

NOVAKILL COLDKILLERmini



COLDKILLERmini is **NOVAKILL**'s first additive synth and is based on the newly evolved **XE Platform**. All synths in this line have a very similar structure. The main difference between them is the oscillator used. **COLDKILLERmini**'s additive oscillator has 31 partials and a range of editing tools. The "mini" versions of all XE-based instruments are freeware. Full versions, featuring multiple oscillators, two LFO and a full Modulation Matrix will be available exclusively with **NOVAKILL**'s new album, *I HATE GOD*, available mid-2008.

WORKING WITH COLDKILLERmini

The goal with all the **killer** synths is ease-of-use, without sacrificing sound quality or flexibility. The additive oscillator comes with a number of handy tools and is a lot of fun to simply play around with. To see how flexible the oscillator can be, there are "Initial" presets showing all the preset waveforms in their raw state.

Let's start with our usual looping MIDI pattern so that we can adjust parameters and hear changes as we make them. Once you have your loop running, go through all the "Initial" presets to hear how versatile the oscillator can be. We'll stay with the last patch, "Initial-DIGI10" and have a look at some of the editing tools available to us.

First off, we can use our mouse to manually edit the partials [the bars in the graph area]. What we will do is raise every partial to its maximum value. To do this, click in the window and drag upward. Unfortunately, it is not as responsive and we'd like and you may find it hard to maximise every bar. Don't let that bother you, just get them somewhere near the top and notice how the timbre changes as you do so. Once they are all up high, click on the "Edit" label and choose [Amplitude] Gain Expansion] from the menu. This should get all the bars at the same level. If not, try repeating this step.

Now try the LF Rolloff from the same menu and see/hear what happens. Undo that step from the menu and try HF Rolloff [don't undo]. These tools are kind of handy but it is the next set, from the "Harmonics" menu, that really let us be creative.

Click "Edit" again and choose [Harmonics]Reset Odd]. That has made a big difference in one step. You might think that Resetting the even steps would do something similar but if you try it [remember to undo first, as there is only a single undo available], you'll see the effect is very different. Resetting the Odd steps to zero has the effect of creating a square wave sound, whereas resetting the Evens simply creates a thinner version of the original sound.

Now try resetting the high and low partials to see/hear what happens, remembering to undo after each operation.

Next comes the "Invert" tools. Inverting All should not sound different but will look quite different in the graph. Inverting Odds or Evens will give you a much smoother sound.

Leave your Evens inverted and try the last tool - Reverse. You'll notice the effect is quite like switching from a High-Pass to a Low-pass filter. That should give you a few clues as to how you can make some pretty sophisticated sounds using both the oscillator's features and the X-Filter.

For a more in-depth look at all the other features of this instrument, check out any of the other manuals, such as **ANGSTKILLERv2mini**.

UI CONVENTIONS



SELECTOR - Use arrow button to increment through choices or click on the display for a drop-down menu.



SLIDER - Drag slider handle or enter exact value in the numeric field by clicking on the displayed value.



BUTTON [LED] - In the labelled state when lit.



X-Y PAD - See **X-FILTER** on Page 2



ENVELOPE - See Page 3

CONTROLS

OSCILLATOR

WAVE	Click to select a preset waveform
EDIT	Provides simple tools to edit harmonics
MODE	Click to access display settings
OCT	-2 to +2 octaves
SYNC	Sync waveform start position for all waves [use with Unison on]
UNISON	No. of Unison Voices
SPREAD	Detune Unison voices for a fatter sound

X-FILTER

The **X-Filter** features two **X-Y pads**. The first controls **Resonance** in the **X** direction [increasing to the right] and **Filter Cutoff** in the **Y** direction [increasing upwards]. The second mixes the four Filter Modes. Clockwise from bottom-left they are **Low-Pass**, **High-Pass**, **Band-Pass** and **Band-Reject** [notch].

Exact values can be entered into the **X** and **Y** numeric fields of the second pad only, by clicking on the displayed value and typing a new one.

LP24	Switch the Low-Pass Filter from 12 to 24dB/octave mode
MW>C/OFF	Use a Modulation Wheel from a controller keyboard to set the Cutoff value
EDIT	Opens the Envelope Editor window. The Envelope can also be manipulated in the main display window [see ENVELOPES]
CUTOFF	Depth of Envelope Modulation
VEL MOD	Use Note Velocity to modulate the Cutoff value
VCA	
EDIT	Opens the Envelope Editor Window. The Envelope can also be manipulated in the main display window [see ENVELOPES]
VOLUME	Master Volume control
WIDE1	Add a short delay to one channel to spread the sound in the stereo field
WIDE2	Invert one channel to create space in the centre of the mix
MONO	Monophonic operation [no Unison]
RETRIGGER	Retrigger all envelopes for each new note - Mono mode only
PORTAMENTO	Portamento time [Legato only]
VEL>VOL	Effect of Note Velocity on Volume
GATE>VOL	Gate Effect to Volume [Trance Gate]

