

# DRUMCOMPUTER

## USER MANUAL



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# What is DrumComputer?

Congratulations on your purchase of DrumComputer.

Please read this manual carefully, in order to get the best out of this outstanding Synthesizer.

In essence, DrumComputer is a drum machine with 8 individual sound engines, including everything you might think of when it comes to drum sounds and patterns. And it not only synthesizes sounds, DrumComputer also is capable of randomizing kits, patterns and fills.

When it comes to synthesizing a drum sound, there are no compromises made. 3 synthesis layers (analog resonator, wavetable/analogue, resynth), super flexible modulations and effects plus the awesome randomizer deliver an incredible variety of possible sounds.

The wave import for Wavetable and Resynth Oscillators ensure a never ending source of timbres.

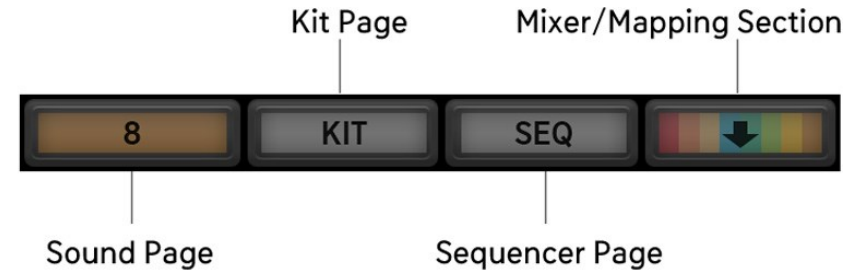
The sequencer is packed with features and provides fully consistent MIDI drag and drop.

The AutoFill feature creates intelligent fills by juggling existing triggers around and creating little roll figures, spiced up by pitch bends and filter/reverb modulations, all included in the exported MIDI file.

With configurable audio and MIDI single outs, DrumComputer is ready for all mixing situations.

We hope you enjoy using DrumComputer as we enjoyed making it, and we wish you a lot of fun defining the drum sounds of tomorrow.

# Overview



DrumComputer's user interface is divided into six main sections:

## Sound Pages

There are 8 sound engines available which make out a kit. Each sound engine consists of 3 synthesis engines: **Resonator**, **Wavetable/Analogue** and **Noisetable**. The synth engine also delivers a **multimode filter**, **equalizer**, **compressor** with sidechain from the other engines, 2 **distortion** modes (overdrive and digital reduction), **rolls** (use the keyzone for controlling the roll speed), 2 **modulation generators** (can be envelope, lfo or random), a **modulation matrix** and a **flam** engine (makes three triggers out of one, good for claps).

## Kit Page

Here you have control over your kit. You might **randomize** single sounds or a full kit using profiles, enjoy control over global **pitch** and **decay** and have the "**modify**" knob as a manual modulator. Here you also find the **master fx**, consisting of a transient shaper, compressor and maximizer, plus tube or tape distortion.

## Sequencer Page

Here you can design up to 16 **patterns** and enjoy many cool features like **humanizing**, **step delay** and a great **modulation sequencer** section.

## Mixer

Here you find all your **levels**, **send levels**, **pan controls** and **send effects**, namely Room and Hall. The **remix control** covers lots of groove and fun as well.

## Mapping section

Map the individual drum engines to MIDI keys and copy/paste or sequence your patterns.

## Options



Here you set your overall preferences, but also assign the **mute group** and **MIDI/audio out assignments**.

# Get Started

DrumComputer can be triggered per MIDI notes or per internal sequencer. Send MIDI notes from C0 upwards to trigger the drums manually or activate the Play button to start the internal sequencer.

## Presets

There are global presets (top bar menu) which contain everything, and there are Cell presets which contain the sound of a single engine.

## Sounds

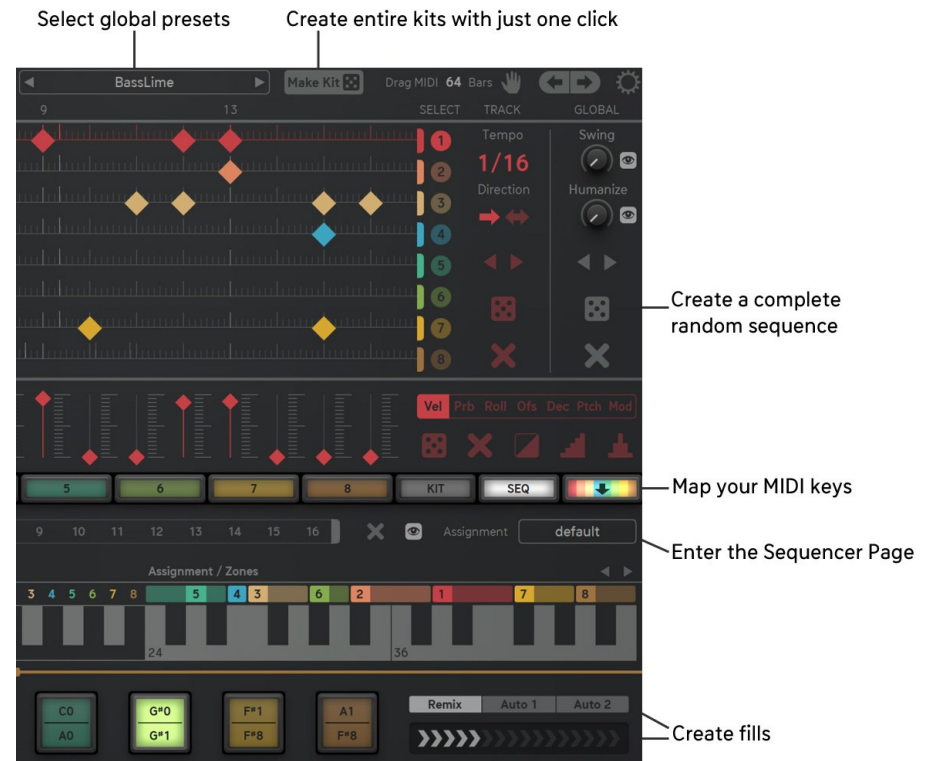
To get new sounds quickly, hit the Make Kit button. This will randomize sounds using profiles for certain drum categories. Hit the buttons repeatedly until you like the kit. You can also use the individual randomize buttons in the drum channels.

## Making Fills

Use the Remix slider to create crazy fills without any further action. Set it to "autofill" and enjoy fills coming in automatically.

## Mapping/Zones

You have total freedom when it comes to mapping drum sounds to your keyboard. Just click the Mixer/Mapping section button (colored button with the arrow) to enter the keyboard mapping. Drag the numbers to the desired keys.



# User Interface

Sound Pages

Kit Page

Sequencer Page

Pattern, Mute & Mapping

Mixer

Remix Feature

Header

Settings

MIDI CC Assignment



# Sound Pages

Create punchy and complex drum sounds with 8 individual sound engines.

The interface displays three sound engine panels and two mixer panels. Each panel contains various controls for sound shaping and mixing.

**Sound Engine 1 (Left):**

- Pitch:** 20
- Partials:** Control knob
- Tone:** Control knob
- Level:** Control knob
- Resonance:** Control knob with a starburst pattern
- Filter:** Filter type selector (red button)
- Type:** Waveform icon
- P-Mod:** Control knob
- Noise+Env:** Control knob with a waveform icon
- Decay:** Control knob

**Sound Engine 2 (Middle):**

- Pitch:** 23
- 2RM Sine HiLo:** Waveform icon
- Level:** Control knob
- Wave:** Waveform icon
- Filter:** Filter type selector (red button)
- FM:** Control knob
- RM:** Control knob
- P-Mod:** Control knob
- Decay:** Control knob

**Sound Engine 3 (Right):**

- Pitch:** +9
- JR BD:** Waveform icon
- Level:** Control knob
- Color:** Control knob with a starburst pattern
- Filter:** Filter type selector (red button)
- P-Mod:** Control knob
- Decay:** Control knob

**Mixer Panels (Bottom):**

- MG 1:** Control knob, Cutoff, Global Pitch
- MG 2:** Control knob, Wave, FM
- Velocity:** Control knob
- Modify:** Control knob
- Mixer Level:** Control knob
- Cutoff:** Control knob

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# All Oscillators share a few parameters:

## Pitch and Fine-Tune

Pitch is displayed in numbers. If you are not familiar with this, the note C is represented as 24, 36, 48, 60, 72, 84, 96, 108, 120.

