



Waverazor Quick Start Guide v2.7.0

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Welcome to Waverazor™!

Thank you for choosing MOK's flagship synthesizer, Waverazor! We are certain this instrument will provide an experience in synthesis unlike any you've ever had.

For a comprehensive look at Waverazor's synthesis engine and sound editor, please check out the Waverazor Manual, which you can find under the "?" button in the plugin itself, or in the manuals section of the Tracktion website: www.tracktion.com/training/manuals#waverazor

Here's a brief look at Waverazor's unique features:

- Unparalleled waveform sculpting capabilities
- Up to 24 simultaneous filters per voice and 48 bus effects
- Innovative features such as Mutant AM and Multi-Sync
- Oscilloscope mode with freeze and zoom functions for real-time visual feedback of waveform edits
- Dual Vector Controllers with X/Y modulation capabilities
- Operates in Windows, Macintosh, and Linux platforms
- AU, VST, VST3, AAX compatibility

System Specifications

Macintosh: OS X 10.8 or higher (32- or 64-bit operation)

Windows: Windows 7 or higher (32- or 64-bit operation)

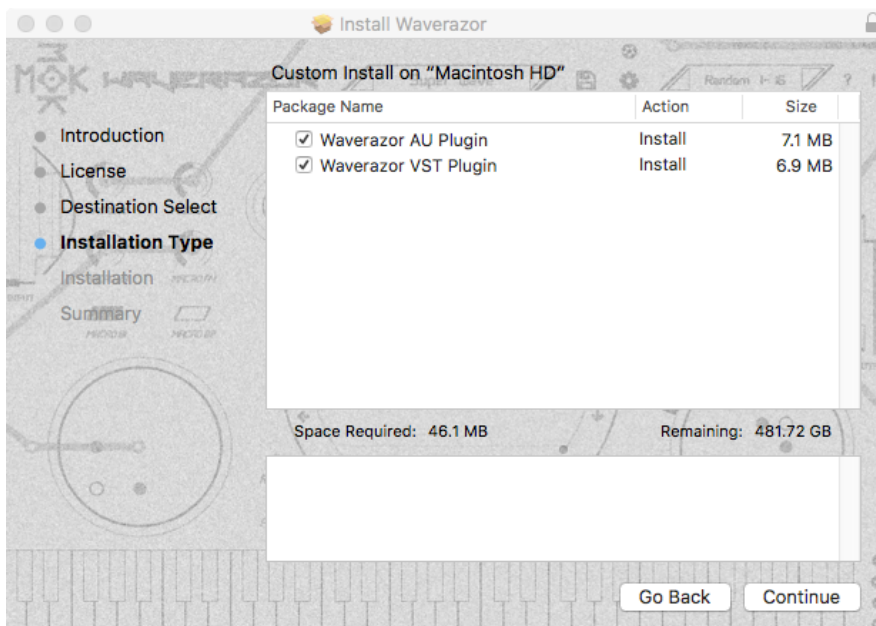
Linux: Tested on Ubuntu 16.04 (64-bit operation)

Installation

The Waverazor installer file is available for Mac OS X (.dmg), Windows (.exe), and Linux (.tar.gz). Once you have downloaded and unzipped the installer file, follow these steps:

Mac OS X

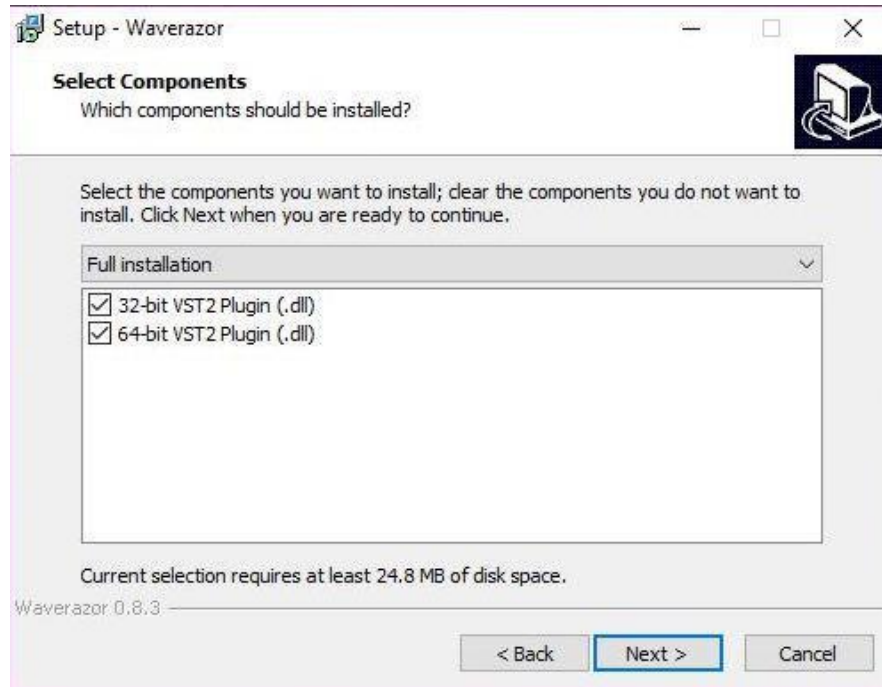
1. Double-click the .dmg file
2. Double-click the .pkg file
3. Accept the license terms and conditions
4. Choose the desired versions of Waverazor: AU, VST, VST3, AAX



