

H-DELAY

Hybrid Delay User Guide



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Chapter 1 – Introduction

1.1 Welcome

Thank you for choosing Waves! In order to get the most out of your new Waves plugin, please take a moment to read this user guide.

To install software and manage your licenses, you need to have a free Waves account. Sign up at www.waves.com. With a Waves account you can keep track of your products, renew your Waves Update Plan, participate in bonus programs, and keep up to date with important information.

We suggest that you become familiar with the Waves Support pages: www.waves.com/support. There are technical articles about installation, troubleshooting, specifications, and more. Plus, you'll find company contact information and Waves Support news.

1.2 Product Overview

First, Waves took everything we learned when we modeled classic hardware for our award-winning SSL 4000 Collection, V-Series, and The API Collection. Then, we imagined a series of plug-ins that would blend the best of yesterday's sound with today's technology. Finally, we brought these elements together, and created the plug-ins that would realize our vision. The result is the new Waves Hybrid Line.

From slap-back echo, ping-pong delay, and tempo-sync with modulation, to filtering, flanging, phasing, and more, H-Delay delivers real old school effects, controlled by a super intuitive interface.

1.3 Concepts and Terminology

Tape Delay Effect – Certain vintage tape delays offered an option to change the delay time by changing the tape's motor speed. This produced a pitch change, as the already recorded part was now played at a different speed. The pitch returns to normal when the recorded piece in the new speed reached the playback head. We have emulated this behavior in the Delay time control.

Delay Modulation – Using a Low Frequency Oscillator (LFO) and triangle waveform to control the delay time, Delay Modulation produces effects ranging from flanging and chorus to frequency modulation. Oscillation time can be set using either an Hz value, a BPM multiple, or a note value, e.g. 1/4 note, 1/8 note, 1/16 note, etc.

Ping Pong Delay – A stereo effect that sounds like the input signal is bouncing between the left and right output channels, Ping Pong Delay is achieved by using two delay lines that feed one another, rather than feeding themselves as in normal stereo delay mode. This effect requires a Feedback value greater than 1.

LoFi – In early digital delay devices, the sample rate was often reduced to allow greater delay values using the same memory chip, causing reduced frequency range. In LoFi mode, H-Delay emulates this behavior, while the delay time range remains the same.

Analog – Choose between 4 Analog Modes which correspond to sound qualities which are usually associated with and perceived as analog sound.

MIDI Control – H-Delay includes a MIDI node which opens upon instantiation of the plug-in. To enable MIDI control of H-Delay, assign a MIDI track to the node. All H-Delay controls (excluding Output Meter) support standard MIDI Learn procedures. (Apple Logic and Ableton Live each have their own MIDI functionality which is supported by H-Delay.)

1.4 Components

WaveShell technology enables us to split Waves processors into smaller plug-ins, which we call **components**. Having a choice of components for a particular processor gives you the flexibility to choose a configuration suitable for your material.

H- Delay is available in 3 channel configurations:

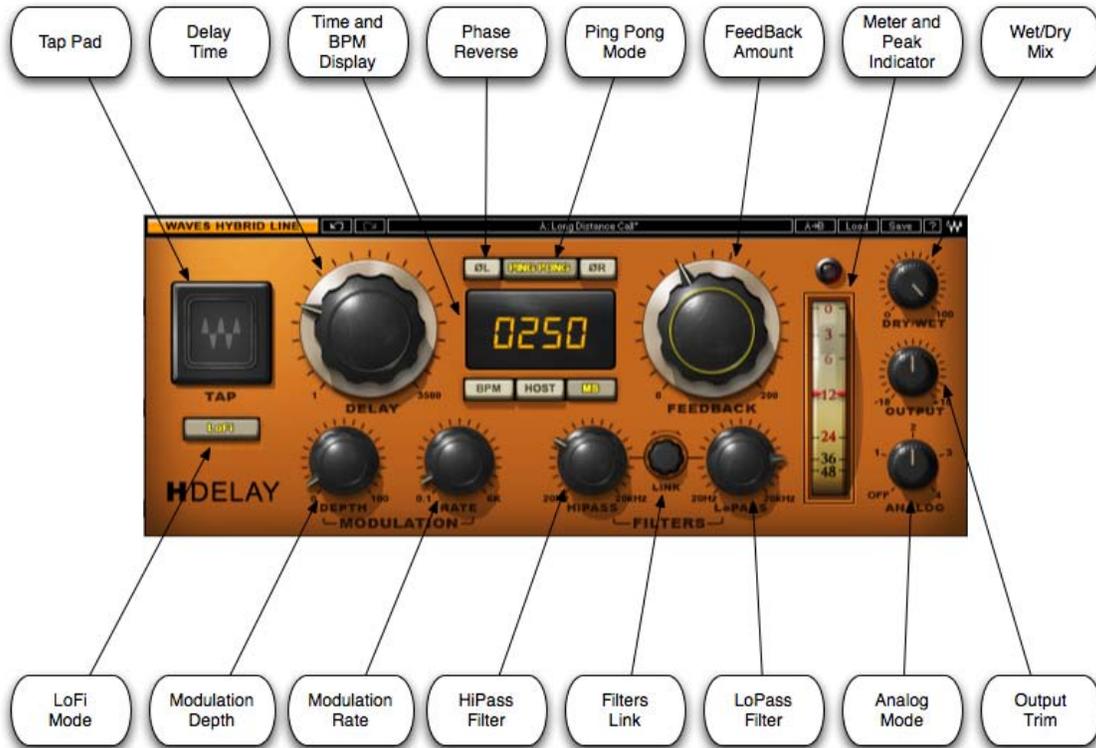
- H-Delay Mono (mono-to-mono)
- H-Delay Stereo (stereo-to-stereo)
- H-Delay M>S (mono-to-stereo)

