



UNDULATOR

User Guide

Eventide[®]

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1.1 About This Product

Thank you for your purchase of the Eventide Undulator plug-in. Undulator is a classic Eventide effect that combines delays, detuning, feedback, and tremolo. 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.

Thank you for your purchase, and 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.

Undulator is Eventide's classic modulated tremolo effect from the iconic H3000 effects processor. This unique, rhythmic effect combines input swell, chained detuned delays, and ethereal feedback run through an AM/FM modulated tremolo. Additional secondary modulation allows for greater creativity and control. Whether used for manipulating samples or adding movement to strings, pads, guitars, and keys, Undulator is a muse for creative musicians.

Undulator can be used as Mono-In Mono-Out, Mono-In Stereo Out, or Stereo-In Stereo-Out (DAW dependent).

2.1 Navigating the Plug-In

The Undulator user interface is designed with an emphasis on user control and playability. Specifically, the large knobs are easily adjusted with an up-and-down motion of the mouse/finger, and all controls produce a smooth change in the audio, allowing you to glitchlessly shape the effect as you desire. Furthermore, the Ribbon allows you to program two settings for any combination of the controls and seamlessly morph to any sound between them.

2.2 Levels and Monitoring

IN	Controls the input level to the plug-in, between -60 dBfs and +12 dBfs. This parameter sets the input level for both the wet and dry signals.
OUT	Controls the output level of the plug-in, between -60 dBfs and +12 dBfs. This parameter sets the signal level after the mix control.
METERS	Indicates the audio level before and after the algorithm. These meters are after the IN control and OUT control, respectively, to aid in level adjustment.

2.3 Undulator Parameters

MIX	Wet/Dry mix, where 100 is an all wet signal. It has a special non-linear taper which puts most of the knob travel in the most usable range.
DEPTH	Sets the tremolo sweep range, which increases in depth/intensity as the knob is turned clockwise.
SPEED	Sets the rate of the tremolo. Note: If ENVELOPE or ADSR is selected for the SHAPE parameter, the modulation is driven by the amplitude of the audio input and the SPEED control becomes a SENSITIVITY control.
SHAPE	Selects the shape/source of the tremolo. The choices are: SINE, TRIANGLE, PEAK, RANDOM, RAMP, SQUARE, SAMPLE AND HOLD, ENVELOPE, or ADSR. ENVELOPE tracks the envelope of the incoming signal, while ADSR uses the incoming source's envelope to trigger a predetermined ADSR envelope under the hood. In addition, the RIBBON can be chosen as a source. Note that RIBBON mappings for all knobs are disabled in this mode because the algorithm is reading directly from the RIBBON.
FEEDBACK	Controls the amount of feedback in the delay structure.
SPREAD	Controls the amount of detuning in the delay structure.
MOD DEPTH AMOUNT	Controls the amount of modulation of the tremolo's DEPTH parameter from the secondary LFO. Analogous to AM (Amplitude Modulation) of the tremolo.
MOD SPEED AMOUNT	Controls the amount of modulation of the tremolo's SPEED parameter from the secondary LFO. Analogous to FM (Frequency Modulation) of the tremolo.

MOD RATE

Sets the secondary LFO rate - determines how fast the MOD DEPTH AMOUNT and MOD SPEED AMOUNT "wiggle" their targets. Ranges from 1/8 to 8X the SPEED value. Note: If ENVELOPE or ADSR is selected as the SOURCE, the modulation is driven by the amplitude of the audio input and the SPEED AMT control becomes a SENSITIVITY control.

MOD SOURCE

Selects the secondary LFO modulation shape/source. The choices are: SINE, TRIANGLE, PEAK, RANDOM, RAMP, SQUARE, SAMPLE AND HOLD, ENVELOPE, or ADSR. ENVELOPE tracks the envelope of the incoming signal, while ADSR uses the incoming source's envelope to trigger a predetermined ADSR envelope under the hood. In addition, the RIBBON can be chosen as a source. Note that RIBBON mappings for all knobs are disabled in this mode because the algorithm is reading directly from the RIBBON.