5. Select destination location
6. Enter your password to authorize installation
7. Once the installation is complete, close the installation window.
8. Eject the .dmg file.

Windows

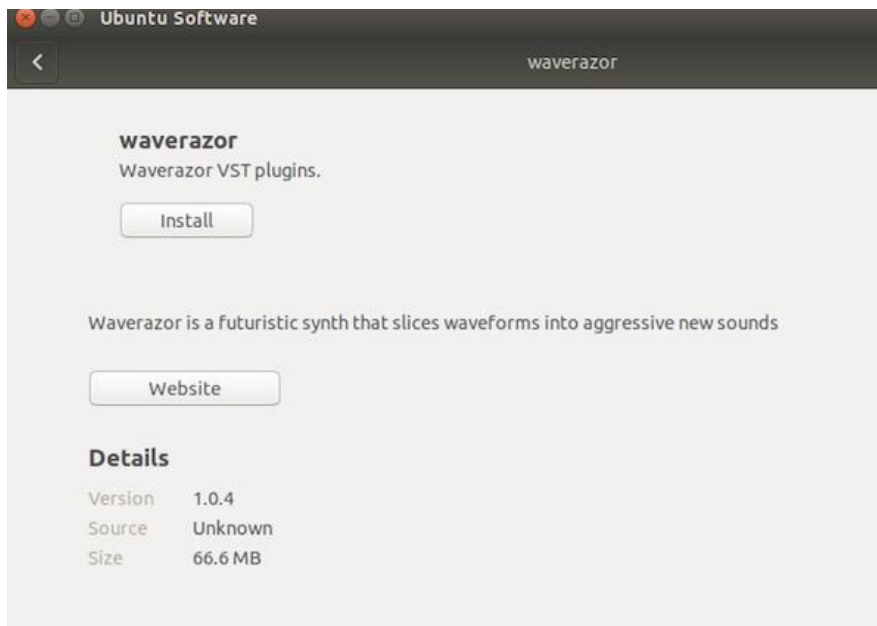
1. Double-click the .exe file
2. Accept the license terms and conditions
3. Select destination location



4. Confirm the file types to be installed
5. Confirm shared folder locations
6. Confirm program shortcut locations
7. Choose whether to create a desktop icon
8. Confirm all installation choices
9. Click Install.

Linux

1. Unpack the .tar.gz file
2. See the enclosed **readme.txt** file for details about where things will be installed
3. See the enclosed **eula.txt** for the software license terms for Waverazor.
4. Launch the Waverazor .pkg installer



5. Select Install
6. Enter your password to authorize installation
7. Once the installation is complete, close the installation window.

Registration

When you first open Waverazor, it will display "NO SOUND" on the Main UI screen beneath the Settings button (the "Gear" Icon).

