knob or vinyl static.