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PLUG-IN MANUAL | ADA STD-1

ADA STD-1   Physically Modeled Vintage Bucket Brigade Delay Unit

C o n t e n t s

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A/DA Signal Processors

**UA INC.**
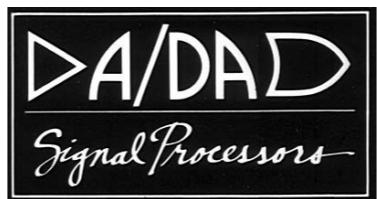
Physically Modelled Bucket Brigade Delay Unit
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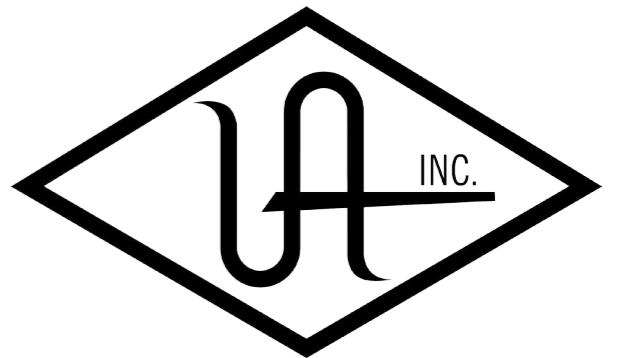
Introduction

A standard delay unit is often expected to be capable of producing long tails, ping-pong effects, and maybe even stutter repeats that come from the need to add time-based flair to your sounds. But while many units can produce longer echoes to some satisfying degree, they often lack the granular flexibility of time settings to practically catch and affect sounds as they manifest in the first few milliseconds of their lifespan. What they fundamentally miss is one of the most basic needs behind adding time to a signal– cleanly duplicate a sound to the ends of adding stereo width, tone and timbre in a sonically constructive way. If you're one who is apt to artificially widening an instrument by duplicating it onto two different tracks and offsetting the delay times, or have ever wished your flange unit could add body to the sound instead of removing it, do read on. By using a specific set of inharmonic delay times, coupled with independent stereo output, the STD-1 precisely delivers the lush bloom of body that your sounds have been looking for. Far from the standard delay effect, the STD-1 excels at producing slap-back echoes and short reverbs that are timed to perfectly allow each tap to overlap the previous decaying iteration, producing what so many throughout the years have called a '3-D layering effect'. Each of six taps can be assigned independently to a different stereo output, and adjusted to be delayed by a pre-set range of time in ms. Combined with a built-in feedback module, this alone produces some of the most inconceivably wide and wonderful textures a sound can hope for, as well as any variety of interesting and exciting cacophonous tones. What takes the STD-1 to the edge is the inclusion of a powerful internal LFO system that can produce sounds as standard as a Rhodes through a rotary speaker, or as untamed as bass into psychedelic alien speak. Blend it all together and independently dial each stereo mix knob to taste, and you've got one potent effect that can beautify and broaden vocals and guitars, create lustworthy low-end in brass and pads, and devastate the decay of a tympani to a wonderfully warbling ring in ways only possible with something that sounds as risky and dangerous as the STD-1.

The Basics

The ADA STD-1 is more a modulation effect than a plain delay. As it's built upon an analog capacitor bucket-brigade, it features a rather short delay time which can be modulated by a LFO to achieve chorus or flangerish effects. What makes this delay so special, is its complex routing possibilities of different delay stages. There are six taps from where the delayed signal is routed to either bus A or bus B (Left or Right) or none of those. Furthermore one of the taps 1, 3 or 6 must be selected to feed the feedback path. This routing scheme also implies an upmixing effect, nevertheless we can handle stereo signals by downmixing the signal before feeding the delay line.

The maximum delay time is 55.5 ms at tap 6 and fractions of that on the other taps (on tap 5 it's 46.5ms, tap 4 is 29ms down to tap 1 with 6.5 ms).

The delay time, and therefore the delay at each tap, can be altered via the fixed delay pot and additionally tuned dynamically with an adjustable sweep rate of the LFO. On top of that, the sweep rate can be modulated by a higher frequency oscillator to even more expand the range of interesting effects.