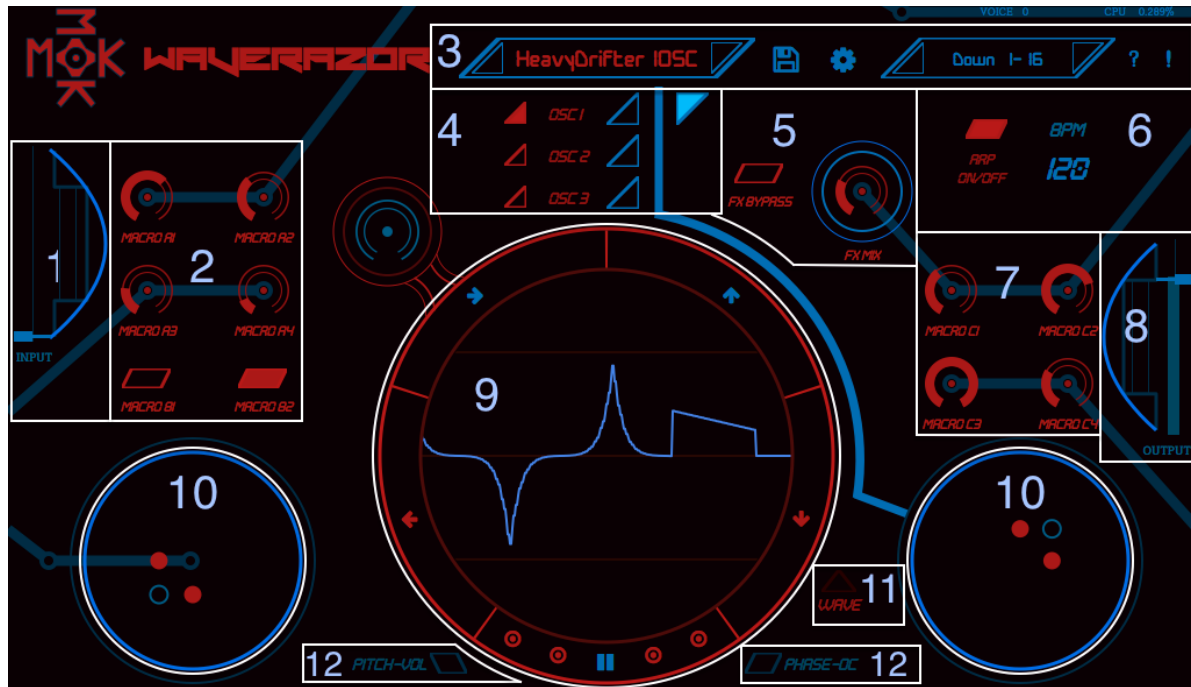
If it is not registered, Waverazor will not make any sound. You will need to unlock Demo Mode, LE, or register your purchase using your Tracttion account login in order to use the plug-in. You can do this by pressing the "NO SOUND" button (or the Settings button), then the Register button (or Offline Unlock button if there's no internet connection immediately available), and then enter your login details in the fields provided.

Waverazor LE provides limited functionality for free with no time restriction, while Demo Mode allows complete functionality of Waverazor for 30 days. At the end of that period, you must purchase Waverazor or switch to LE if you wish to continue.



The screenshot shows a registration dialog box titled "Register Waverazor". The text inside the dialog reads: "Waverazor is running in an unregistered mode. In unregistered mode there is NO SOUND. If you purchased Waverazor from the Tracttion Marketplace, simply enter your email and password below to unlock it. If you wish to demo Waverazor without restrictions and with audio, enter your login details and press Register". Below the text are two input fields labeled "Email Address" and "Password". At the bottom of the dialog are four buttons: "REGISTER", "PURCHASE ONLINE", "OFFLINE UNLOCK", and "CANCEL".

Main Performance Page



The Main Performance page opens when you start Waverazor. It contains the top-level, performance-oriented features plus the “gateway” features that access the editing parameters.

1	Input level	Controls the audio input level
2	Performance macro controls	Control sound parameters; functions/names may vary
3	Toolbar	Patch/arpeggiator browsers, Save mode, Settings, Help, Panic
4	Oscillator/oscilloscope selectors	Enable/disable oscillators, select Oscilloscope views
5	FX controls	Toggle FX on/off; control FX wet/dry balance
6	Arpeggiator/Tempo controls	Activate arpeggiator, set tempo value, set sync mode
7	Performance macro controls	Control sound parameters; functions/names may vary
8	Output level	Controls the audio output level
9	Oscilloscope	View and edit waveform output
10	Vector controls	Modulate and/or animate sound parameters
11	Wave mode button	Access/select the shape and variations of wave segments
12	Waveform edit buttons	Access/edit pitch, volume, phase & DC offset of wave segments

1. Input level

Click this fader to control the audio input level. Ctrl-click to reset the fader (Cmd+click on Mac).

