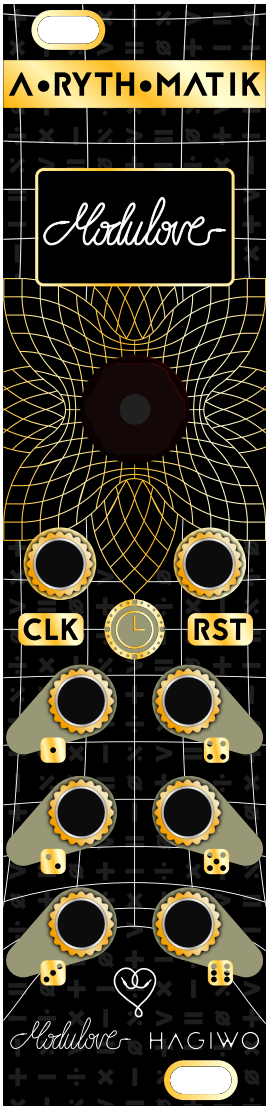
A•RYTH•MATIK

newClidean Sequencer Firmware USER GUIDE



Modulove

modulove.io

ACKNOWLEDGMENTS

This module would not exist without the initial work of HAGIWO who in 2021 designed the original circuit and code that this module is based upon.

In 2022 Sasha Kruse altered the schematic and code to add a second input for the reset in as well as 7 LEDs to provide visual feedback over the clock and each individual output.

From this schematic a PCB was designed along with the front panel by Sasha Kruse a.k.a BKRSM Design, co-founder of Modulove.

Adam Wonak then also coded an Arduino library for the module and began writing alternative firmware for it.

In 2024 Linus, the other co-founder of Modulove and Adam Wonak then began to write the “NewClidean” firmware bringing many often requested features from our user base into this huge update.

This progress and continuous refinement shows how powerful open source projects can be and that through engaging with and building community we can achieve things much greater than any single person could alone.

We would like to therefore acknowledge our gratitude towards:

Hagiwo, Sasha Kruse, Adam Wonak, Linus Penzlien & The vibrant Eurorack community and users of our modules. Thanks for your support ❤

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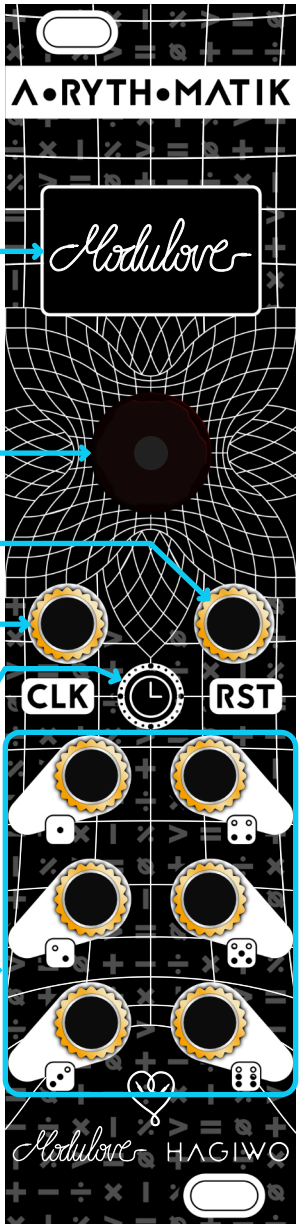


OLED Display

0mA 5V
50mA 12V
0mA -12V

64x128 Pixels OLED Screen Using 4 Pin I²C Connection

Rotary Encoder with Push Button

intuitive on Screen Navigation

Reset Input

Clock Input

Clock LED

0-5V inputs with reverse and over voltage protection

Trigger Outputs 1-6 with LEDs

0-5V outputs with reverse and over voltage protection

Programmable Arduino Nano allows for custom and alternate firmware

Note: This guide is generally for the NewClidean Firmware but the hardware information is also relevant to other firmwares.

There are a number of different firmwares available for this module which can change and extend its functionality.

It is also possible to write your own firmware for this module and we encourage anyone who is interested in programming or learning to program to give it a go!