Delay times per tap

Tap 1: 1.3ms - 6.5 ms
Tap 2: 2.2 - 11
Tap 3: 4.6 - 20
Tap 4: 5.8 - 29
Tap 5: 8.3 - 46.5
Tap 6: 11.1 - 55.5

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INPUT SECTION

HEADROOM: Indicates the signal level at the STD-1's input. This includes the signal that is fed back from the Regeneration section.

IN/OUT: Engages or bypass the effect section of the STD-1. The LED indicates whether the effect is engaged.

INPUT MONO/STEREO: A stereo signal will be summed to mono if the switch is set to the MONO position. This does not affect the signal that is fed back from the Taps.

INPUT LEVEL: Adjusts the amount of gain or attenuation applied to the input signal, from -28 dB to +18 dB.

OUTPUT SECTION

OUTPUT MIX L: This is the mix control for the left channel in a stereo configuration. At fully counter-clockwise, you will hear only the dry signal. At fully clockwise, only the affected signal will be heard. NOTE: no signal will be heard if the left channel is not assigned to a delay buss.

OUTPUT MIX R: This is the mix control for the right channel in a stereo configuration. At fully counter-clockwise, you will hear only the dry signal. At fully clockwise, only the affected signal will be heard. NOTE: no signal will be heard if the right channel is not assigned to a delay buss.

OUTPUT LEVEL: Adjusts the effect output signal -28 dB to +18 dB.

REGENERATION SECTION

REGENERATION IN/OUT: When this control is enabled, the signal from one of the six taps is fed back to the input.

REGENERATION LEVEL: Controls the amount of the signal fed back to the input.

REGENERATION HI CUT: Reduces the high frequency content on the fed back signal. Adjustable from 10 kHz to 900 Hz.

REGENERATION TAP: Selects Tap 1, 3, 6 as a source for the regeneration signal.

TAP ASSIGN SECTION

TAP ASSIGN 1-6: Determines whether each tap is routed to the left buss (up), routed to the right buss (down), or disabled (center). The delay times of the taps increase incrementally from Tap 1 to 6. Tap 1 has the shortest delay, ranging from 1.3 to 6.5 ms, and Tap 6 has the longest delay, ranging from 11.1 to 55.5 ms.

In Mono instances of the STD-1, the center position for each Tap Assign switch is eliminated, providing either active (up) or inactive (down) states.

DELAY SECTION

DELAY FIXED: Sets the initial static delay time for the taps. Turn it all the way to the left to get the longest possible delay time from each tap. Turn it all the way to the right for the shortest delay times.

DELAY MIX: Crossfades between the Fixed delay signal and the oscillating "Sweep" signal (see below).

DELAY SWEEP: Sets the oscillation speed of the Sweep signal, for automatically modulated echo times. Slow speeds can be used for chorus or flange effects, while faster speeds can be used for vibrato or Leslie effects.

DELAY SWEEP MOD: When turned up, the Sweep Mod modulates or superimposes the sweep signal with an oscillator of a slightly higher frequency, which can achieve "pseudo-random" sweeps, resulting in an extremely thick chorus. When turned all the way to the left, the Delay Sweep Mod is disabled.

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Plug-in Settings Toolbar

Bypass: Bypasses processing done by the STD-1.

Undo/Redo (arrows): Up to 32 steps of parameter history.

Settings A / B / C / D: Select banks of parameter settings; use the A/B/C/D settings to copy a complex channel setting and alter it slightly for different parts of your song, for example. These settings can be automated by your DAW system, so you can jump from setting A (in the verse) to setting B (in the chorus, for example).

Copy / Paste: To set up variations of similar sounds, you don´t have to dial in all the parameters several times. Let´s say you like your setting A and want to use the same sound, just without Tap 2 enabled, as SETTING B:

• Simply click COPY while you are in SETTING A.
• Switch to SETTING B by clicking 'B' in the SETTINGS section.
• Click PASTE, now SETTING B is identical to SETTING A.
• Switch off Tap 2. Done.

Reset: Reset parameters of the currently selected bank.

Regeneration Limiter: Applies a soft clip limiter to the Regeneration signal.

Noise: When turned up, this control applies a simulated noise floor to match that of the original hardware unit. It ranges from -∞ to -60 dB.