2. Performance Macro controls

The knobs and buttons control sound parameters. These can be single parameters or macros. The assignments and labels are determined by the sound designers, so their functions and names may vary from one patch to another. They are also MIDI-assignable.

3. Toolbar

Select patches or arpeggiator patterns by clicking within the large rectangular fields or using the left/right buttons on either side of the fields. The floppy disc icon activates Save mode, while the gear icon will open the Settings window. The question mark icon opens this manual, and the exclamation point sends an All Notes Off command to all active Waverazor voices.

4. Oscillator/oscilloscope selectors

The red triangles mute and unmute the oscillators, while the three blue triangles select an oscillator for editing and then show a static waveform so you can see what you're doing. The single blue triangle on the right is used to exit the waveform editing mode and return to Oscilloscope mode.

5. FX controls

This area has the top-level, basic controls for the effects section. The Bypass button will toggle all three effects sends on and off, and the Effects Mix knob controls the balance between the effects and the dry signal.

6. Arpeggiator section

The Arp On/Off button enables and disables the arpeggiator, which can then be triggered by an incoming MIDI note. The BPM field displays the tempo value and also allows you to enter a new one: simply click the number and drag it up or down, or double-click the field to type in a number between 1 and 480 beats per minute. To the right of the BPM field, you'll find the arpeggiator synchronization setting. It can be set to INTERNAL, which references Waverazor's

own independent clock; EXTERNAL, which synchronizes Waverazor's tempo to the host's clock; and EXT+BEAT, which synchronizes Waverazor's tempo to the host's while aligning the notes to MIDI beat clock.

7. Performance Macro controls

These knobs also control sound parameters. They can be assigned to single parameters or macros. The assignments and labels are determined by the sound designers, so their functions and names may vary from one patch to another. All of these features can be controlled via MIDI.

8. Output level

This fader controls the audio output level. Ctrl-click to reset the fader (Cmd+click on Mac).

9. Oscilloscope

At the top level the Oscilloscope shows how the various oscillator parameters affect the main output waveform. The buttons around the ring partitions allow you to "freeze" and zoom in or out on the waveform. The four circles on either side of the "pause" button access different oscilloscope trigger modes (how it synchronizes with the audio).

The two smaller blue buttons access the waveform edit view for each oscillator. In this mode the ring buttons can select a segment for editing, allowing you to edit pitch/volume and phase/DC offset per segment. You can also select the wave shape per segment.

The single blue button returns to Oscilloscope mode, with its real-time view of the main output.

10. Vector controls

Click and drag the blue vector dot to modulate sound parameters. The controllers are MIDI-assignable, so your DAW can record and play back their actions.

11. Wave mode button

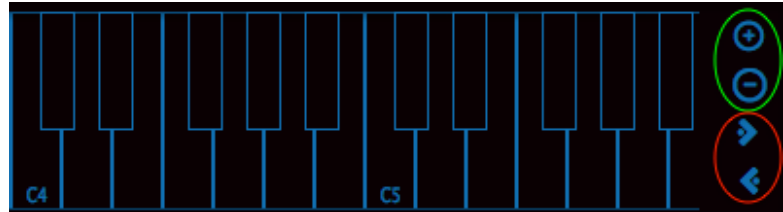
Use one of the blue oscillator view buttons to activate the Wave mode button. This allows you to select the shape and variation for each of the waveform segments. Use the partitions around the ring to select between the waveform segments.

12. Waveform edit buttons

Use one of the blue oscillator view buttons to activate the Waveform edit buttons. From here you can select between Pitch – Volume X/Y editing or Phase – DC Offset X/Y editing of the waveform segments. Use the partitions inside the ring to select between the waveform segments.

13. Keyboard

Use the cursor to trigger notes on the virtual keyboard. The +/- buttons zoom the visible keyboard range; the left/right arrows shift the keyboard range.

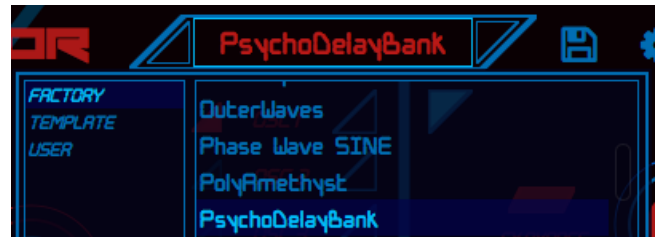


The Tool Bar

Patch Browser

Click the Patch name field to open and close the Patch browser window. This reveals a scrollable list of patch names from which you can select a new patch.

