DrumKit Manual

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Welcome to DrumKit

DrumKit is a selection of drum focused modules for VCVRack. It features a collection of carefully curated samples along with synthesized drum modules to bring you a fantastic drumming experience. DrumKit is developed and maintained for you for free.

If you run into problems, feel free to open an issue.

DrumKit Standards

DrumKit adheres to a set of standards used across its modules. Every effort is taken to provide you a consistent experience.

Gates/Triggers

Gates and triggers are configured to accept any voltage at or above `0.5 volts`. This means that as soon as the voltage hits `0.5 volts`, the gate is considered to be open. In the case of drum modules, this is when the sample or synthesis starts. In the instance of `reset`, this is the voltage at which the module is fully reset.

Outputs from modules that produce a gate or trigger, such as *Gnome* or *Drum Sequencer*, output a voltage of `5.0 volts`. This is meant to help DrumKit modules be as compatible as possible with other modules without the need for an attenuator.

Envelopes

Envelope inputs for DrumKit expect a voltage of `0–5 volts`. This allows DrumKit to work with other envelope generators. If you are using other envelope generators that provide different voltages, you may need to use an attenuator.

Envelopes generated by DrumKit modules, such as *Baronial*, output `0–5 volts`.

CV

DrumKit provides CV input for most parameters using an input voltage of `−10 volts` to `10 volts`. These are additive values on top of the position of the parameters, and for the most part are meant to be proportional. This means that if a parameter adjusts between `0` and `5`, that it will be affected by `1` for every `2 volts` sent to the CV input; if the parameter is set to `2`, and you provide `3 volts` via

CV then the parameter will be considered to be at 3.5. Alternately, if you provide negative voltage, it subtracts at the same rate. Note that limiters are in place to make sure that values stay within the expectations of the modules.

Sample Based Modules

Some modules provided by DrumKit are sample based. This means that there are recordings of drum sounds that are played back and manipulated as part of the modules. These modules allow for sample selection, as well as tuning, both with knobs and with CV.

All sample based modules provide for two modules in one - each top and bottom module operate independently of each other, otherwise are exactly the same.

Snare Drum N

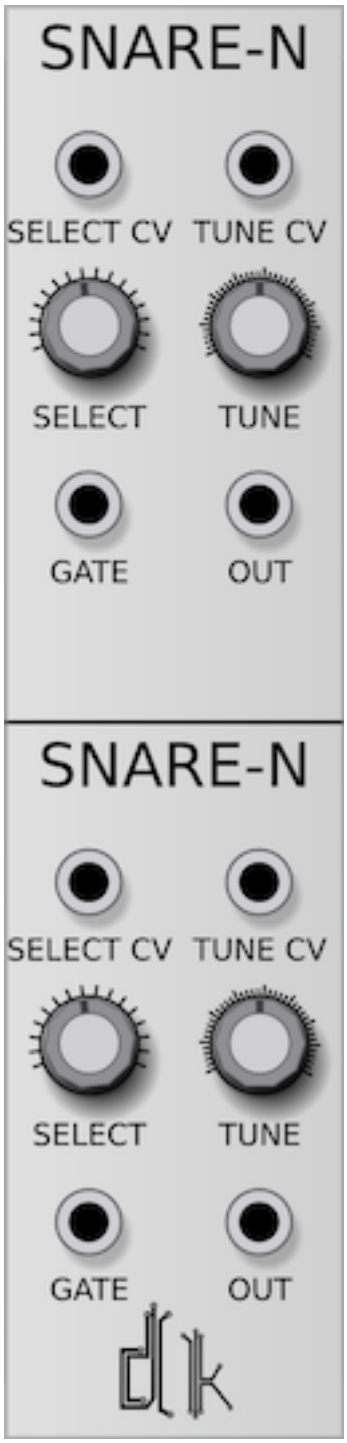

Figure 1: Snare N

Snare Drum N is a snare drum module based on the *Novation Drumstation*. It features 16 snare samples for you to select from.