## Level

Individual volume control for each oscillator.

## Filter

Activate this button to assign the oscillator to the global multimode filter.

## Pitch-Mod

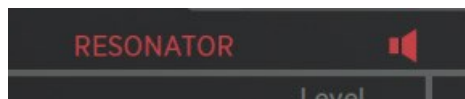
The level-envelope (controlled with decay parameter) is used to generate a pitch-modulation.

## Decay

The progressive reduction in amplitude of a sound over time.

## Velocity

Activate this button to have a velocity-sensitive pitch envelope.



## On/Off

Deactivate the speaker button of an oscillator to mute its audio signal.

*Scroll up and down your mousewheel to step/scroll through the values/settings of all relevant parameters and configurations.*

*Shift-click on a knob and move up and down your mouse to edit for finer adjustments.*

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# Resonator

A wonderful recipe, inspired by the 808 signal flow, a self oscillating multi mode filter.

Since we have a resonating circuit here, it requires an exciter to get going. The exciter usually is a very short signal, like the moment when the stick hits the drum membrane.

There are 4 **exciter modes** available:

Env



The internal exciter-envelope sends an impulse to the filter, making it resonate as an organic sine wave.

Noise + Env

Noise is added to the exciter-envelope, bringing you the ingredients for snares and classic analog noise cymbals and hihats.

Wavetable

The audio signal coming from the Wavetable Oscillator is used as exciter. It's an invitation to experiment with different timbres.

Resynth

The audio signal coming from the Resynth Oscillator is used as an exciter, providing an endless range of noise colors for incredible snare, cymbal and percussion sounds.

The parameter set of the Resonator is a bit unusual when it comes to envelopes and the real length of a sound. While the **Decay** parameter in the other oscillators really controls the overall length of the sound, in the Resonator the parameters Resonance and Decay are somewhat woven into each other. When making a snare drum, you will use a noisy exciter, and decay will control the length of noise, while resonance controls the length of body.

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# Resonator



## Resonance

Determines the resonance of the self oscillating filter, and so controls the overall length of the resulting sine wave.

## Partials

The Resonator Oscillator contains 3 voices, so it can generate partials. Partials are frequencies that are usually non-harmonic and determine the shape and material of the drum you are creating. If the Partials control is set to zero, no partials are added. The higher you turn this parameter, the higher the partials frequencies will get, while the level of the partials will increase with a steep curve.

## Tone

The Tone parameter controls a 2 Pole low-pass filter with a hint of resonance. It allows for dialing in just the right amount of brightness with a sharpened edge.



## Filter Type

The Resonator is based on a self oscillating 12db/oct multi mode filter. The Resonator Pitch determines the cutoff frequency, which is important to know when using band-pass and low-pass modes, as these pass noise only at higher frequency settings.

With the Filter Type menu you can select the filter type:

High-pass: Will always let noise pass through , so this should be used for snares and cymbals.

Band-pass: Passes only the Pitch (Cutoff) frequency, should be used for kicks, persussions or snare body.

Low-pass: Eliminates frequencies above the Pitch (Cutoff) and offers interesting kick timbres.

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# Wavetable/Analogue Oscillator

A Wavetable Oscillator uses a chain of single-cycle waveforms and morphs between them, providing awesome spectral changes. Creating a drum sound, you would use the Wavetable Osc to generate the body. The provided wavetables usually start at waveforms with few harmonics and go to more complex waveforms with many harmonics. In order to create punch, you would modulate the Wave parameter with a short envelope, so your punch has as a lot of spectrum, as you would do with a pitch envelope. The Analogue Oscillator works exactly like the wavetable oscillator, but with a fixed set of virtual analogue waveforms.



## Wave

Here you select the position within your wavetable. Give it a short envelope for snappy attacks. Usually you will modulate this parameter with an envelope, so it is already assigned to **MG2** by the sound randomizer.

## FM

The Wavetable Osc interacts with the Resonator Osc. The waveform of the Resonator Osc is used as a Frequency Modulator for the Wavetable Osc. Since the Resonator puts out a decaying sound, the Fm Modulator is never static and might even be absent when the Resonator has decayed out quicker than the Wavetable.

## RM

Bipolar Ringmodulation. The Wavetable includes a Sine Oscillator which is used to modulate the amplitude of the Wavetable Osc. The bipolar RM parameter determines the Sine Osc's frequency ratio in relation to the Wavetable's pitch. The RM pitch works as follows:

-100% = -2 octaves  
 -50% = -1 octave  
 0 = inactive  
 50% = +1 octave  
 100% = +2 octaves

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# Wavetable Oscillator

## Pitch Mod/Decay

The internal decay-envelope can be used to modulate Pitch directly, and always controls the amplitude. There are 8 envelope shapes available:

### Envelope Shapes

#### Natural

The natural, exponential envelope shapes of an analogue decay-envelope.

#### Ping

Inspired by Vactrol-driven low-pass gates, we have a strong punch in the beginning and a long decay in the end.

#### Superping

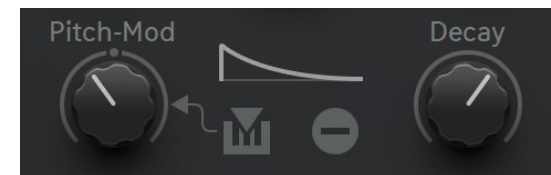
Taken the idea of a Vactrol-based envelope a bit further for even punchier attack and natural decay.

#### Hold

Just a DC offset is being used as envelope, good for gated snares.

#### Soft

A special algorithm forms a sweet round curve which can be compared to a decay-envelope that went through a low-pass filter.



#### A/D

A/D is an attack/decay envelope, where the time determined by the Decay parameter is divided into attack time and decay time.

There are 3 different blends of attack and decay time modes available:

- 1/3: If the Decay parameter would show 100ms, the envelope would perform 33ms of attack time and 66ms of decay time.
- 1/1: If the Decay parameter would show 100ms, the envelope would perform 50ms of attack time and 50ms of decay time.
- 3/4: If the Decay parameter would show 100ms, the envelope would perform 66ms of attack time and 33ms of decay time.

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# Wavetable Oscillator

## Invert Button



Activate this button to invert the envelope. While a decay-envelope is all about fading out, the inverted version will just fade in and then jump back to zero. The inversion process also inverts the curve shapes which shows interesting results.

## Load/Import Sample



The best thing about the Wavetable Oscillator is that it will convert any wave into a wavetable.

Open the wavetable menu and click IMPORT or directly drag and drop a Wav files into the wavetable menu.

Wav files of any kind can be loaded.

In the ideal case you prepared a waveform that performs a shift from low spectrum to high spectrum.

We will detect the included pitch and provide a wavetable containing 16 waveforms, that have been evenly picked out of the whole source waveform.

The resulting wavetables will be auto-saved into a user folder that will be generated.

After 32 wavetables, the next user folder will be created (user1, user2 etc).

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# Analogue Oscillator



While the Wavetable Osc is a never ending source of complex and surprising timbres, the Analog Osc will provide you with the classical analog waveforms.

**Sine** and **Triangle** for drum shells, **Saw** and **Pulse** for edgy tones and sharp attacks.

The Wave parameter lets you morph from one waveform to another, while the final phase of the parameter performs a pulse width modulation on the pulse osc.