Use the categories on the left side of the patch name list to specify the sound bank.



You can also click the arrows on either side of the patch name to select another patch. The arrows are MIDI-assignable.

Save

Click the floppy disc icon to open the Save menu. You can save the edited patch on top of itself or use the Save As function to give it another name.

The functions of the save menu are:



SAVE: This is only available for USER bank patches, as Factory Presets cannot be overwritten. This saves a patch in place.

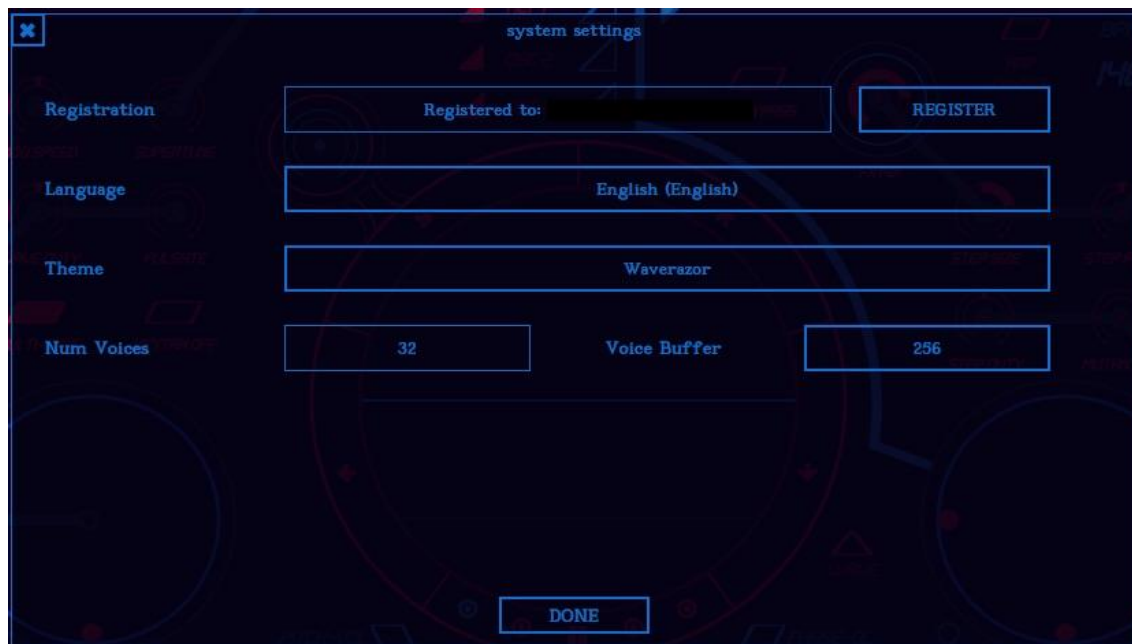
SAVE AS: It is always possible to save the current patch state as a new User Patch in the User Bank.

RENAME: This menu item is only available for USER bank patches. It allows you to change the name of the patch.

DELETE: This menu item is only available for USER bank patches. This erases the selected patch from the USER bank.

IMPORT: This menu item is always available. It allows you to open a .wraz file from the disk and imports it into the USER bank.

EXPORT: This menu item is always available. It allows you to save the current patch to a location on your disk as a .wraz file.



Settings

Click the gear icon to open the Settings window. You'll use this to register your copy of Waverazor. This is also where you'll select the language and theme for the user interface.

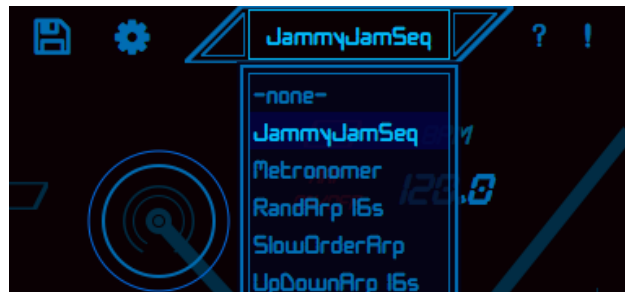
(Sanskrit is one of our favorites, though Klingon is pretty cool too.)