Bass Drum 9

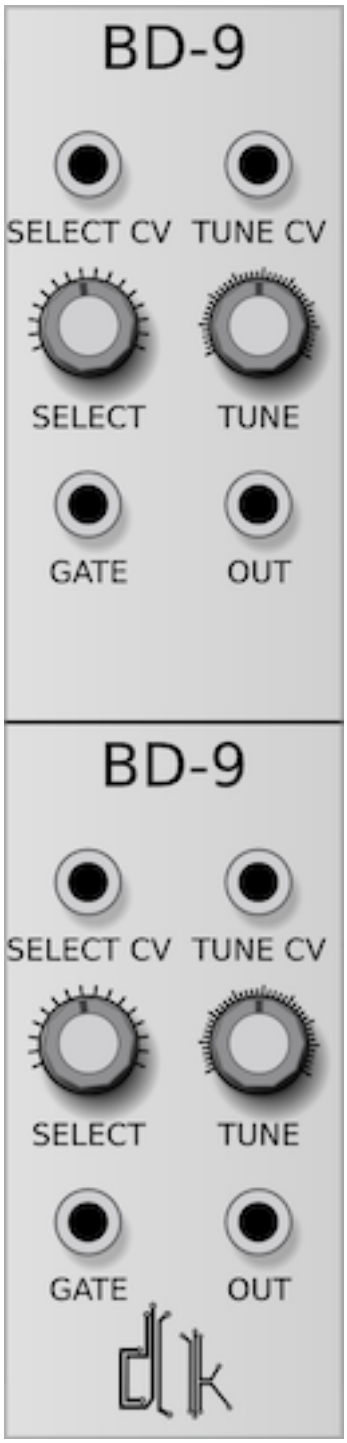

Figure 2: Bass Drum 9

Bass Drum 9 is a bass drum module based on the venerable *909*. It features 16 bass drum samples.

Closed HiHat

Figure 3: Closed HiHat

Closed HiHat features 15 hihat samples.

Open HiHat

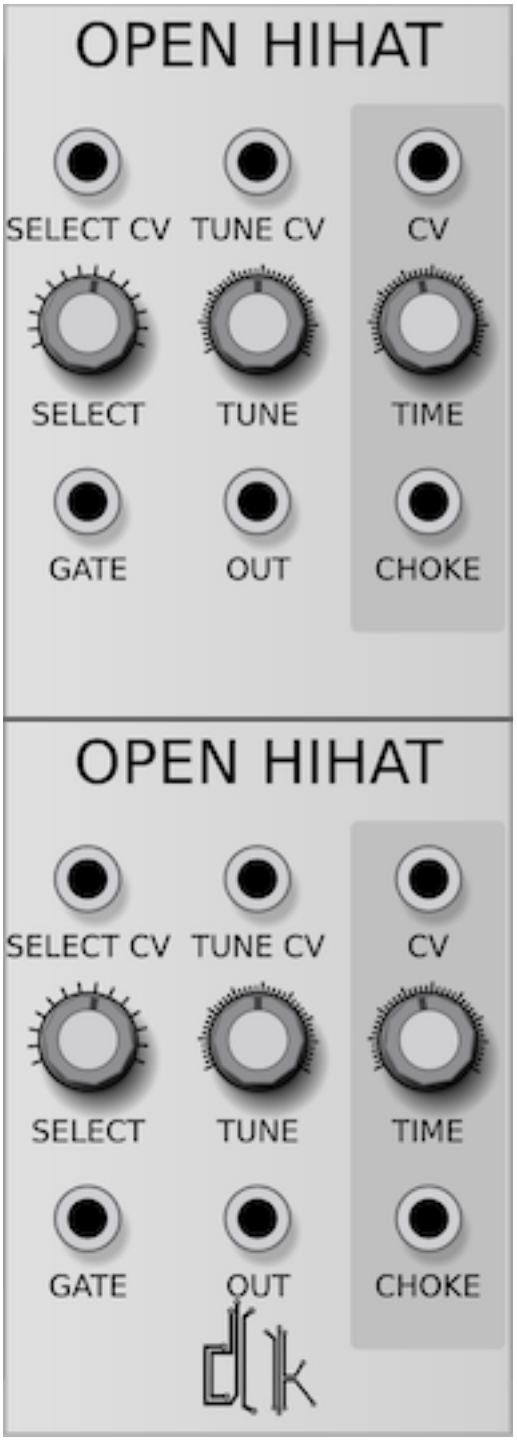

Figure 4: Open HiHat

Open HiHat features 14 hihat samples, but also includes a *choke* feature.