So for a classic pwm sound, you would set the **Wave** control to pulse and then add an lfo to modulate the pulse width.

**FM** and **RM** work the same way as in the Wavetable Oscillator, where the FM source is the Resonator and the RM source is an internal sine osc.

# Resynth/Sampler



The **Resynth Osc** is the non-harmonic version of a Wavetable Oscillator.

It just contains one single waveform, and it also provides conversion of any waveform into a so-called "noise table", which is a wave that can be seamlessly looped without ever generating recognizable pitch. This is exactly what is required for synthesizing cymbals and snares. But it turned out that it also works perfectly on chords.

## Load/Import Sample

Wave import works exactly as described in the Wavetable section with the small difference that only one wave-cycle is generated.

## Color

This parameter controls a low-pass filter if Color is below 50% and a high-pass filter if Color is above 50%.

For **Pitch- Mod, Decay, Velocity, Filter and Level** see the shared parameters section [here](#).

The **Envelope Shapes** and **Invert** button are described in the Wavetable Oscillator section [here](#).

Switch to **Sampler** mode to play back samples the ordinary way. You can load a sample from the menu, directly drag and drop files into the sample menu or link up to four folders on your hard drive to DrumComputer's sample browser.

Sample Waveform is shown together with **Start/End marker** (grey line).

**Start** defines the playback start point in the sample.

**Loop:** Sample playback can be looped. Loop=100: Sample will not be looped. Loop <100: Defines loop size.

Start and Loop can be [Mod destinations](#). When using the Randomizer it will jump to the Resynth Osc.

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# Effects Section

The multimode filter can be assigned to any of the 3 oscillators.

It provides **6 Filter Types**:



## High-pass

Get rid of low frequencies.

## Band-pass

Lets only the cutoff frequency pass through.

## Peak EQ

Use this to emphasize or the selected frequency to support the character of your drum sound.

## Low-pass

Get rid of high frequencies or perform classical resonant synth sweeps.

## Notch EQ

Use this to de-emphasize a certain frequency in your drum sound.

## Vowel

Use Cutoff to morph between vowel frequencies, use Resonance for sharper intonation.

## Cutoff

Determines the working frequency according to the filter type.

## Q/Gain

The Q determines the Filter Resonance. In EQ modes, the Q-Factor is fixed at 2 octaves, while the Q/Gain parameter determines the gain (0-18db for Peak / -18db for Notch).

## Distortion

The two available distortion types give the signal some roughness and dirt.

## Drive

Give your sound more power and harmonics.

## Reduce

Reduce the overall bit depth and sample rate for a very digital sound.

## Compressor

A compressor with automatic gain make up and inter-engine side chaining. You can select another sound engine as a side chain source for the compressor. For example: attenuate a synth bass with the kick drum.

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# Equalizer



The **Equalizer** is just the right tool to shape your drum sound to perfection. 2 bands of cut and gain up to 18 db and a Q-Factor of 3 octaves provide control over your frequency content. Strengthen your kicks, sharpen your snares and make the hi-hats shine with this one. Be aware of possible level boost generated by the eq, and reduce the mixer level accordingly. Levels exceeding the dynamic range will be sorted by the Finalizer's drive circuit.

EQ Controls:

Hi Freq: 1 khz-20khz

Hi Gain: -18db - 18 db

Low Freq: 32hz-1khz

Low Gain: -18db - 18 db

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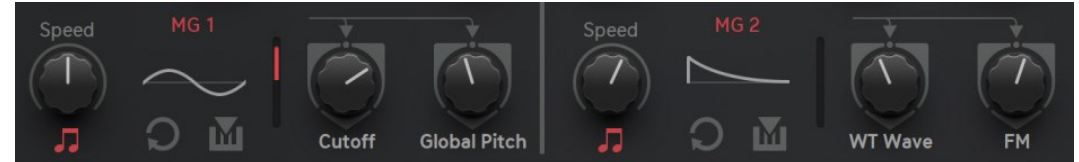
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# Modulation Section

The Modulation section provides **2 Modulation Generators** and a **Modulation Matrix** with 4 sources and targets.

Two identical **Modulation Generators** provide Envelopes, LFOs, Random and individual modulation assignments.



## Speed

Determines the speed of the modulation and can work in two modes:

### Sync



If Sync is on, Speed works at tempo divisions, always in sync with your bpm.



If Sync is off, Speed works with Hz with a range from 0.01Hz to 100Hz.

## Loop



If Loop is off you have a one-shot envelope, otherwise you have an LFO.

## Retrigger



(only if Loop is on) Will restart the curve when the sound engine is triggered.

## Velocity



Will set the modulation amplitude to velocity level.

## Shapes



Choose from different shapes.

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# Mod Destinations



## Mod Amount Knob 1 & 2

Determines the intensity of the modulation being sent.

If the Amount knob is below 50%, the modulation affects the target parameter in a negative way.

If the Amount knob is above 50%, the modulation affects the target parameter in a positive way.



## Mod destinations

Opens the targets menu to assign the MG to a target throughout the selected sound page.

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# Modulation Matrix

Here we have the Source menu (top), an Amount control (bipolar) and a Target Menu (bottom). The Amount controls can also be modulated, which allows complex modulations, for example controlling an LFO amount with an envelope.

## Mod destinations

See MG 1 & 2 targets menu [here](#).

## Mod sources

Most sources speak for themselves, here are some hints on the rather unusual ones:

### Env1/Env2/Env3

The Envelopes of the 3 Oscillators. Note that Env1 represents the Exciter-Envelope of the Resonator (Decay).

### Modseq

Seq 1 (Dec): Modsequencer 1 is hardwired to global decay (affects decay of all Oscillators), but can also be used as assignable modulation source.

Seq 2 (P): Modsequencer 2 is hardwired to global pitch (affects pitch of all Oscillators), but can also be used as assignable modulation source.

Seq 3: Is not hardwired and works as an assignable modulation source.

### Zone

The keyzone, resulting from the MIDI mapping, can be used as modulation source.

### Resonator, Wavetable and Resynth Osc

These are audio sources, coming from the 3 Oscillators. You might modulate the WT pitch with Spec Osc to have a noisy, inharmonic WT.

### Modify

The parameter on the KIT page, can be used as a direct modulator, for example if used with a MIDI controller.



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# Global Section

## Load Engine Preset

Here you find the Engine Preset. This preset recalls an entire sound and is shared by all engines. So you could save a snare in Engine 1 and then load it in Engine 8.

## Random Button

Click the Random trigger button to perform a sound randomization according to the profile selected.

## Random Profile

Select a profile for the sound randomizer here.

If you liked a previous sound, use the UNDO/REDO arrows to go back in history.