LFO

PHASE	Alter the start position of the LFO wave
SYNC	Restart the LFO for each note
WAVE	Select the LFO waveform - 19 available
ROUND	Set Pulse Width [Pulse Wave only] or soften the Random 2 Wave [reduce clicks]
TIME	Set the LFO period [synced to tempo]
DELAY	Add LFO modulation gradually over time
DESTINATION 1-2	Select LFO destination [Slider sets modulation depth]
INVERT	Inverts the LFO modulation [good for off-setting Destination 1 & 2]
MW	Use a Modulation Wheel from a controller keyboard to set the modulation depth

EFFECTS

The GATE effect can be used to modulate several parts of the synth signal - Oscillator **Pitch** [use with **S&H**], **FM Depth**, **Filter Cutoff** and **Volume** [from a dedicated slider in the **VCA** section]. Create a pattern from the 16-button grid and set up the other parameters for a different type of modulation.

DIVISION	Set the speed at which the pattern plays, relative to host tempo
TIE	Tie adjacent, active steps together into a single, long step
RESET	Reset the pattern for each new note
DECAY	Set the envelope decay for each step
S&H	Sample & Hold adds random strength to "on" value of steps for "human" feel

OVERDRIVE Mixes distorted and dry signal

MW	Use a Modulation Wheel from a controller keyboard to set Overdrive Mix
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GLOBAL

ABOUT	Toggle the About/Welcome screen
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ENVELOPES



The two envelopes in this instrument are slightly different. The **VCA Envelope** is a straightforward **ADSR** jobbie, whilst the **Modulation Envelope** has an extra segment before the Sustain level is reached.

Both envelopes use a similar editor window. It offers a larger window for more accurate settings, as well as buttons to change the interpolation [slope] of each segment. Both large and small windows allow the editing of the envelope by clicking on the points and dragging them. The maximum envelope time is fixed, i.e. The first and last points cannot be moved on the X-Axis, and is set to provide roughly the same time as having all sliders on maximum if the envelope were slider-driven. For shorter envelope times, the visual "slack" is taken up by the horizontal line denoting the sustain segment, which gets longer or shorter, depending on the other settings.

It is possible to zoom and pan horizontally within the Editor Window [but not the smaller display]. Simply click and drag, away from any envelope points, to pan left or right. Hold the **SHIFT** key whilst dragging to zoom.

There are buttons to change the slope of each segment [only in the Editor window]. Press repeatedly to cycle through the four modes - Linear, Exponential, Logarithmic and "S" Curve.

NOTE: The first and last points for each envelope can be moved in the **Y-Axis**. This can be handy for the **Modulation Envelope**, as the envelope can start/end with any value, however for the **VCA Envelope**, it is advisable to always ensure that the last point's value is zero [or the sound will continue indefinitely].

MIDI CC TABLE

OSCILLATOR

PARAMETER	CC	PARAMETER	CC
WAVEform	21	SYNC	22
OCTave	23	Mod Wheel to FM	24
Pulse WIDTH	25	ENvelope to PW	26
FM Depth	27	VELocity to FM	28
x10	29		
UNISON Voices	10	Unison SPREAD	11

X-FILTER

PARAMETER	CC	PARAMETER	CC
On/Off	12		
CUTOFF	13	RESOnance	14
X-Mix	15	Y-Mix	16
ENvelope MOD	17	VELocity MOD	18
LP24 On/Off	19		

VCA

PARAMETER	CC	PARAMETER	CC
WIDE 1 On/Off	41	WIDE 2 On/Off	42
MONO On/Off	43	RETRIGger On/Off	44
VELocity to VOL	45	GATE to VOL	46
PORTamento	05	VOLUME	07
Attack	70	A Slope	76
Decay	71	D Slope	77
Sustain Level	74		
Release	75	R Slope	79

MODULATION ENVELOPE

PARAMETER	CC	PARAMETER	CC
Attack	60	A Slope	66
Decay	61	D Slope	67
Break-Point	62		
Slope	63	S Slope	68
Sustain Level	64		
Release	65	R Slope	69

LFO

PARAMETER	CC	PARAMETER	CC
SYNC	50	PHASE	51
WAVEform	52	ROUND	53
TIME	54	DELAY	55
DESTINATION 1	56	Depth 1	57
DESTINATION 2	58	Depth 2	59

GATE EFFECT

PARAMETER	CC	PARAMETER	CC
DIVisions	91	DECAY	92
Sample & Hold	93		
to Pitch	94		
to Cutoff	95		

OVERDRIVE

PARAMETER	CC
Wet/Dry Mix	100

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