A *choke* of an open hihat is typically done by muffling the hihat with your hand after it is struck. With the *Open HiHat* module, you have a *choke* input that acts as a gate, and a *time* parameter this is also CV controllable. The *time* parameter acts as a decay timer for how fast the hihat is choked. This ranges from `0.05 seconds` to `0.5 seconds`. The CV input adds to this range as a proportional value: each `1 volt` input from the CV increments the value by `0.25 seconds`.

Note that if the *choke* is triggered multiple times, it will open the sample back up before choking it again. This can be manifest as a “wobble” or “echo” effect, depending on the sample that was triggered.

Tomi

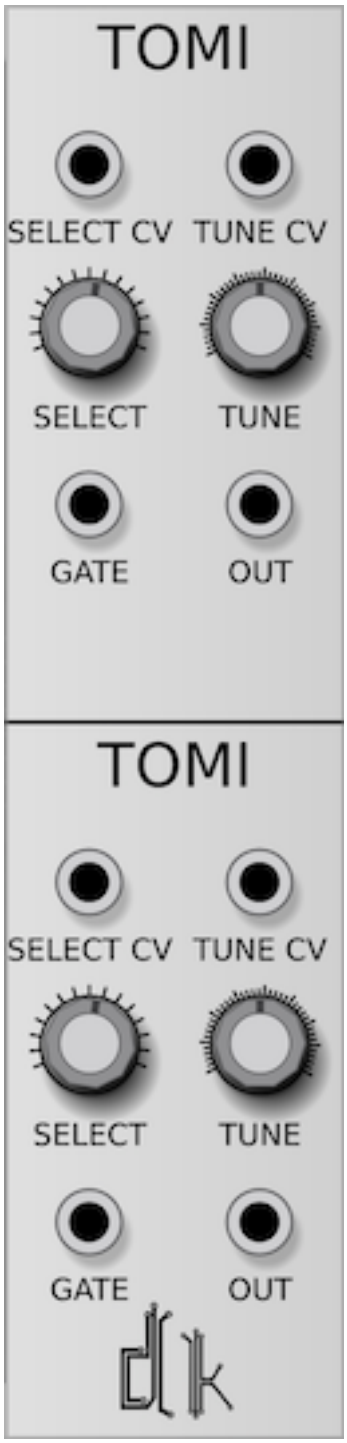

Figure 5: Tomi

Tomi features 14 tom samples, with a range of low, mid, and high toms.

CR78

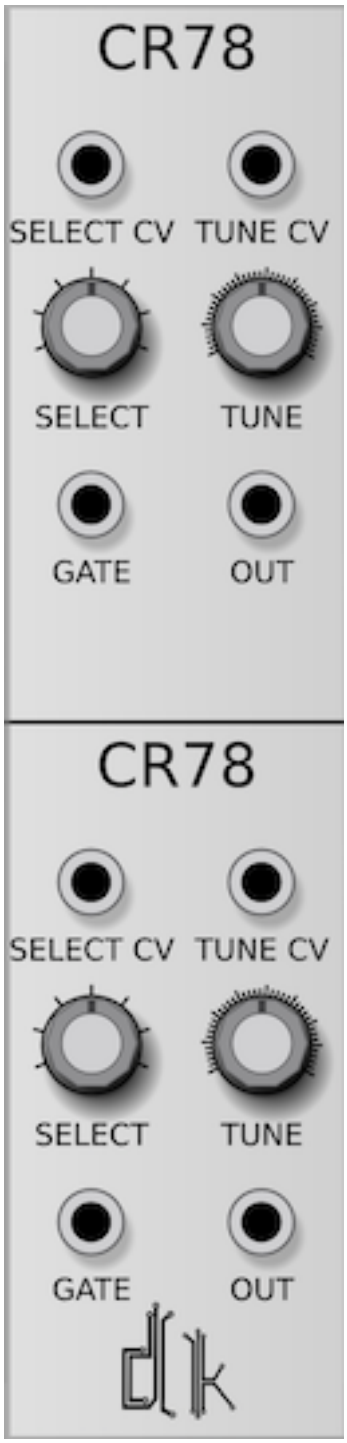

Figure 6: CR78

CR78 is based on the CR78 Drum Machine. It features 7 samples directly from the kit.