AWONAK

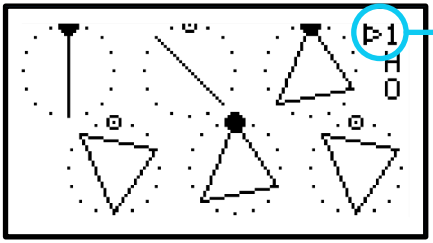
Adam Wonak has written an Arduino Library to make this process easier and creating a new firmware can easily be done using the Arduino IDE making this very accessible and beginner friendly.

MODULOVE

There are also a few different firmwares that can be easily loaded via USB from a browser from these sites:

dl.modulove.de/module/arythmatik
awonak.github.io/HagiwoModulove/arythmatik

MENU NAVIGATION



channel select

This (▷1) is the initial starting point of both menus. From here we can scroll up and down as well as left and right.

On ***channel select*** turn the knob to the left to access and scroll through the modules ***global functions***.

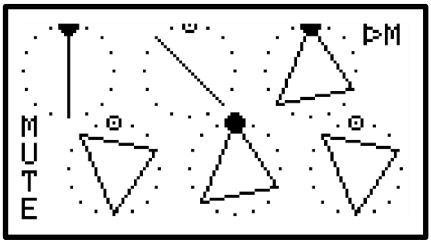
On ***channel select*** press the knob to cycle downwards through each of the ***channel edit modes***.

You can also long press the encoder on any ***channel edit mode*** to cycle backwards to the previous mode.

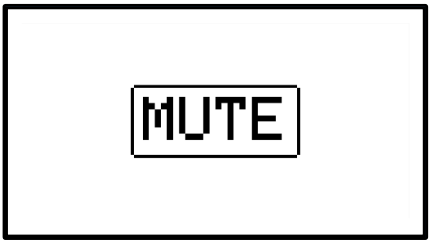
You can also turn the encoder whilst pressed on any of the edit modes to change the channel you are currently editing for quick programming.

Both menus loop in both directions so you can quickly reach the desired setting in either direction.

GLOBAL FUNCTIONS: 1. MUTE ALL

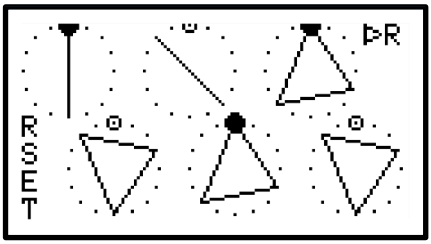


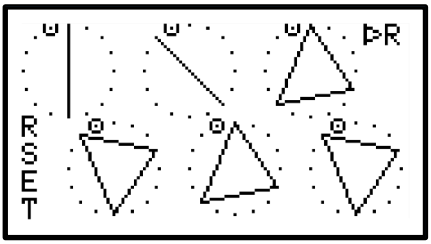
Press the knob to mute all channels.



Press the knob again to unmute all channels.

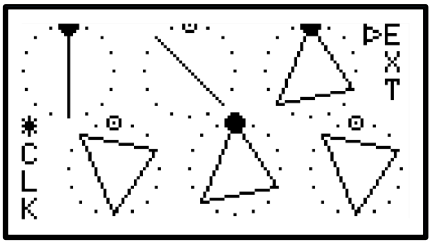
GLOBAL FUNCTIONS: 2. RESET ALL

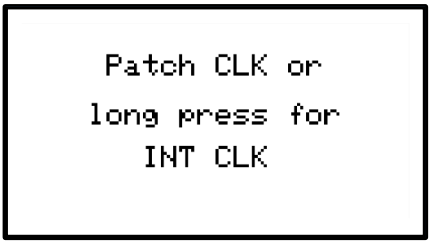




Press the knob to reset all channels this will re-syncronise the channels with each other and essentially does the same as the RESET input on the hardware.

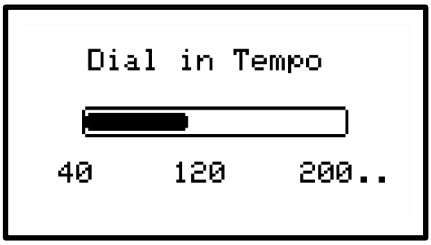
GLOBAL FUNCTIONS: 3. EXT. / INT. CLOCK



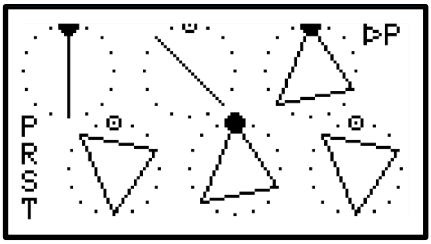


Pressing the knob here whilst the module is receiving a clock will give you a reading of the current incoming BPM. If there is no external clock connected it will show you this message.