## Key Pitch

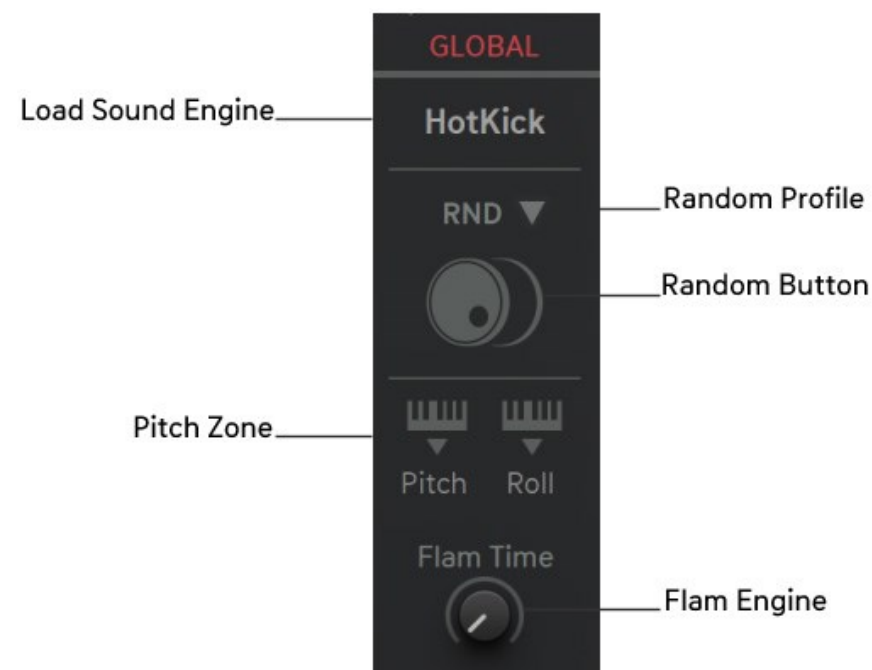
If enabled it uses the keyzone for controlling the pitch. Note that the first keyzone is capable of bipolar pitch influence, while the last keyzone reaches to the end of the MIDI note range.

## Key Roll

If enabled it uses the keyzone for creating rolls and controlling the roll speed. The Rootkey will roll at  $\frac{1}{4}$  rate, getting faster with every key to the right.

## Flam Time

Makes three triggers out of one and determines the amount of delay between the triggers.



# Kit Page

The Kit Page delivers easy access to the most important parameters of the sound engines.





# Kit Page - Overview

Here we have **8 channels**, representing the 8 sound engines and to the right we find the **Master Effects**.



## Channel

The Engine Channels are numbered 1-8, and they are represented by their engine color.

On top of a channel you find the **Engine Preset**.

This preset recalls an entire sound so you could save a snare in Engine 1 and then load it in Engine 8.

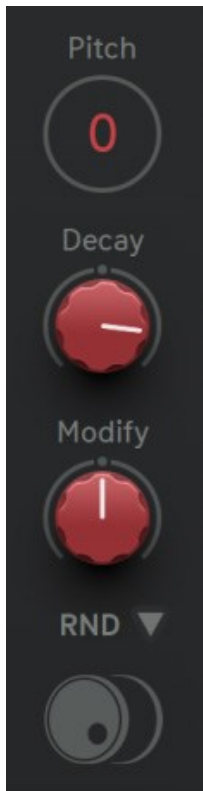
Each of the eight kit channels has its own **Global Pitch** and **Decay**, a **Modify Knob** and a **Random Function**.

## Choke Groups

Define a choke group (also known as mute group) in order to make a trigger on one engine choke the sound on another engine. Choke Groups is usually used for open/closed hi-hat choking, but it's also interesting with synth sounds.



# Kit Page – Engine Channels Controls & Options



## Pitch

This bipolar control will add or subtract a global pitch to all 3 Oscillators and makes it easy to change the pitch of the whole sound. The Modulation section refers to this target as "Global Pitch".

## Decay

This bipolar control will add or subtract a global decay time to all 3 Oscillator's envelopes and makes it easy to change the length of the whole sound. The Modulation section refers to this target as "Global Decay".

## Modify

This is a bipolar manual modulator that can be assigned to any parameter throughout the engine, using it as a source in the modulation matrix. The sound randomizer usually assigns it to "Filter Cutoff".

## Random Profile

Select a profile for the sound randomizer here.

## Random Trigger

Click the Random trigger button to perform a sound randomization. If you rather liked a previous sound, use the Undo/Redo arrows to go back in history.



# Finalizer



The right side of the Kit page is the kingdom of the Finalizer. Here we have a dynamics section with **Transient Shaper**, **Compressor** and **Maximizer**, plus a **Warmth circuit** with 3 **Distortion** modes. The Finalizer section provides 5 profiles and no further parameters but just the **Amount knob**.

Use profiles at your personal taste, basically they are sorted in speed.

**Attacky:** Emphasized the attacks of your drum sounds, making them appear shorter and punchier. Fast Maximizer.

**Punchy:** Still paying attention to attacks, gentle compression and maximizing.

**Decent:** A nice mix of transient shaping, compression and maximizing.

**Pumpy:** Emphasizes the release phase of your drum sounds, slower compression, making the whole mix appear fuller.

**Relaxed:** Slow compression, maximum attention to the release phase of your drum sounds, strong and slow maximization.

The **Master Warmth** circuit will make sure that no digital clipping will occur at the output.

**Sine distortion:** The audio signal is amplified, until it runs into a sine wavefolder.

**Tube distortion:** 18db of Gain and Warmth provided by a tube emulation circuit.

**Tape distortion:** 18db of Gain and Warmth with a tape emulation circuit.

## Signal Flow notes:

*The Finalizer is hardwired to Audio Outputs 1 & 2 (Master). So if all channels are routed to master, the Finalizer affects the final mix.*

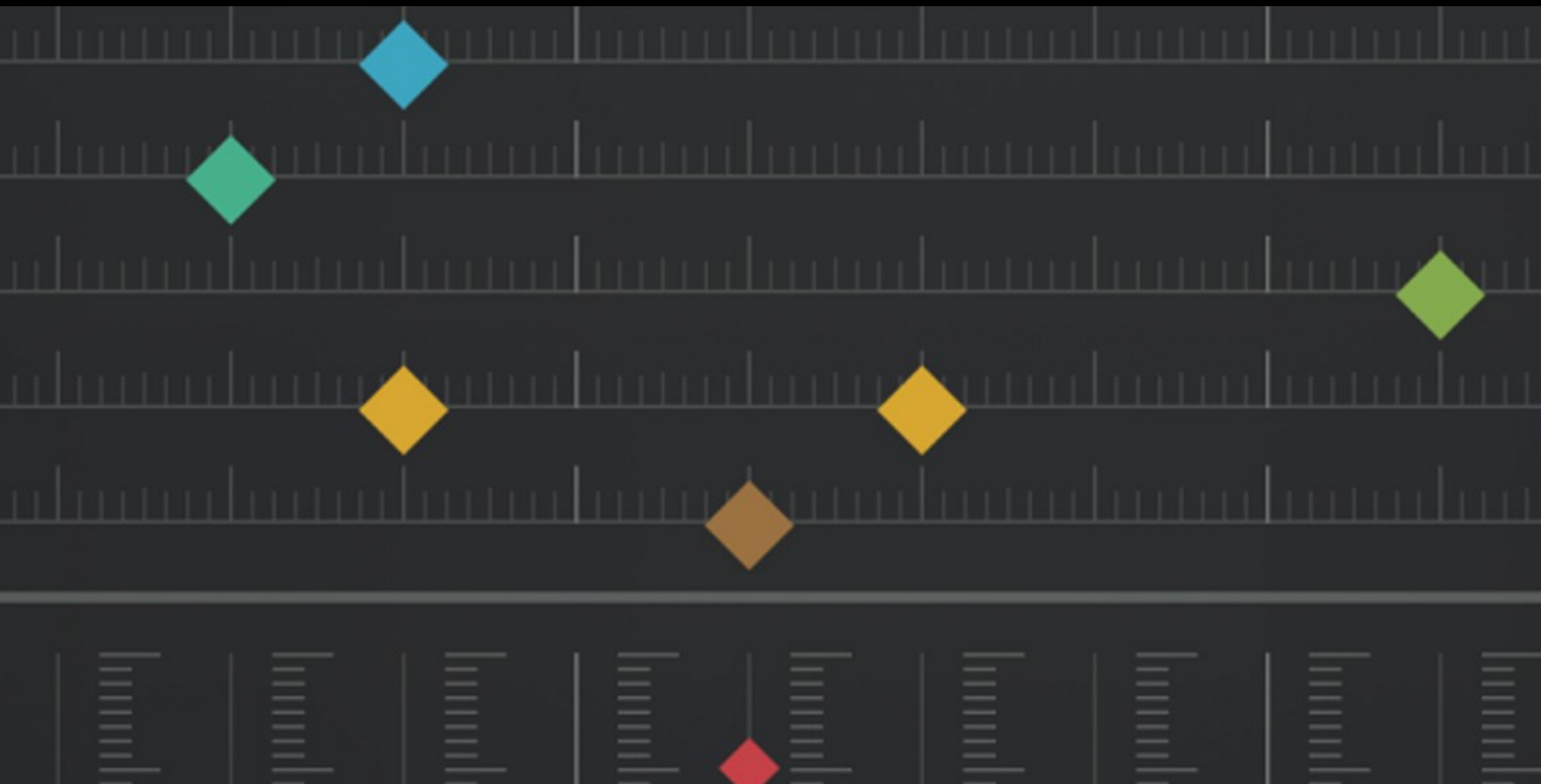
*Engines which are assigned to audio outputs other than 1 & 2 are not affected by the Finalizer.*