DMX

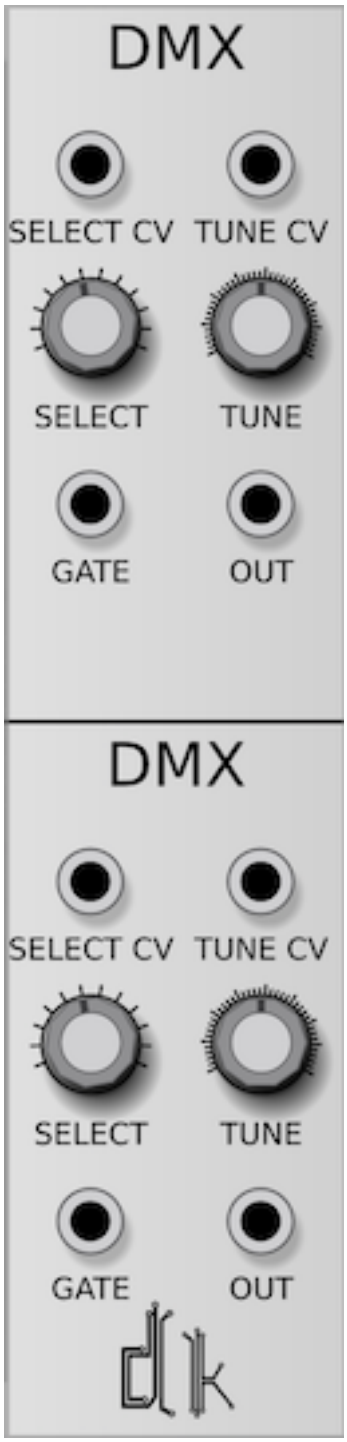

Figure 7: DMX

DMX is based on the DMX Drum Machine, featuring 12 samples directly from the kit.

Synthesized Modules

DrumKit includes some synthesized modules that use oscillators and envelopes to generate their sounds. These modules are built to provide different drum experiences all within the same module.

Synthetic Bass Drum

Figure 8: Synthetic Bass Drum

Synthetic Bass Drum provides a basic sine wave oscillator coupled with a sub-oscillator as the main sound creation. There are three envelope variables that can be altered either by a knob or as CV: *Pitch* which alters the overall pitch of the oscillators, *Pitch Decay* which changes the speed at which the pitch drops as the drum releases, and *Amp Decay* which alters how fast the volume fades to zero.

In addition, there is a *Drive* parameter that affects the overall volume, allowing you to drive the drum into distortion. The *Click* parameter affects the initial "hit" or "click" sound at the beginning of the drum, from when the drum would have been struck.

The sub-oscillator adds an additional punch to the drum itself, and provides you three parameters: *Sub Level* which alters the volume of the mix of the sub-oscillator, *Sub Octave* which changes the octave drop of the sub-oscillator from `0` to `−2`, and the *Wave* which allows you to choose from a Sine Wave or a Square Wave as the base oscillator.