TEMPO SYNC

Controls the TEMPO MODE of the plug-in. When OFF, tapping the TAP button adjusts the tremolo's SPEED control. When in SYNC mode, SPEED will sync to the tempo set in the DAW session. When in MANUAL mode, SPEED will sync to a tempo which can be set manually, or by tapping the TAP button.

2.4 Performance Controls

USING THE RIBBON

The RIBBON allows the dynamic modification of several knobs at once, emulating what you would be able to do with real hardware in front of you. By programming left and right ranges for any knob, the RIBBON lets you morph between settings by clicking anywhere on the RIBBON and moving the electric arc back and forth.

To program the settings for the RIBBON, click on the white dot at the tip of any knob and drag it to the desired setting for the left hand side of the RIBBON. This will program the knob and draw a blue arc from the initial knob position to the new, programmed knob position. Now to adjust the knob position for the right side of the RIBBON, click on the blue dot at the opposite side of the arc and adjust it to the desired position for the right side of the RIBBON. If you wish to adjust the RIBBON programming for any knob, simply grab the dots at either end of the mark and adjust them to the desired position. To clear the RIBBON programming for any knob, simply right click on the dot at either end of its arc, or move the dots to be on top of each other.

Alternatively, the RIBBON can be programmed by pressing the button on the left or right side of the RIBBON, and then moving any knob to its desired RIBBON position for that side. The RIBBON programming can be cleared for all knobs by right clicking the button on either side of the RIBBON.

Additionally, the RIBBON is programmed to follow MIDI Continuous Control (CC) #1 messages (a.k.a. Modulation Wheel). This enables you to use the Modulation Wheel on a MIDI device to move many knobs at once.

ACTIVE

Turns the effect ON or OFF.

Active can be toggled via MIDI Continuous Control (CC) #2 messages. It will toggle when the CC goes from low (value < 64) to high (value \geq 64).

SLOW/FAST

Pressing and releasing the SLOW/FAST switch toggles the slow mode on and off. When SLOW is engaged, the tremolo and secondary LFOs will slow down by a predetermined factor.

Holding down the SLOW/FAST switch engages a BRAKE mode for as long as the switch is pressed. BRAKE mode slows the LFOs at a constant rate and pauses the tremolo until the switch is released.

SLOW/FAST can be controlled via MIDI Continuous Control (CC) #3 messages. It will toggle when the CC goes from low (value < 64) to high (value \geq 64).

TAP

If TEMPO SYNC is in OFF mode, repeatedly pressing TAP will update the tremolo's SPEED value. If TEMPO SYNC is in MANUAL mode, pressing TAP will update the tempo value. If TEMPO SYNC is in SYNC mode, pressing TAP does nothing.

TAP can be controlled via MIDI Continuous Control (CC) #4 messages. Tap is triggered when the CC goes high (value \geq 64), and will return to the off state when the CC is low (value < 64).

RETRIGGER

Retrigger the tremolo and secondary modulation LFOs to the beginning of their cycles. Useful for re-syncing during playback, or creative effects.

2.5 Preset Bar



Located at the top of the Undulator Plug-In, the Preset Bar lets you load and save presets, along with several other features.

When Undulator is installed, a library of settings is placed into the `<user>/Music/Eventide/Undulator/Presets` folder (Mac) or the `<user>/Documents/Eventide/Undulator/Presets` folder (Windows). These presets have a `.tide` extension and can be saved or loaded from the Undulator 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 AND SAVE Allows you to load a `.tide` preset that is stored anywhere on your computer. Save allows you to save a new preset to anywhere on your computer, but it is recommended that you place it somewhere in the `<user>/Music/Eventide/Undulator/Presets` folder (if on Mac) or `<user>/Documents/Eventide/Undulator/Presets` folder (if on Windows), so that it is accessible from the Preset dropdown. Note that you can create subfolders for your presets, for easier navigation and organization.

COMPARE Allows you to toggle between the current settings and the last saved or loaded preset. This allows you to save or load settings that you like, tweak as you please, and return to the original settings for comparison.

INFO Opens this User Guide, for quick access from the Undulator plug-in.

We hope you enjoy the Undulator 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.