*The send effects are added to the Mix (and processed by the Finalizer) if they are assigned to 1 & 2 (Master).*

*If the send effects are assigned to other outputs than 1 & 2, they are not affected by the Finalizer.*

# Sequencer Page

What would be a drum machine without a sequencer! In this one we enjoy all 8 tracks in one view.



# Sequencer Page - Overview

The Sequencer contains 8 tracks. Each track has a certain color and represents one of the 8 sound engines.

You can design up to **16 Patterns** and enjoy cool features like **Humanizing**, **Pattern Randomizer** and a great **Modulation Sequencer** section.

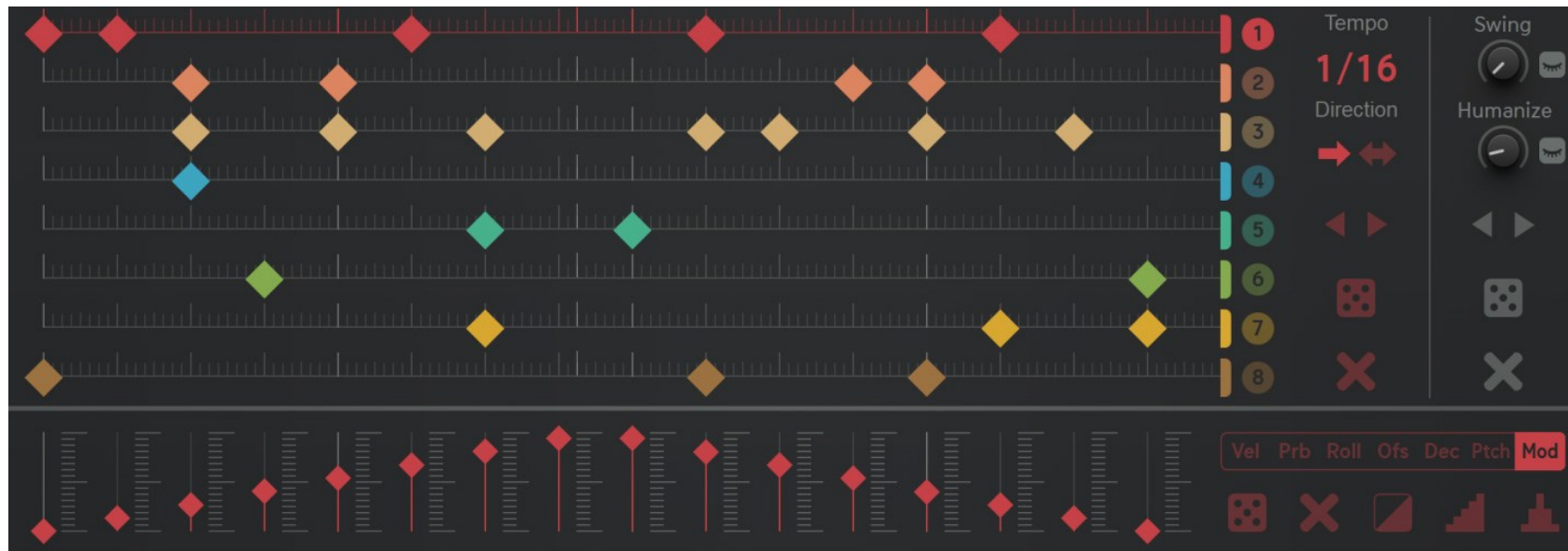
Click into the Event Matrix to create Trigger events, or drag to create/delete multiple events.

These events will vary in velocity a little bit for natural feel.

Use the Lane Numbers to enter the different sequencer tracks for further editing.

For example, click the 4. All controls will turn blue, indicating that you are now editing engine 4.

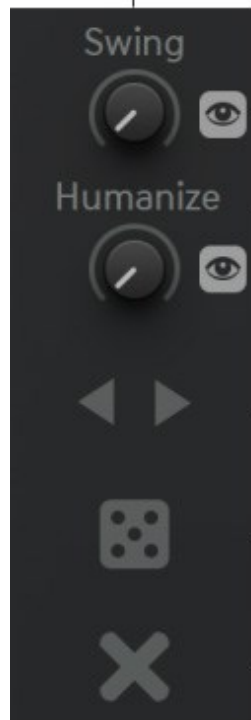
Now you can choose an **Individual Tempo** or **Randomize**, **Shift** and **Initialize**.



The MIDI data generated by DrumComputer can be saved to a MIDI file - for more information click [here](#).

# Common global controls and functions

Slow down each second step for swing feel



If View Follow is set to on (eye open) the timing offset generated by swing and humanize will be visualized.

Create subtle changes to step positions to get slight variations with each cycle of the sequencer

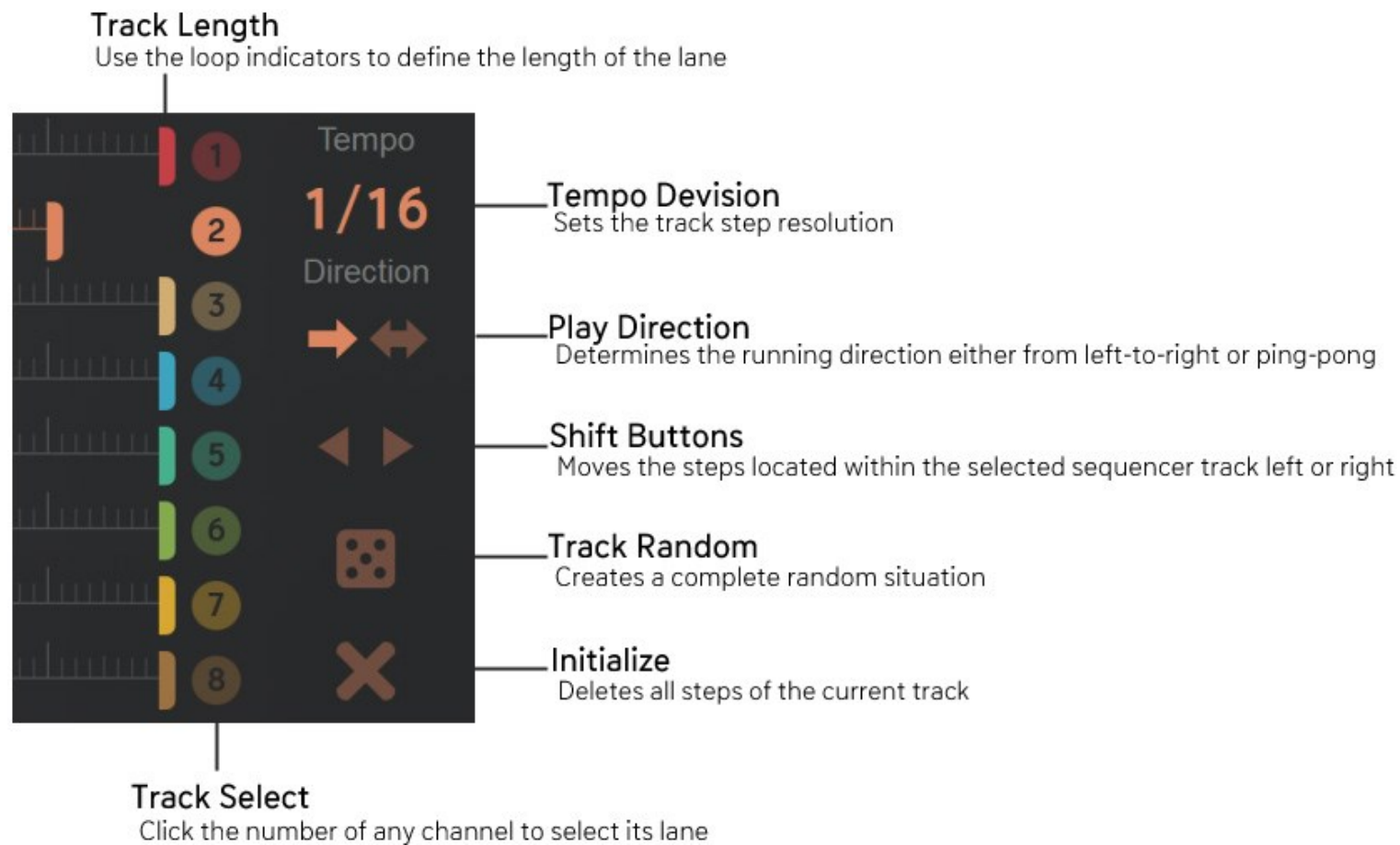
The whole pattern is shifted left/right in a stepwise fashion

