

Ocean Swift Synthesis

Pathfinder WT, User Manual



A fully realized classic wavetable synth instrument for Native Instruments Kontakt. An inspiring and intuitive go-to instrument for a variety of detailed sounds! Such has, bread-and-butter harsh and grungy wavetable style leads and basslines, deep evolving tones and pads, dynamic morphing melodies and out of this world effects – wrapped in a simple and easy to follow design.

Integrates wonderfully with all your Native Instruments software and hardware such as Maschine and Complete Kontrol. Pathfinder WT works on free and full versions of Kontakt Player 6

Main features:

- .Kontakt instrument demonstrating the quality and power of Kontakt's wavetable mode.
- .Classic synthesis design and a familiar controls scheme for intuitive and fun tweaking.
- .Core of two wavetable oscillators with an extensive set of parameters to control.
- .Two filters in series, allowing a selection of every filter type available in Kontakt, with dedicated envelopes and lfos for each.
- .Rich set of built-in effects that include a reducer, EQ, spread, chorus, delay and reverb.
- .300 Factory Presets - magical sounds at your fingertips to get you started.
- .1500 original factory wavetables within the wavetable oscillator types.

Controls:

For all core controls such as audio and MIDI settings and preset management, refer to the Native Instruments Kontakt manual.



One thing worth noting regards the maximum polyphonic voice number. Pathfinder WT is set by default to a maximum of 64 voices. This can be altered easily by altering the max value on the instrument's main front panel in the main settings area.

OSC Section

Oscillators A-B



Semi: Offsets the pitch of the oscillator from the incoming MIDI note in semitone intervals.

Fine: Offsets the pitch of the oscillator from the incoming MIDI note in cent intervals.

Glide: Sets the pitch glide time between pitch intervals provided by incoming MIDI notes. When set to the lowest value, glide is not active.

Wavetable Select (Wt): Selects the wavetable from a choice of 15 different factory tables.

Wave Knob: Determines the waveform of the oscillator from the options available in the loaded wavetable. 100 cycles or "options" are available on each wavetable.

Form Select (f): Selects the algorithm mode used for the wavetable phase warping. In linear mode no phase warping is applied.

Form Knob: Changes the sound of the loaded wavetable by applying phase warping.

Phase: Determines the starting phase of the oscillator.

PhRnd Phase Random: Adds a random element to the starting phase of the oscillator.

Env: Determines the depth of modulation applied to the oscillator pitch by the pitch envelope.

LFO: Determines the depth of modulation applied to the oscillator pitch by the pitch LFO.

Morph: Adjusts the depth of modulation applied by the morph LFO to the wave selection, sweeping between the cycles available in the wavetable.

Gain: Determines the volume of the oscillator.

Amp Envelope



A: Determines the length of the attack portion of the envelope.

D: Determines the length of the decay portion of the envelope.

S: Determines the sustaining volume of the envelope.

R: Determines the length of the release portion of the envelope.

Unison



On: Turns the unison circuit on and off.

Voices: Sets the number of voices used by the unison circuit.

Detune: Determines the detuning amount between the allotted unison voices.

Spread: Determines the stereo spread between the allotted unison voices.

OSC Section

Pitch Envelope



A: Determines the length of the attack portion of the envelope.

D: Determines the length of the decay portion of the envelope.

S: Determines the sustaining volume of the envelope.

R: Determines the length of the release portion of the envelope.

Vel D: Determines the depth of modulation applied to the envelope's decay parameter by incoming MIDI velocity information.

Pitch LFO



Wave: Selects the waveform of the LFO between a sine, triangle, saw, square, or random.

Rate: Adjusts the speed of the modulation. When in sync mode the control and rate is determined by a division of the incoming BPM. When in free mode the control and rate is determined by frequency in hertz.

Sync: Switches between free rate and bpm sync mode for the LFO's speed.

Fade: Set the fade time for the LFO. This applies fade-in to the LFO signal, smoothly ramping the signal over time with each new MIDI note.

KBT: Sets the depth of modulation applied to the LFO rate by incoming MIDI notes. Higher notes apply faster modulation.

Retrig: Switches between free running and retriggered phase modes for the LFO. When turned on the LFO cycle will restart from zero phase with each new MIDI note.

Morph LFO



Wave: Selects the waveform of the LFO between a sine, triangle, saw, square, or random.

Rate: Adjusts the speed of the modulation. When in sync mode the control and rate is determined by a division of the incoming BPM. When in free mode the control and rate is determined by frequency in hertz.

Sync: Switches between free rate and bpm sync mode for the LFO rate.