Press and hold knob to start internal clock and then turn it to increase or decrease the BPM. Turning the knob faster will change the BPM in larger increments whereas turning it slowly will be more



GLOBAL FUNCTIONS: 4. PRESET PATTERNS



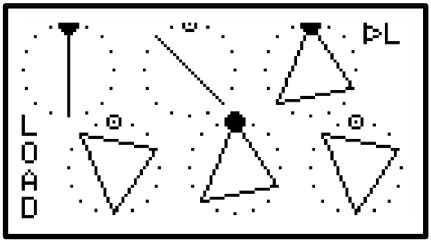
Pressing the knob here will allow you to scroll through a bunch of preset patterns. These include a few classic genres and some interesting and more experimental patterns too.

You can also load a preset and use it as a starting point to program your own pattern

Here are the 20 preset options to choose from.

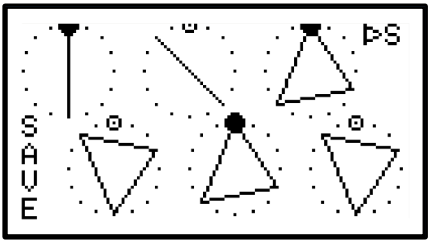
- Techno
- Dubstep
- DNB
- Samba
- House
- Bossa Nova
- Bell
- Odd1
- Gen
- Threes
- Aksak
- Odd2
- Clave
- Zarbi
- Nawkht
- Odd3
- Djembe
- Odd4
- Takita
- ClockDivider

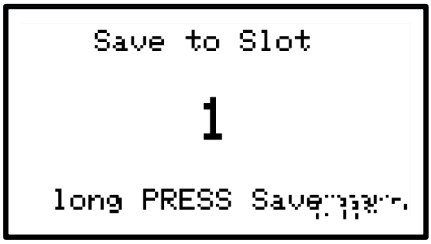
GLOBAL FUNCTIONS: 5. LOAD USER PRESETS



Pressing the knob here will allow you to scroll through a the user saved preset patterns from slot 1-16. To load a slot press and hold the button.

GLOBAL FUNCTIONS: 6. SAVE USER PRESETS

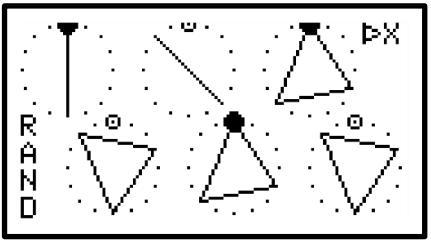




Pressing the knob here will allow you to scroll through a the user save slots from 1-16. To save the current pattern select the desired slot you wish to save to and press and hold the button.

GLOBAL FUNCTIONS: 7. X - RANDOMISE ALL

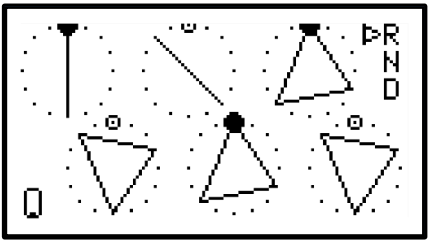
Pressing the knob or turning it to the right here will randomise the number of hits as well as the offset for all channels.



Turning the knob to the left will randomise hits, offset and additionally mute for all channels.

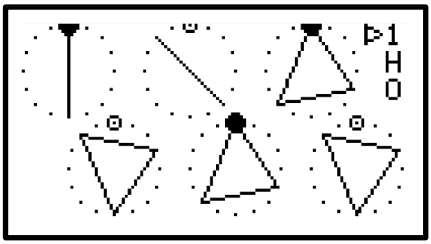
GLOBAL FUNCTIONS: 8. AUTO RANDOMISE ALL

Turning the knob whilst pressed will increase or the decrease the bar count. Each time this is complete it will auto randomise hits and offset.