Intelligent bpm dependent pattern generator, creating sequences for a full kit, including probability, decay and roll modulations

Initialize all sequencer track steps and their modulations

# Common sequencer track controls and functions

Each sequencer track has common controls and functions:



# Init & Random functions in depth

Note that you can select between two different random and initialize modes for the sequencer.

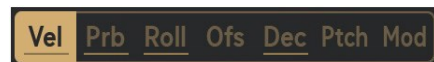
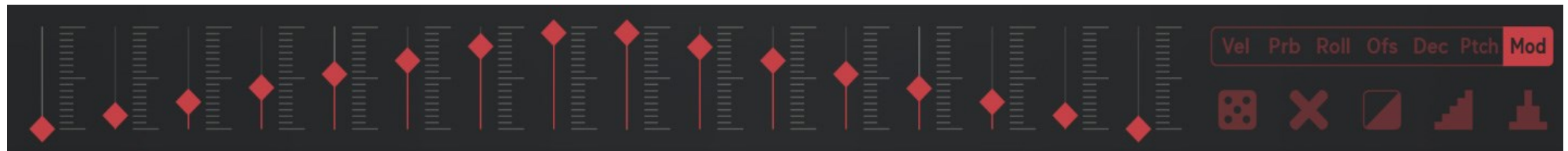
Depending on the „Init/Rnd resets seq length“ in the settings page track length and tempo division will be reset to default or not.

Here you find a brief overview in which case the different random and initialize buttons will reset track length and/or tempo division:

|                                                                                                 | <input checked="" type="checkbox"/> Init/Rnd resets seq length | <input type="checkbox"/> Init/Rnd resets seq length |
|-------------------------------------------------------------------------------------------------|----------------------------------------------------------------|-----------------------------------------------------|
|  Global Random | Track Length<br>Tempo Division                                 | Track Length                                        |
|  Track Random  | Track Length                                                   |                                                     |
|  Global Init   | Track Length<br>Tempo Division                                 | Tempo Division                                      |
|  Track Init  | Track Length                                                   |                                                     |

# Modulation Sequencer

The Modulation Sequencer lane covers all sequencer features:



The line under the name indicates if the track contains data.

- Vel** Assign different velocity values for each step.
- Prb** Trigger certain events each 2nd, 3rd, 4th (and so on) time.
- Roll** Sub-divide the step into a number of triggers, from 1 to 8.
- Ofs** Give your event positive or negative delay/offset.
- Dec** (ModSeq 1) Controls the global decay and can moreover be used as assignable modulation source.
- Ptch** (ModSeq 2) Controls the global pitch and can also be used as assignable modulation source.
- Mod** (ModSeq 3) Can be used as assignable modulation source.

## Controls and functions:



- Randomize** Create a random number of steps and values.
- Initialize** Delete all data of the selected modulation track sequence.
- Invert** Max becomes min, min becomes max, half stays half.
- Ramp** Create a perfect ramp.
- Triangle** Create a perfect triangle.

Hold CTRL and drag the mouse to affect all events in the sequencer lane (up or down) at once.

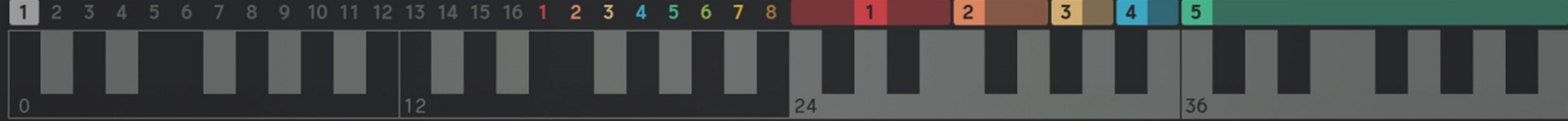


# Pattern Keys, Mute Keys & Mapping

MIDI related features, including a flexible multi-purpose keyboard.



Click this icon to get access to the Pattern, Mute and Mapping section.



# Pattern Keys

16 patterns are available in a preset.

The Pattern Keys respond to 16 MIDI notes, from note C-2 to D#-1.

Use the Pattern Keys to call/play patterns with the mouse while editing, or just let it display incoming MIDI notes.



## Copy/Paste

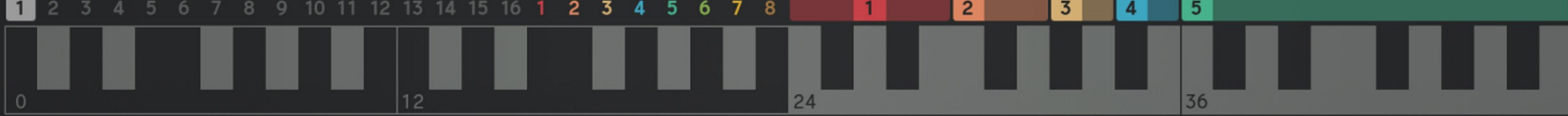


Copy/paste has never been easier: Click the Copy/Paste button, all patterns but the source pattern start blinking, now click the target pattern number or key. Finished! You can now edit your variation.

Note: There are 2 clock modes to be found in the settings [here](#).

In **Internal Clock** mode patterns play from the beginning, as long as the Pattern Key is active.

In **Host Clock** mode, patterns play along with the Host Song Position.



# Pattern Sequencer

The **Pattern Sequencer** (Chain) plays up to 16 different patterns in any order.



Select the desired pattern number by holding the mouse button and dragging up or down.

## Chain (on/off)



When off, the Chain is inactive.

When on, the Pattern Sequencer steps through the patterns determined by the Chain Sequencer.

It runs at a one bar step resolution.

## Loop Bar



Determines the total length of the Chain sequence. After playing the last step in its sequence, the sequencer will loop back to the beginning and continue playing through the pattern steps in order.