Chapter 2 – Quickstart Guide

- When H-Delay is placed on an auxiliary track and fed using track sends, set the Mix control to 100, and balance your wet/dry mix is done using the host mixer.
- When H-Delay is used as an insert effect, use H-Delay's Mix control to set the wet/dry mix.
- First roughly set the delay time wanted, using the big Delay knob, time display, or the Tap Pad. In MS Sync mode, Delay Time is set manually (in milliseconds); in Host and BPM modes, Delay Time corresponds to BPM note values.
- When using the Tap Pad, Delay Time is set as the interval between the last two clicks on the pad. In Host and BPM Sync modes, the Delay Time will be quantized to the nearest note value.
- In Host mode, H-Delay displays your host application's current BPM. To manually change the tempo, switch to BPM mode.
- For a “bouncing” stereo effect, press the Ping Pong button.
- At settings of 1 to 100, Feedback controls the amount of delay repetition decay; at settings of 100 to 200, it controls the delay repetition build-up. Depending on the delay setting, it can get very loud, very quickly.
- For more of a vintage, low fidelity sound, press the LoFi button.
- Set the HP and LP Filters as needed. Use the link control to move both filters simultaneously, like a band-pass filter.
- Experiment with different modulation speed and depth settings until you achieve the desired effect. For example, a short delay setting with slow modulation can create a great flanging effect.
- Use the Analog control to alter the sonic character of the H-Delay effect.
- Use the Output and Mix controls to set proper output levels.

Chapter 3 – Interface and Controls

3.1 H-Delay Interface



3.2 H-Delay Controls

In addition to support of all Digidesign control surfaces, H-Delay includes a MIDI node which opens upon instantiation of the plug-in. To enable MIDI control of H-Delay, assign a MIDI track to the node. All H-Delay controls (excluding Output Meter) support standard MIDI Learn procedures. (Apple Logic has its own MIDI functionality which is supported by H-Delay.)

Delay controls the delay time.



Range: 1 to 3500 ms or BPM multiple (e.g. 1/4 note, 1/8 note, 1/16 note, etc.)
Default: 1/8D note (Host sync)

Time and BPM Display shows the delay time value, in MS Sync mode, displayed in milliseconds; in Host and BPM Sync modes, displayed in note units. Values are set using the mouse as well as the Delay control. When switching from MS mode to BPM mode (or vice versa), the display will show the nearest approximate value.



Range: 1 to 3500 ms or BPM multiple (e.g. 1/4 note, 1/8 note, 1/16 note, etc.)

Sync determines whether delay time is set according to host tempo or manually.



Range:

- Host (syncs to the host application BPM setting)
- BPM (syncs to a manual user setting)
- MS (allows manual setting, in milliseconds)

Default: Host

Depth controls the amount of delay modulation applied.



Range: 0 to 100
Default: 0

Rate sets the modulation LFO cycle rate. In BPM or Host Sync mode, the rate value is set according to a multiplier of the BPM; in MS Sync mode, the rate value is expressed in Hz.



Range: 0.1 to 6000 Hz or BPM multiples (note values)
Default: 0.1

Ping Pong activates/de-activates the ping pong delay effect. (Stereo, Mono-to-Stereo components only).



Range: On/Off
Default: Off

Please note: Using Phase Reverse on one channel in Ping Pong mode may cause some audio cancellation when using mono input sources.

Feedback controls the amount of delay feedback. At settings of 1 to 100, Feedback controls the amount of delay repetition decay; at settings of 100 to 200, it controls the delay repetition build-up (which can be used as an “endless” loop.) Depending on the delay setting, it can get very loud, very quickly.



Range: 0 to 200%
Default: 60%

Phase Reverse L/R sets the phase of each delay line. (Stereo, Mono-to-Stereo components only).



Range: On/Off
Default: Off

Please note: Phase Reverse controls are linked in Mono-to-Stereo mode.

LP Filter controls the frequency range of the low pass filter.



Range: 20 Hz to 20 kHz, Off
Default: Off

HP Filter controls the frequency range of the high pass filter.



Range: Off, 20 Hz to 20 kHz
Default: Off

Filter Link moves both HP and LP Filters by the same value, causing them to act as Band Pass Filter.



Range: 20 Hz to 20 kHz

Please note: Automation for Link movement requires Write Automation-enabling both the HP and LP filters.

Dry/Wet Mix controls the amount of dry (unprocessed) vs. wet (processed) signal.



Range: 0 to 100
Default: 100

Analog toggles between analog character modes.



Range: Off, Modes 1 to 4
Default: Mode 2

LoFi activates/de-activates the LoFi effect.



Range: On/Off
Default: Off

Output controls the output level.



Range: +/-18 dB
Default: 0

Output Meter displays the output level.



Range: 0 to -48 dBFS

Tap Pad controls the delay time by clicking. Delay Time is set as the interval between the last two clicks on the pad. In Host and BPM Sync modes, the Delay Time will be quantized to the nearest note value.



3.3 WaveSystem Toolbar

Use the bar at the top of the plugin to save and load presets, compare settings, undo and redo steps, and resize the plugin. To learn more, click the icon at the upper-right corner of the window and open the WaveSystem Guide.