Fade: Set the fade time for the LFO. This applies fade-in to the LFO signal, smoothly ramping the signal over time with each new MIDI note.

KBT: Sets the depth of modulation applied to the LFO rate by incoming MIDI notes. Higher notes apply faster modulation.

Retrig: Switches between free running and retriggered phase modes for the LFO. When turned on the LFO cycle will restart from zero phase with each new MIDI note.

Filter Section

Filters A - B



Type: Sets the filter type between the available choices. When set to bypass, the filter is turned off.

Cut: Determines the cutoff point of the filter.

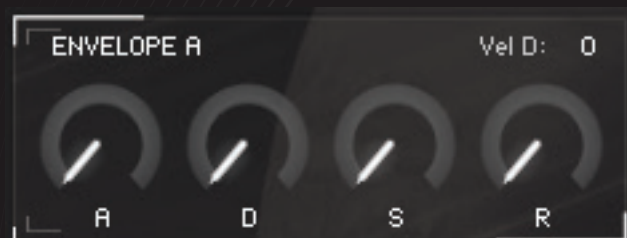
Res: Sets the gain of the resonance peak of the filter.

Env: Determines the depth of modulation applied by the filter envelope to the filter cutoff.

KBT: Sets the depth of modulation applied to the LFO rate by incoming MIDI notes. Higher notes apply faster modulation.

Mod: Determines the depth of modulation applied by the filter LFO to the filter cutoff.

Filter Envelope



A: Determines the length of the attack portion of the envelope.

D: Determines the length of the decay portion of the envelope.

S: Determines the sustaining volume of the envelope.

R: Determines the length of the release portion of the envelope.

Vel D: Determines the depth of modulation applied to the envelope's decay parameter by incoming MIDI velocity information.

Filter LFO



Wave: Selects the waveform of the LFO between a sine, triangle, saw, square, or random.

Retrig: Switches between free running and retriggered phase modes for the LFO. When turned on the LFO cycle will restart from zero phase with each new MIDI note.

Rate: Adjusts the speed of the modulation. When in sync mode the control and rate is determined by a division of the incoming BPM. When in free mode the control and rate is determined by frequency in hertz.

Sync: Switches between free rate and bpm sync mode for the LFO's speed.

Fade: Set the fade time for the LFO. This applies fade-in to the LFO signal, smoothly ramping the signal over time with each new MIDI note.

KBT: Sets the depth of modulation applied to the LFO rate by incoming MIDI notes. Higher notes apply faster modulation.

Tube

Tube: Adjusts the amount of tube distortion applied to the filter output. When Filter Type is set to bypass the tube distortion is Off.

Effects Section

Reverb



On: Turns the reverb effect on and off.

Type: Selects the reverb algorithm from a choice between room and hall modes.

Time: Adjusts the decay time of the reverb signal.

Delay: Induces a delay between the original signal and the reverb signal.

Size: Determines the size of the simulated space, based on the mode selected with the type parameter.

Wide: Widens the stereo image of the reverb signal.

Damp: Sets the absorption of the reflections produced by the reverb signal. Higher values produce a reverb signal with less high frequency content.

Diffuse: Adjusts the density of reflections produced by the reverb signal.

HP: Adjusts high pass filtering of the reverb signal.

LP: Adjusts low pass filtering of the reverb signal.

Dry: Sets the volume of the unaltered original signal passing through the effect.

Wet: Sets the volume of the effect signal.

Delay



On: Turns the delay effect on and off.

Ping: Switches between a normal stereo delay and a ping pong delay type.

Time: Sets the delay times in milliseconds or tempo divisions based on the sync switch for the delay signal.

Sync: Switches between time in milliseconds and BPM sync mode for the delay times.

FB: Determines the feedback in the delay circuit.

HP: Adjusts high pass filtering of the delay signal.

LP: Adjusts low pass filtering of the delay signal.

Sat: Applies saturation to the delay signal input, adding warmth to the sound.

Mod: Determines the depth of modulation applied to the delay time by the delay modulation LFO.

Rate: Determines the rate of modulation applied to the delay time by the delay modulation LFO.

Dry: Sets the volume of the unaltered original signal passing through the effect.

Wet: Sets the volume of the effect signal.

Effects Section

Redux



On: Turns the sample rate reducer effect on and off.

SR: Artificially degrades the sample rate of the signal, producing a buzzing, grungy sound.

Spread



On: Turns the stereo spread effect on and off.

Widen: Widens the stereo picture of the signal.