## Delete

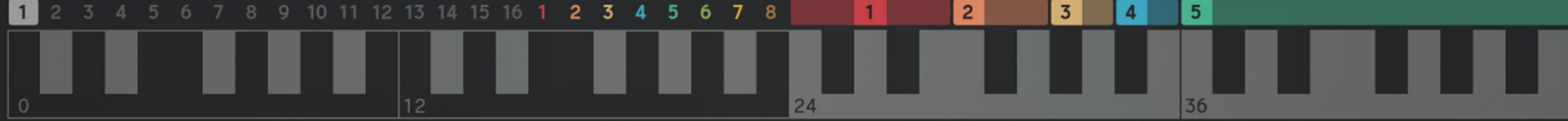


This initializes the Pattern Sequencer for a fresh start, creating a sequence which iterates through all patterns.

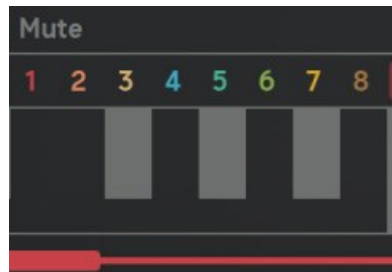
## View Follow



If this button is off (eye closed), the view follows the pattern keys, so you can edit a pattern while other patterns are played by the pattern chain. If this button is on (eye open), the view follows the pattern chain. So you will always see the currenty active pattern.



# Mute Action & Mapping



## Mute

Engines can be temporarily muted by MIDI notes, using the Mute Keys.

These are represented by their engine colors and numbers. The Mute Keys respond to note C-1 to B-1.

## Mapping/Zones

The keyzones show the color and number of the mapped sound engine. You can handle keyzones easily by clicking the engine number and dragging left or right. The engine number also represents the rootkey. The space between the rootkeys are the keyzones.

These can be mapped to pitch or roll and can be used as modulation sources. Note that the first zone can be bipolar and allows for negative modulations, which might be interesting if you need to up- and downpitch a sound.

The first key of the Zone Keys responds to note C0.

The last keyzone always ends at key 128, which gives you a large zone for drastic modulations.

## Save/Load Mapping

Click the Mapping Preset menu to load/save the desired engine/MIDI mapping.

## Shift

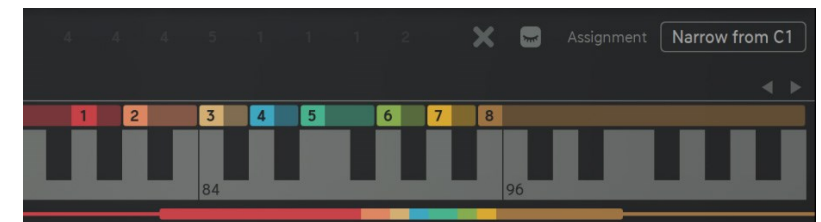


Shifts the mapping either left or right, key by key.

## Display keyboard zones



Click and drag the scroll bar below the keyboard to bring the „hidden“ parts into view.





# Mixer

Here you find all your levels, send level, pan and send effects, namely Room and Hall.





# Mixer - controls and functions

Click this button



to get access to the Mixer section.



## Mute

Mute the related engine.

## Solo

Solo a single engine.

## Level

Control the engine level,

## Pan

Adjust stereo positioning.

Room and Hall are send effects, these knobs control the amount of signal being sent to the send effects.

# Send Effects & Master

Two incredibly good sounding reverbs are found in the Send Effects section. Use the faders in the mixer to define the send fx output level. Assign the send effects to individual audio outputs in the [Settings](#).



## Room

In order to have a realistic sound, you can put your drums into the same room. The room works slightly different to the hall, as it computes more density in a smaller space.

### Size

Adjusts the size of the room.

### Tone

Acts as a low-pass filter.

## Hall

A huge and dense reverb effect, meant to be used for real reverberation effects, as it is common with snares and claps for example.

### Size

Sets the reverb 'room' size.

### Tail

An additional control to define the length of the reverb tail.

### Tone

Acts as a low-pass filter.



## Unmute/Unsolo

Will unmute/unsolo all channels.

## Master Level

Controls the master level.



# Remix feature

Create crazy fills with ease or enjoy them coming in automatically.





# Remix & Auto Fill

## Remix

The Remix Feature is a one touch fill maker. Activate the Remix control temporarily to mutate the current pattern. 16 remix figures are available:

1-8 creates small rolls over 2-3 drum sounds, each figure addressing another group of engines.

9-14 will assign existing patterns to different engines.

15&16 creates pure 16th rolls and fires these across the engines.

Additionally, random pitch bends, send fx- and filter sweeps will be generated.

## Auto Fill

Will generate random fills automatically and works in a song-oriented way:

### Auto 1

At the end of each 4th bar, a fill will be generated for the last 1/4 note.

At the end of each 8th bar, a fill will be generated for the last 1/2 note.

At the end of each 16th bar, a fill will be generated for the while 16th bar.

### Auto 2

Same as Auto 1 but generates fills more frequently (fills at 2/4/8 instead of 4/8/16),

Fills include trigger/engine re-routings, randomized send effect levels, filter sweeps and pitchbend curves. Since AUTO FILL is connected to your song position, it might be ill-timed when your song does not start at bar 1. Use Auto Fill Offset in the Settings, to adapt Auto Fill to your real song start. For example, if your song starts at bar 3, set Auto Fill Offset to 3 bars.

AUTO FILL is completely translated to MIDI.

Use the [MIDI drag and drop feature](#) to get an unlimited number of fills and then choose the best.

# Header & Settings Screen

Manage your presets, set your overall preferences, generate a MIDI file and make your MIDI/audio out assignments.

Clock Start **Host** Internal

☐ Ignore Program Change

☐ CC Snap Isolate

CC Map **Load** **Save**

☒ Mapping Snap Isolate

AutoRemix Offset (Bars) **0**

☒ Init/Rnd resets seq length

☒ MakeKit sorts Profiles

☒ Animate WT Draw

UI Scale Factor **140 %**

Engine Audio Out MIDI Out Decay Pitch Mod Auto Hall

1 Master 86 87 88 89

2 Master 90 91 92 93

3 Master 94 95 96 97

4 Master 98 99 100 101

5 Master 102 103 104 105

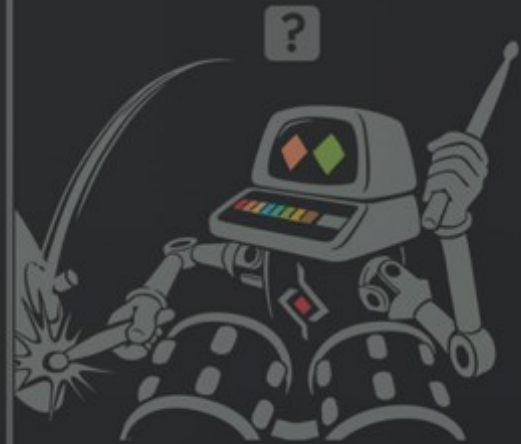
6 Master 106 107 108 109

7 Master 110 111 112 113

8 Master 114 115 116 117

Room 17/18 Quick Setup Auto Hall Lvl Auto Cutoff

Hall 19/20 118 119



SUGAR-BYTES.COM

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Nadine Purrmann, Vincent Miethe  
Gabriel Mulzer, Philipp Roller

Version 0.9.3 Serial # 85117546 (VALID)

# Header

## PLAY button and current pattern display

Starts the sequencer. When the PLAY button is lit, it indicates that the clock is running.

If the PLAY button is off, the sequencers will not run, and external MIDI notes might trigger the individual engines.

If the clock mode is set to internal, the PLAY button shows stripes („armed“) until a Pattern Key activates the sequencer.

Note: If the PLAY button is ON, all modulation data comes from the internal sequencers.

If the PLAY button is OFF, modulation data is expected on the MIDI CC numbers given in the [Settings Screen](#).

## Pin Button

If enabled the current sequence won't change when selecting another global preset.

## Preset name

Click the preset name (here init) to load presets and save your own work.