You can also set the maximum allowable number of voices in the Num Voices field. The Voice Buffer field allows you to find the balance between Waverazor functionality and CPU load that suits your working style.

Arpeggiator Browser

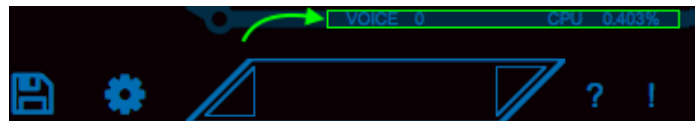
Click the Arpeggiator name field to open the Arpeggiator browser window. This reveals a scrollable list of arpeggio patterns from which you can select a new arpeggiation pattern.

You can also click the MIDI-assignable arrows on either side of the pattern name to select a different pattern.



Voice Counter / CPU Meter

Above the Arpeggiator browser in the Toolbar are a couple of meters that indicate the number of active voices and the current CPU load.



Waveform Edit view

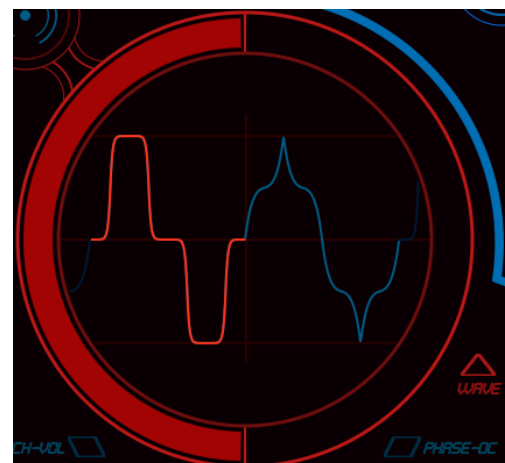
The three triangular blue buttons are used to enter Waveform Edit view. This is where you will select the waveform shape, phase, pitch (frequency), and other parameters that determine the output of each oscillator.

As we go through the examples on the next few pages we will use the preset “Biodiversity”. Use the Patch browser window to find that preset and then click the first of the three blue buttons to select oscillator 1.

The graphic on the right shows two partitions inside the ring around the waveform, but there can be as many as sixteen. They are used to select the waveform segment you want to edit.

Click the segment on the left. A portion of the waveform will turn red to indicate which segment we will be editing in the next few examples.

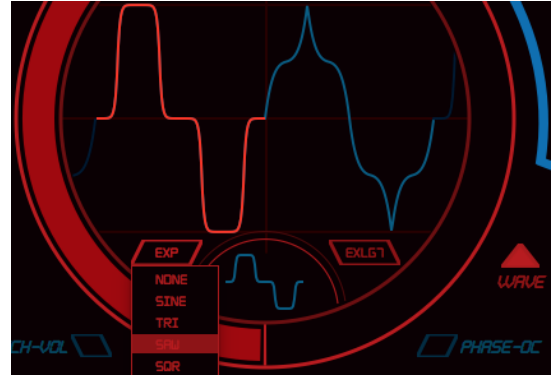
Next, click the triangular red button labeled “Wave”. Two smaller browser windows will appear beneath the waveform: in the Biodiversity preset they will show the terms “EXP” and “EXLG7”, as pictured. You will use these browsers to choose the waveform shape and variation for the selected segment of the waveform.



Waveform Shape and Variation

The *Shape* Browser

Click the small browser window on the left side within the Waveform Edit view. This will reveal a list of available waveforms for the selected waveform segment.



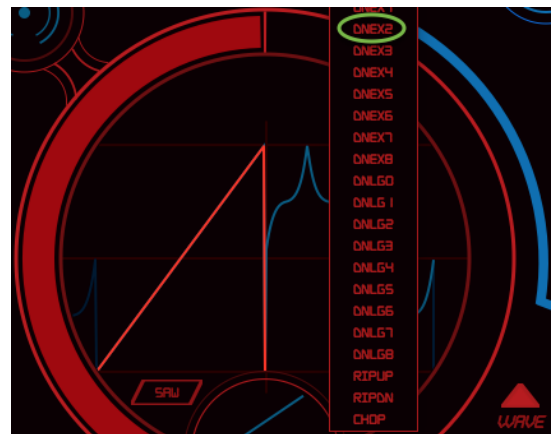
Select the Saw shape with the cursor for this example. The waveform of the selected segment will change.