Marionette Bass

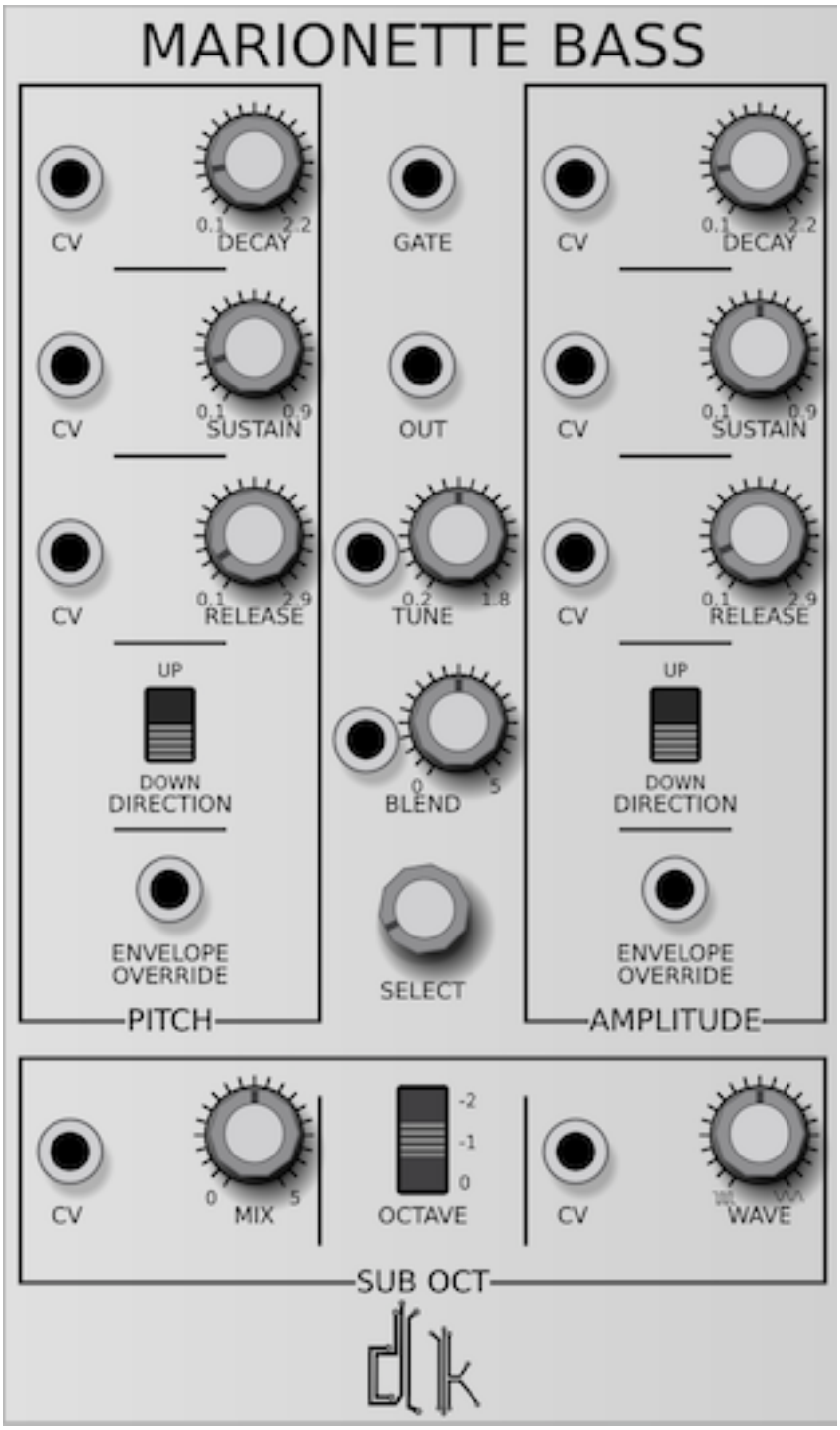

Figure 9: Marionette Bass

Marionette Bass is the first in a line of *hybrid* modules. It takes a mix of curated samples and synthesized drums to generate a punchy and unique drum sound.

There are two envelopes: *Pitch* and *Amplitude* that control the basics of the shape of the sound. Each one has four parameters: *Decay*, *Sustain*, *Release*, and *Direction*. These envelopes can be overridden completely using the *Envelope Override* inputs, allowing you to use any envelope generator you want to help generate the sounds you desire.

The sub-oscillator is very similar to the one provided by the *Synthetic Bass Drum*, but instead of having a direct wave selection, a knob and CV are provided to give you a smooth transition between the two waveforms: square and sine.

