



**NOW UPDATED to Version 1.5** - Backwards-compatible with v1.0. New features and fixes:

- filter updated to full X-Filter with mixable Low-Pass, Band-Pass, High-Pass and Band-Reject [notch] modes
- slope buttons added to VCA envelope as well as Mod Envelope
- enhanced interface graphics for greater ease-of-use
- LFO now continues after note OFF until envelope release decays to zero

## GETTING STARTED WITH NOVAKILLER

**NOVAKILLER** is a fairly straightforward synth with a few interesting and less straightforward tricks in the oscillator which give it a good range of possibilities. let's explore some of them by taking the SY-Initializer preset and turing it into a few different sounds. Create and loop a synth line in your host to work with.

We'll start with a simple saw bass by reducing the **SUST**ain sliders on both envelopes and the **CUT**off to zero. The synth will stop making sound. To open the filter again, increase the Filter's **ENV**elope slider to about **40**, then decrease the MOD **ENV**elope's **DEC**ay to about **45** to get a good, percussive shape. Because its a bass sound, change the **OCTAVE** setting to **-1**, then increase the Filter's **RES**onance to **46** to get that nice, punchy bass sound. Now try toggling the **24dB** switch to hear the difference between a 12dB/octave and 24dB/octave filter.

Now we'll take this and turn it into a gnarly lead sound. First off, click on the **Slope** button below the MOD **ENV**elope's **DEC**ay slider to hear the effect of each type. This simple control has a huge effect on the Filter modulation which changes the whole sound. Select the "Convex" shape [the one after the straight line (Linear)] and increase **SUST**ain to about **32** on the MOD **ENV**elope and **48** on the VCA. Now turn on **HARD SYNC** and play around with the **SYNC** slider to hear how it affects the sound. When you're done, leave it at around **12**, which is a handy value, and change the **OCTAVE** value to **-2** [hard sync modulates the pitch so turning down the octaves works well for us here]. Now change the **UNISON** value to **5** and **SPR**ead to around **16** to give it a fat sound. The last steps will be to turn the **PORTA**mento up to about **24** and turn up the **RAGE** [overdrive] until you're happy with the result. You can get info on how FM works from the **ANGSTKILLERmini** manual.

## OSCILLATOR



<b>WAVEFORM</b>	Click to select the next waveform
<b>PW</b>	Set Pulse Width for the Pulse waveform
<b>PWM</b>	Envelope Modulation depth [Pulse Width]
<b>FMENV</b>	Envelope Modulation depth [FM]
<b>FMVELOCITY</b>	Velocity Modulation depth [FM]
<b>SPRD</b>	Unison Spread [detune]
<b>HARD SYNC</b>	HARD SYNC On/Off
<b>FM</b>	FM On/Off
<b>M/WHEEL</b>	Control FM with Modulation Wheel
<b>OCTAVE</b>	OCTAVE Selector
<b>UNISON</b>	No. of Unison Voices

## MODULATION ENVELOPE



<b>ATK</b>	Envelope Attack time
<b>DEC</b>	Envelope Decay time
<b>SUS</b>	Envelope Sustain point
<b>REL</b>	Envelope Release time

The 3 buttons below **ATK**, **DEC** and **REL** are used to change the interpolation of each time segment. Click to cycle through Linear, Convex, Concave and "S" Curve.

## FILTER



<b>CUTOFF</b>	Filter Cutoff value
<b>RESONANCE</b>	Filter Resonance
<b>X:</b>	Filter Mix X-Axis [click numbers to enter exact value]
<b>Y:</b>	Filter Mix Y-Axis [click numbers to enter exact value]
<b>ENVELOPE</b>	Envelope Modulation depth [Cutoff]
<b>INVERT</b>	Invert the Envelope Modulation
<b>VELOCITY</b>	Velocity Modulation depth [Cutoff]

**24dB(LP)** Switch from 12 to 24dB/Octave - Low-Pass only  
**MOD WHEEL** Control Cutoff with Modulation Wheel

## LFO - LOW FREQUENCY OSCILLATOR



**DELAY** Delays modulation onset  
**PWM** Pulse Width Modulation depth  
**SYNC** to hard SYNC  
**FM** FM Modulation depth  
**CUTOFF** Cutoff Modulation depth  
**INVERT** Inverts the Cutoff Modulation  
**PAN** Stereo Pan Modulation depth  
**[shape]** LFO Waveform  
**TIME** Tempo-sync'ed LFO frequency [1/16th Note to 16 Bars]

## VCA - VOLTAGE CONTROLLED AMPLIFIER



**ATK** Envelope Attack time [Linear interpolation]  
**DEC** Envelope Decay time [Linear interpolation]  
**SUS** Envelope Sustain point  
**REL** Envelope Release time [Linear interpolation]  
**VOLUME** Master Output Level  
**VELOCITY** Velocity Modulation depth [Volume]  
**PORTAMENTO** Portamento time  
**RAGE** Overdrive Wet/Dry mix  
**MONO** Monophonic operation  
**RETRIGGER** Retrigger envelopes for each new note [Mono only]  
**WIDE1** Adds slight delay to one channel  
**WIDE2** Inverts Left channel for wide stereo effect

## MIDI CC TABLE

### X-MOD OSCILLATOR

PARAMETER	CC	PARAMETER	CC
WAVEform	21	OCTAVE	22
Pulse Width	23	PWM depth	24
HARD SYNC [on/off]	25	[hard] SYNC depth	26
FM [on/off]	27	FM ENvelope depth	28
FM VELOCITY depth	29	Mod WHEEL [to FM]	30
UNISON [voices]	10	SPReAD	11

### FILTER

PARAMETER	CC	PARAMETER	CC
CUTOFF	13	RESonance	14
ENVELOpe	15	INVert	16
VELOcity	17	LP24 On/Off	18
MOD WHEEL	19		
X-Mix	11	Y-Mix	12

### VCA

PARAMETER	CC	PARAMETER	CC
ATK	41	MONO	45
DEC	42	RETRIGger	46
SUS	43		
REL	44		

### MODULATION ENVELOPE

PARAMETER	CC	PARAMETER	CC
ATK	31	A Slope	35
DEC	32	D Slope	36
SUS	33		
REL	34	R Slope	37

### LFO

PARAMETER	CC	PARAMETER	CC
SHAPE	51	DELAY	52
TIME	53	to PWM	54
to hard SYNC	55	to FM	56
to CUTOFF	57	INVert	58
to PAN	59		

### VCA

PARAMETER	CC	PARAMETER	CC
VOLUME	07	VELOcity	08
PORTamento	05		
WIDE 1	47	WIDE 2	48
RAGE	50		

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