## Make Kit Button

Creates entire kits with just one click.

Use the "[MakeKit sorts Profiles](#)" option in [Settings](#), to reset the random profiles to their default settings whenever MakeKit is executed.

Leave the option off to randomize kits with your own profile setup.

## Undo/Redo

Set back or redo your last operating step with the curved arrows.

# Header (Sequencer Page)

## Options

Clicking the gear icon opens up the [Settings Screen](#) where you find some global settings and functions.

***Note:** The header of the Sequencer Page differs a little bit from the others. While you have the usual menu bar, there now is an additional entry:*

## Drag MIDI (Sequencer Page)

The MIDI data generated by DrumComputer can be saved to a MIDI file. Just drag and drop the « Hand » icon to a MIDI track in your DAW or to your desktop and the file will be created. Use the BARS control to the left to set the length of the MIDI file. The maximum length is 64 bars.

## MIDI File

The sequencer translates all data to the MIDI file:

- triggers are generated on their root notes, given in the Mapping Screen
- modulation sequencers are translated to MIDI CC's, displayed in the Settings Screen
- probability, rolls and offset are translated to MIDI notes directly (occurrence and timing)
- autofills are completely translated to MIDI notes and CC's

!!! Note that the MIDI export process may take some time. So please make sure to hold your mouse button until the cursor indicates that the process has finished.

# Settings Screen

Click the gear icon in the upper right of the Header to open the Settings Screen. Here you find some global settings and functions.

## Clock Start

Determines the clock source. DrumComputer can run in sync with your DAW (HOST), or it can be triggered by a MIDI note (INTERNAL), only applying the sequence as long as you hold a note.

## Ignore Program Change

Incoming Program Change messages will be ignored.

## CC Snap Isolate

When active, MIDI Learn settings will be kept and not be changed when selecting a different preset.

## CC Map

Load or save your current MIDI CC assignment.

## Mapping Snap Isolate

When active mappings won't change when selecting a different preset.

## Auto Remix Offset (Bars)

Adapt Auto Fill to your real song start.

## Init/Rnd resets seq length

Determines if loop bar position and tempo deviation will be resetted or not. Please see [here](#) for detailed information.

# Settings Screen continued

## MakeKit sorts Profiles

Determines if MakeKit will affect the [profile list](#).

## Animate WT Draw

For more control, especially when modulating wavetable position, the waveform in the Wavetable OSC can be updated in real-time. However, it comes at a cost. If you are short of CPU power, you should deactivate this option.

## UI Scale Factor (Zoom)

Adjust the DrumComputer GUI to your monitor screen size. Hold down the Ctrl key and press the + to increase the size or - to decrease the size.

## Channel Assignment

Assign the sound engines and send effects to 20 available outputs. Only engines assigned to Master will run through the Finalizer. The 8 sound engines can be assigned freely, in order to build subgroups. However, the send effects have fixed output assignments which can be switched between Master (1/2) or their single outputs 17/18 for Room and 19/20 for Hall.

## Send MIDI

Enable/disable the MIDI output of the respective channels.

## Remix/ Auto CC Assignment

This MIDI CC list gives an overview of all continuous controllers and which action they are assigned to.

## About

Shows your serial number, along with its validation status. Click ? for quick access to this manual or the link to open the Sugar Bytes website.

# MIDI CC Assignments

## MIDI LEARN

Right-click any control to open up the MIDI learn popup window.



Click the left MIDI socket symbol to assign incoming MIDI CCs.

Click the crossed out MIDI socket symbol to remove the assignment.

Click the field labelled „None“ and enter the desired CC number.

When using the Standalone version of DrumComputer:

If CC Preset Isolate is enabled in the MIDI Settings of DrumComputer MIDI Learn settings won't change when loading presets.

If CC Preset Isolate is unchecked the CC Map will be recalled with the related preset.

Within a DAW DrumComputer's MIDI Learn settings will be saved with the song.

# Host Integration

DrumComputer works as a VST2 / VST3 / AU / AAX plugin in the most common DAW hosts.

Make sure that DrumComputer is installed in the plug-ins folder used by your DAW.  
Some hosts need to perform a plug-in rescan when a newly installed plugin is launched for the first time.

Please find all detailed instructions for your DAW below.

## Cubase

Perform a full rescan in the Cubase plugin manager. Make sure that the DrumComputer.dll/DrumComputer.vst3 (Win) or DrumComputer.vst/DrumComputer.vst3 (macOS) file is contained in Cubase's assigned VST Plugins folder. Load DrumComputer as Instrument into an Instrument track.

## Ableton Live

When using macOS, we recommend using the VST version of DrumComputer in Live. Please note: With Ableton Live, plugins sometimes will be marked as unloadable and not rescanned automatically. If this happens to be the case, force a rescan by unchecking and checking the, 'Use custom VST Folder' checkbox in Preferences/File Folder/Plug-In Sources. Set up a MIDI track and insert DrumComputer as instrument.

## Pro Tools

When installing DrumComputer, select AAX plug-in format. (AAX 64 is supported by Pro Tools 11 and higher.) Use DrumComputer as an instrument.

## Studio One

Go to the Studio One menu and choose Options. Click Locations, then VST Plug-Ins. Click the Add... button and select your VST Plugins folder. Press OK. Create an instrument track and pick DrumComputer up from the Instrument list.

## Sonar

Make sure that DrumComputer is installed in the VST Plugins folder. Insert DrumComputer as a „soft synth“.

## Logic

Select DrumComputer as an AU-Instrument from the I/O dialogue of a Software Instrument track.

## FL Studio

Go to Channels>Add one>More...There you should find DrumComputer and perform a refresh. You can now open DrumComputer in the Mixer Inserts.

# Installation

Download (requires login) the latest version [here](#). Double-click the installer and follow the instructions provided by the installation process.

The standalone version and **manual** will be installed into:

Windows: C:\Program Files\Sugar Bytes\DrumComputer

macOS: /Applications/Sugar Bytes/DrumComputer

## macOS

Default installation paths:

VST2 /Library/Audio/Plug-Ins/VST/

VST3 /Library/Audio/Plug-Ins/VST3/

AU /Library/Audio/Plug-Ins/Components/

AAX /Library/Application Support/Avid/Audio/Plug-Ins

**Presets** will be installed into

\Users\YOURLOGINNAME (your home folder)Documents\Sugar Bytes\DrumComputer

Important: Do not relocate DrumComputer presets after installation!

## Windows

Default installation paths:

VST2 C:\Program Files\VSTPlugins

VST3 C:\Program Files\Common Files\VST3

AAX C:\Program Files\Common Files\Avid\Audio\Plug-Ins

# Uninstallation

To uninstall DrumComputer, please follow the instructions:

## Windows

Uninstall DrumComputer under Control Panel>Add/Remove Software.

## macOS

Delete all the following files and folders:

/Applications/Sugar Bytes/DrumComputer  
/Library/Audio/Plug-Ins/VST/DrumComputer.vst  
/Library/Audio/Plug-Ins/VST3/DrumComputer.vst3  
/Library/Audio/Plug-Ins/Components/DrumComputer.component  
/Library/Audio/Plug-Ins/Components/DrumComputerMidiFX.component  
/Library/Application Support/Avid/Audio/Plug-Ins/DrumComputer.aaxplugin

~/Documents/Sugar Bytes/DrumComputer  
~/Library/Preferences/com.sugar-bytes.DrumComputer.plist

## Authorization

The serial number is requested during installation. If the serial number is missing or incorrect, the product will not produce any sound.

Check the top area of the DrumComputer interface to verify whether your serial number is VALID. Manually entering the correct serial number there or performing a quick reinstall, should fix any issues. One License covers both the macOS and Windows version and can be activated for two computers at the same time. For use on more than two computers, please buy an additional license.

# Contact

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