You can see the progress bar in the bottom left of the screen indicating 1 of 6 lengths: 1/2,4,6,8,12 & 16 bars

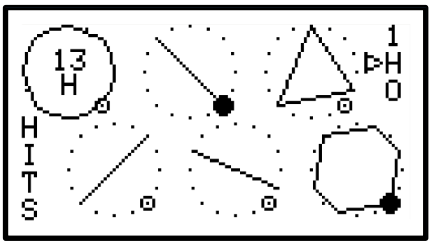
CHANNEL EDIT MODES: 1. CHANNEL SELECT



Turn the knob to the right to select channel 1-6 which will determine which channel you are currently editing in the rest of the edit modes.

Note: you can always change the current channel by turning the encoder whilst pressed in any editing mode.

CHANNEL EDIT MODES: 2. HITS

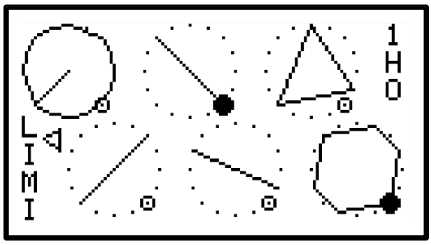


Turn the knob to add or subtract hits to the selected channel.

This will add corners or points to the polygon or line and distribute them as evenly as possible.

Note: if there are 10 or more hits then it will be displayed inside the circle as a written number as seen here on channel 1 with 13 and ‘H’ below it.

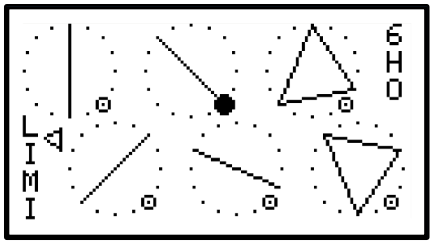
CHANNEL EDIT MODES: 3. OFFSET



Turn the knob to add or subtract an offset, rotating the polygon or line and shifting the trigger points of the selected channel.

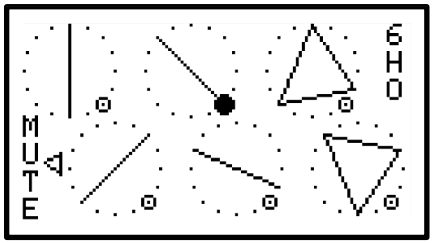
CHANNEL EDIT MODES: 4. LIMIT / LENGTH

Turn the knob to add or subtract steps from the selected channel from 0-16. Note: if there are 7 hits or more and less than 16 steps then you will see a line representing the last step.



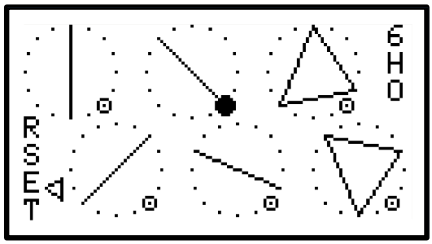
CHANNEL EDIT MODES: 5. MUTE

Turn the knob in either direction to toggle mute for the selected channel on or off.

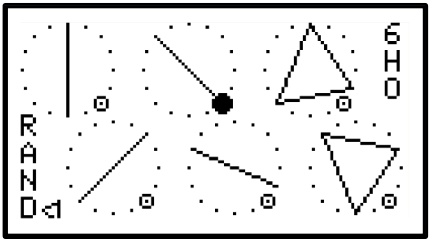


CHANNEL EDIT MODES: 6. RESET

Turn the knob in either direction to reset the selected channel.

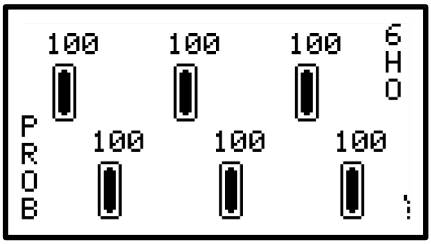


CHANNEL EDIT MODES: 7. RANDOMISE



Turn the knob in either direction to randomise the number of hits and the offset of the selected channel. Note: Channel 1 & 2 are currently excluded from the randomisation function.

CHANNEL EDIT MODES: 8. PROBABILITY



Turn the knob to adjust the on screen slider from 0-100.

This represents the percentage of probability whether the channel will send a trigger signal to its corresponding output.

This feature is great for generative rhythms and can really add a layer of depth and unpredictability to your patches.