EQ



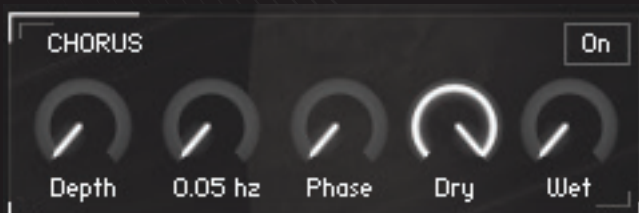
On: Turns the equalizer effect on and off.

Tone: Sets the frequency position at which boosting or cutting is applied by the gain parameter.

Wide: Determines the width of the curve at the tone position, affecting a larger frequency area on higher values.

Gain: Adjusts the amount of boost or cut applied to the signal at the tone position.

Chorus



On: Turns the chorus effect on and off.

Rate: Determines the rate of modulation of the chorus effect.

Depth: Determines the depth of the chorus effect applied to the signal.

Phase: Sets the phase of the chorus signal in relation to the original signal.

Dry: Sets the volume of the unaltered original signal passing through the effect.

Wet: Sets the volume of the effect signal.

Wavetables

General Information

Wavetables are a great way to provide for a varied oscillator source. The first interesting thing about wavetables is that they allow a synthesizer to provide for an assortment of unique wave-shapes as the oscillator source. The second interesting thing is the ability to sweep across the wavetable, thus “morphing” from one cycle to another creating dynamic sonic textures. While these two characteristics are very interesting to explore, they are somewhat at odds with each other. A wavetable consisting of many unique cycles will produce a strange and incoherent sound when aggressively swept across the cycles, while a great morphing wavetable will often consist of many cycles that are only slightly different from each other. For this reason Pathfinder WT includes both types of wavetables - tables consisting of a vast assortment of interesting and unique cycles as well as tables consisting of specially constructed morphing tables.

Loading Wavetables



The Kontakt wavetable mode expects cycle sizes of 2048 samples and allows loading wavetable files with up to 100 cycles.

Loading an alternative wavetable is easily done though Kontakt’s mapping editor, available when the instrument’s edit mode is enabled. Within the mapping editor, odd numbered groups represent the wavetable choices on oscillator A and even numbered groups represent the choices on oscillator B. Simply right-click on the wave file in the mapping editor and select “exchange sample” to load a new wavetable file to the oscillator in the desired slot.

Extra Wavetables

We provide additional wavetables in the form of free and payed wavetable packs via the Ocean Swift website. You are also free of course to load any wavetables from any source.

Note: Any New Loaded Wavetables wont be saved directly in Presets/Snapshots

Tips & Tricks

Effects



Generally when using Effects, pay special attention to wet and feedback controls, very high feedback and wet values can have bad results in your Mix.

Using 2 Filters Types



Pathfinder offers all filter types available in Kontakt, it can be overwhelming but with some time and practice you will start to come up with some of your own tricks and tweaks to it. For example, you can use Filter B to apply a high-pass filter to smoothly cut the low frequencies of your sound! Try adding a bit of Distortion in Filter B or Filter A, or both, the distortion sounds quite different in each filter setting, experiment with these.

Filter Distortion

Pay attention to the distortion levels applied, when using more aggressive distortion, which can be very fun, pay attention in both Osc volumes and Kontakt main output level

OSC Wavetable

You can use the wave knob to navigate the wavetable without using the Morph LFO, you can for example automate this knob in your DAW, so you control the wave morphing by yourself without using LFOs, or you can do this and apply a bit of Morph LFO at the same time to add some unpredictability.

This trick works a lot better of course, when you are using morphed wavetables, try with Wt: *Morph 1, 2, 3, and 4* or import any of the extra morphed WTs we provide in our website

Tips & Tricks

OSC Layering Several Wavetables



Use the mapping options in your Kontakt window (referred in page 06) not only you can change the default wavetables we include you can layer several Wts on top of each-other. Apply different volume and pan settings in each layered WT for some extra stereo goodness. Please note that these changes won't be saved directly in Pathfinder's snapshots/presets.

Credits

Photography Used: NASA Goddard Space Flight Center

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Pathfinder WT is Produced and Designed by Ocean Swift Synthesis, 2019

Circuit Design: Yaron Eshkar

Gui Design: Fernando Abreu

Web:

<https://www.oceanswift.net>

<https://www.facebook.com/oceanswiftsynthesis/>



While you do not need the full version of Kontakt to use Pathfinder WT, it is a great addition to any studio and we encourage you to check it out:

<https://www.native-instruments.com/en/products/komplete/samplers/kontakt-6/>