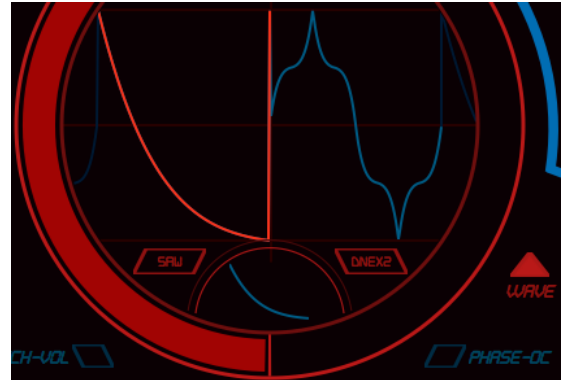
The *Variation* Browser

Click the mini-browser window on the right side within the waveform window. This will reveal a list of variations for the selected waveform segment.

We've circled the selection we will make for this example (DNEX2, or "Downward Exponential 2").



After the selection is made the variation will be applied to the waveform of the selected segment and the mini-browser window will close.



Waveform Pitch/Volume and Phase/DC Offset

The Waveform Edit view is also where you can edit the pitch (frequency) and other aspects of the selected waveform segment.

We will continue editing oscillator 1 from the “Biodiversity” preset.

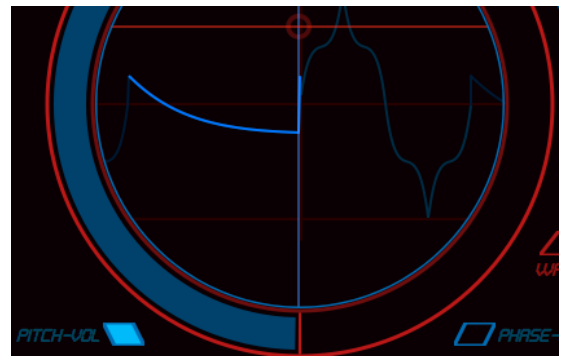
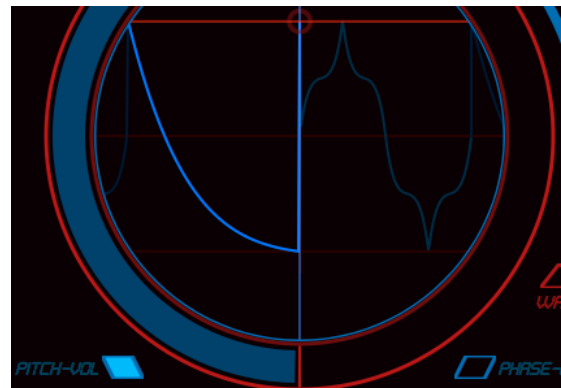
The *Pitch-Volume* Button

Click the *Pitch-Vol* button. This configures the X/Y grid with Pitch on the X axis (horizontal) and Volume on the Y axis (vertical).

Edit the Volume

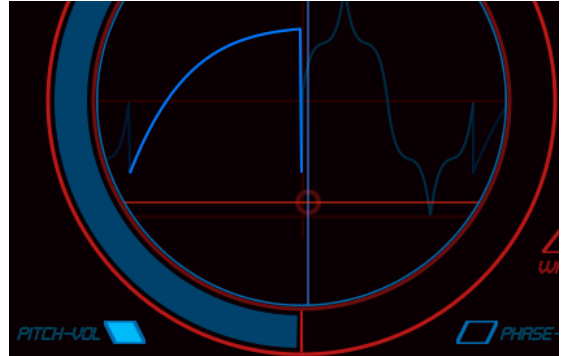
Click the small red ring and drag it downward (i.e., along the Y axis). This will reduce the output level of the selected waveform segment until the edit control reaches the center point of the Y axis.

The center point results in no output, and as the red ring crosses center the waveform segment phase will be inverted. As you drag the red ring downward its output level will increase again.



Since the DNEX2 waveform variation began as a negative-going waveform, then as the red ring continues to move below the center point the graphic will show a positive-going waveform instead.