As with the other modules, a *Tune* parameter is provided, but *Marionette Bass* also provides *Select* and *Blend*, which allow you to select from a curated bass drum sample (currently two), and blend that with the generated drum sound. Note that the tuning applies equally to both drums.

Envelope Generator

The creation of *Marionette Bass* was served well by the creation of a drum-focused envelope generator. DrumKit has made this envelope available as a standalone module for your use.

Baronial

Figure 10: Baronial

Baronial is an envelope generator made specifically for drums. Baronial allows you to have precise control over the attack, sustain, and release stages of the envelope. This gives you the ability to fully control all aspects of the drums you are working with.

Clock Generator

There are other clock generators available, but DrumKit provides one that is customized from drum applications.

Gnome

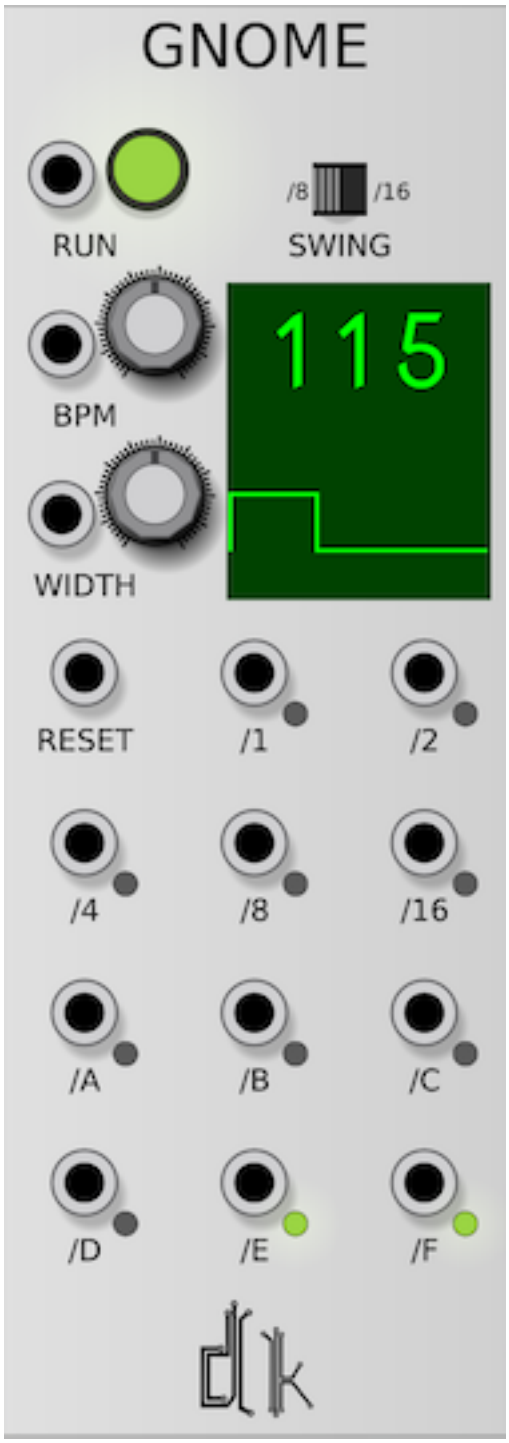

Figure 11: Gnome

Gnome is a drum focused clock generator giving you the ability to set the BPM along with the pulse width. In addition to the standard note outputs: `whole`, `half`, `quarter`, `eighth`, and `sixteenth`, *Gnome* gives you *swing* outputs that conform to the Linn Drum swing timings.

Output	Timing
A	50%
B	54%
C	58%
D	62%
E	66%
F	71%

These timings can be triggered as either `eighth` or `sixteenth` notes, selectable via the `Swing` switch.

Sequencer

Sometimes you need a drum focused sequencer. DrumKit provides one.