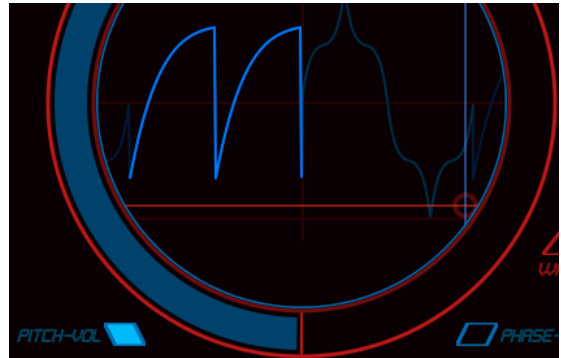
Note: You can also click and drag on the red or blue crosshair lines to only affect a single axis.



Edit the Pitch

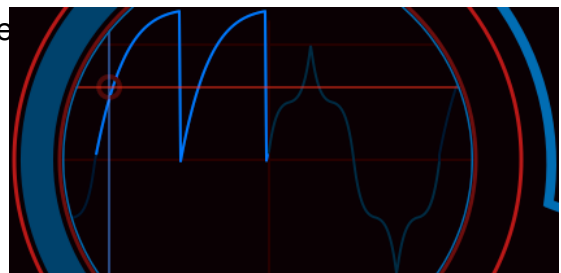
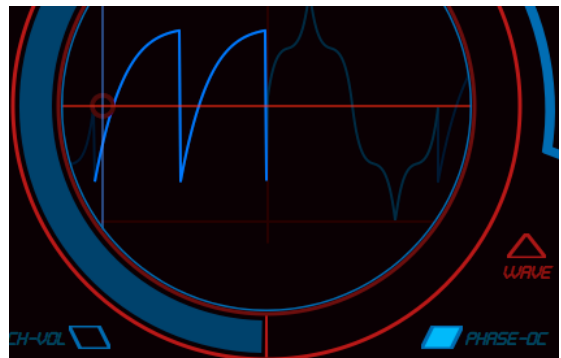
Click the small red ring (or the blue line) and drag it directly to the right (i.e., along the X axis).

The pitch (frequency) of the selected waveform segment will be altered without changing any other aspect of the waveform.



The *Phase-DC* Button

Click the *Phase-DC* button. The X/Y grid will be configured with Phase on the X axis (horizontal) and DC Offset on the Y axis (vertical).



Edit the DC Offset

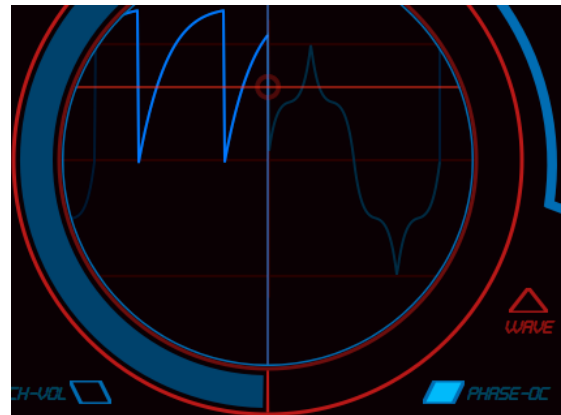
Click the small red ring (or the red line) and drag it directly upward (i.e., along the Y axis).

An offset will be applied to the selected waveform segment without changing any other aspect of the waveform.

Edit the Phase

Click the small red ring (or the blue line) and drag it directly to the right (i.e., along the X axis).

The phase of the selected waveform segment will be altered without changing any other aspect of the waveform.



Waverazor Project Credits

MOK

- Rob Rampley : Application and DSP Algorithm Design
- Taiho Yamada : Product Design, Sound Design
- Chris Compton : Online Systems Architect

Tracktion

- Distribution and Marketing support.
- Thank you to James “Woody” Woodburn, Dave Christenson, Dave Rowland and Brian Rink.

Tropical Media Labs

- Daniel Alflatt : Director of Product Testing
- Komang Priatna Suardi : Product testing and Indonesian translation

Additional Credits

- Amplify Marketing : Product Messaging, Press Releases, Web Copy
- Randy Lee : Manual and Quick Start Guide
- Patrice Tarabbia : Big Tick Software / Zen Database API
- Yasuo Matsunaka : Japanese Manual, marketing and translation
- Wolfram Franke : Coding support and German translation
- musiXboy : Chinese translation
- Dmitry Larionov : Russian translation
- Bernardo Ostojic : Dutch, French, Italian, Serbian, Afrikaans translations
- Sangig Yeo : Korean translation support

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