Drum Sequencer

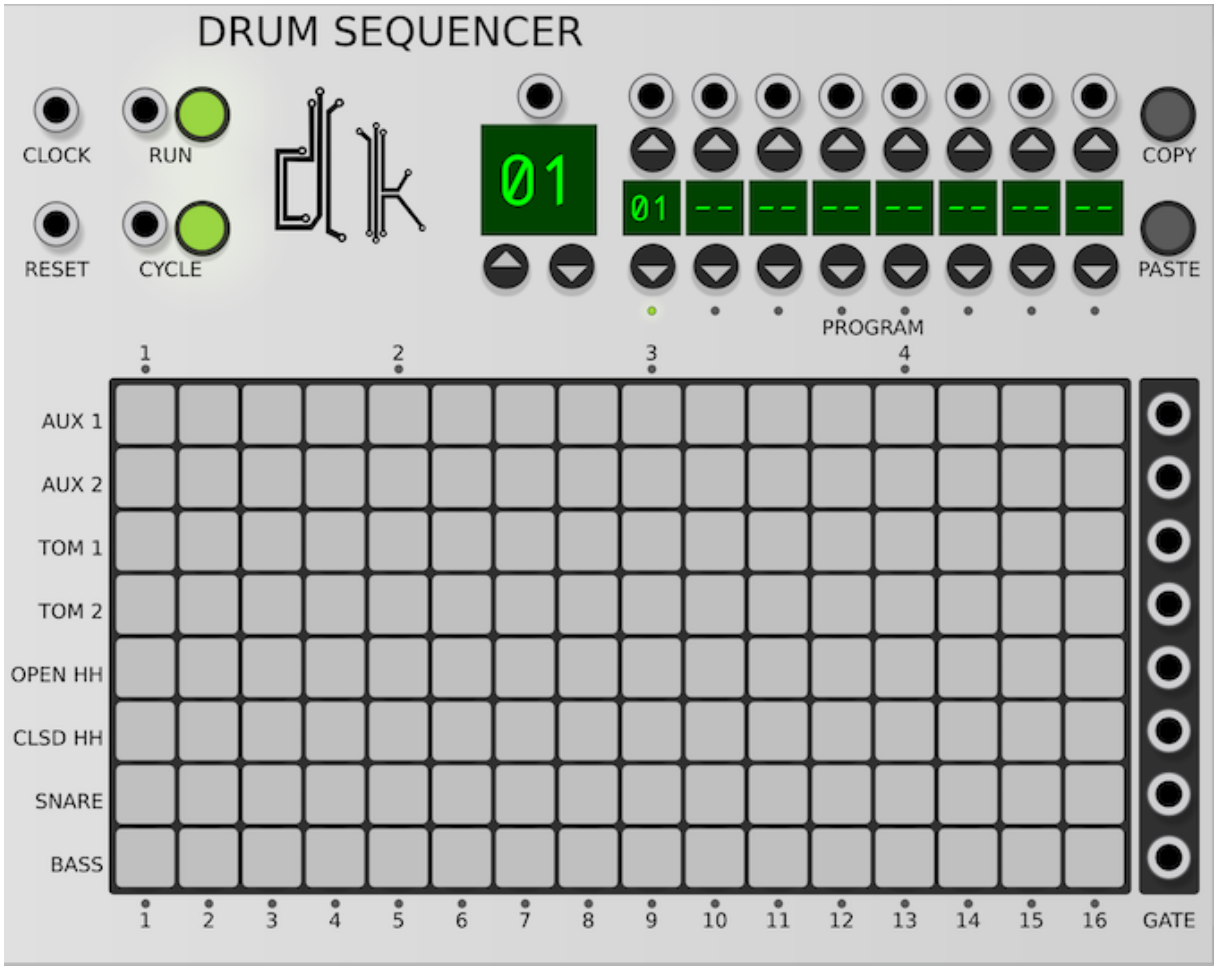

Figure 12: Drum Sequencer

Drum Sequencer is a pattern based sequencer giving you 16 patterns and up to 8 programs for 8 gates. These patterns can be combined and cycled through in any order, and can be changed on the fly either manually using the buttons or via CV. In addition to *Cycle* mode, *Drum Sequencer* allows you to stay on a single pattern and live edit your drum sequences.