ANTUMBRA

ROT8

MANUAL

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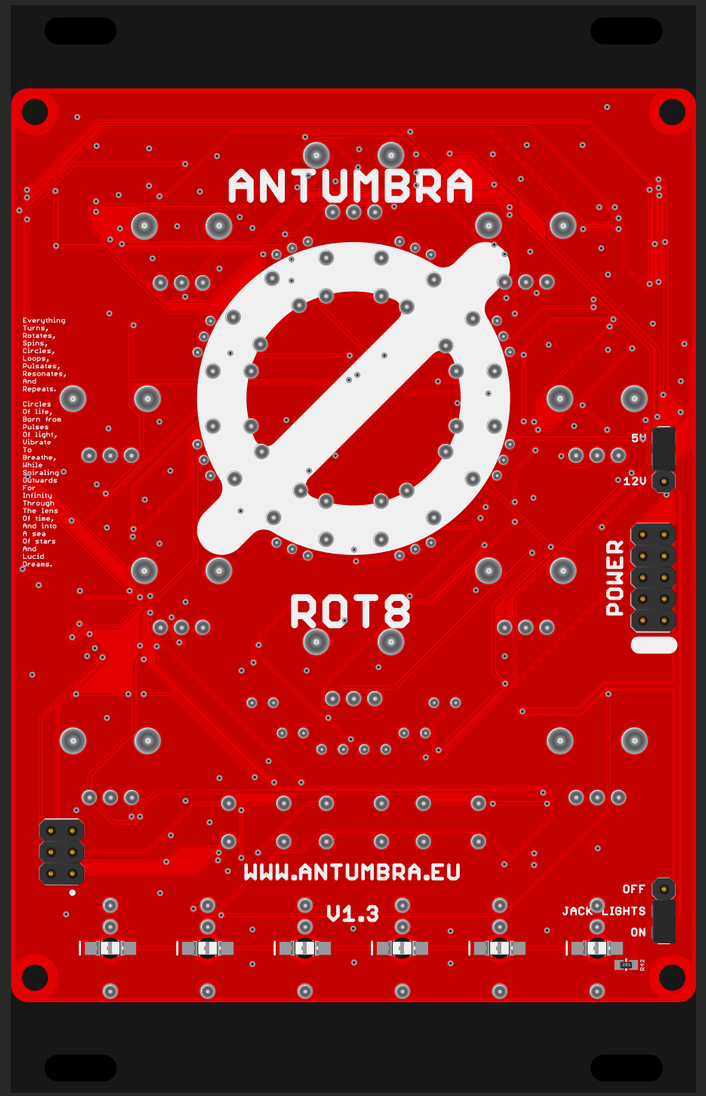
00. THANK YOU!

Thank you for purchasing the Antumbra ROT8 module!
In this documentation you can find information about the installation and use of the module, also an assembly instruction if you bought the DIY version.

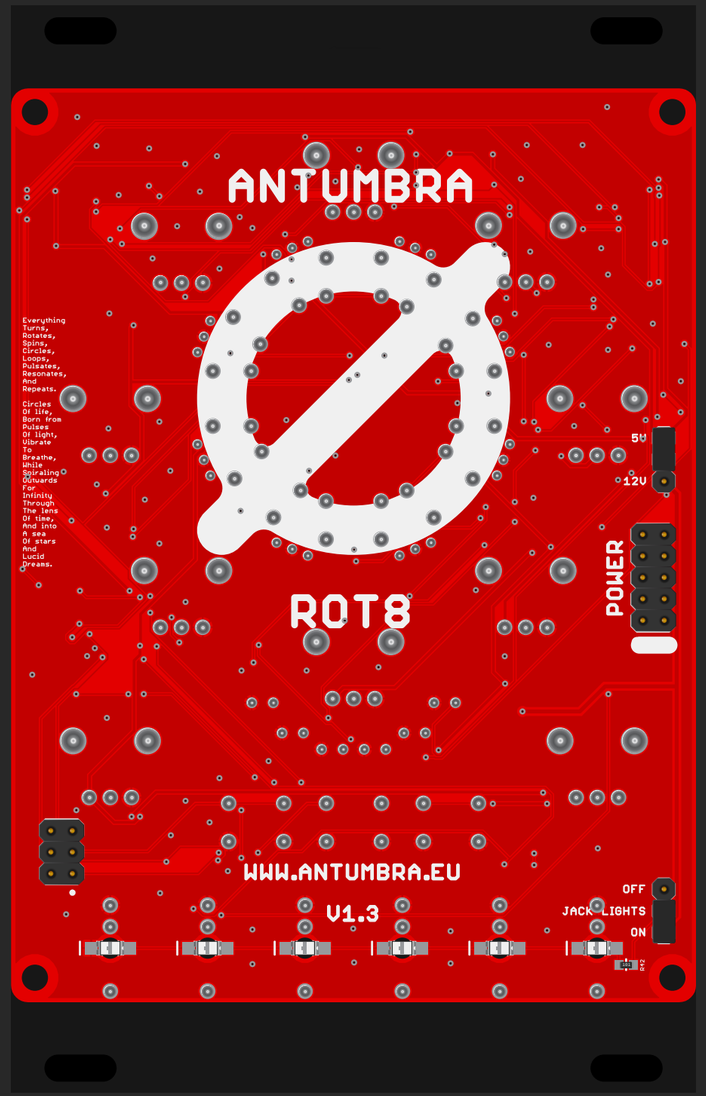


01. INSTALLATION

When you turn the ROT8 around, you should see the module as it is on the left illustration. Plug in the power cable to the power cable header pins, but BE CAREFUL with the orientation of the cable! The RED STRIPE should be on the BOTTOM of the module, indicated by the white line below the header pins. By doing otherwise you can potentially harm the module or even your whole system! Power off your eurorack system and connect the other end of the cable to the power source, here also pay attention to the PSU manufacturer's instructions!

POWER CABLE HEADER: Red stripe should be on the bottom, next to the white marker!

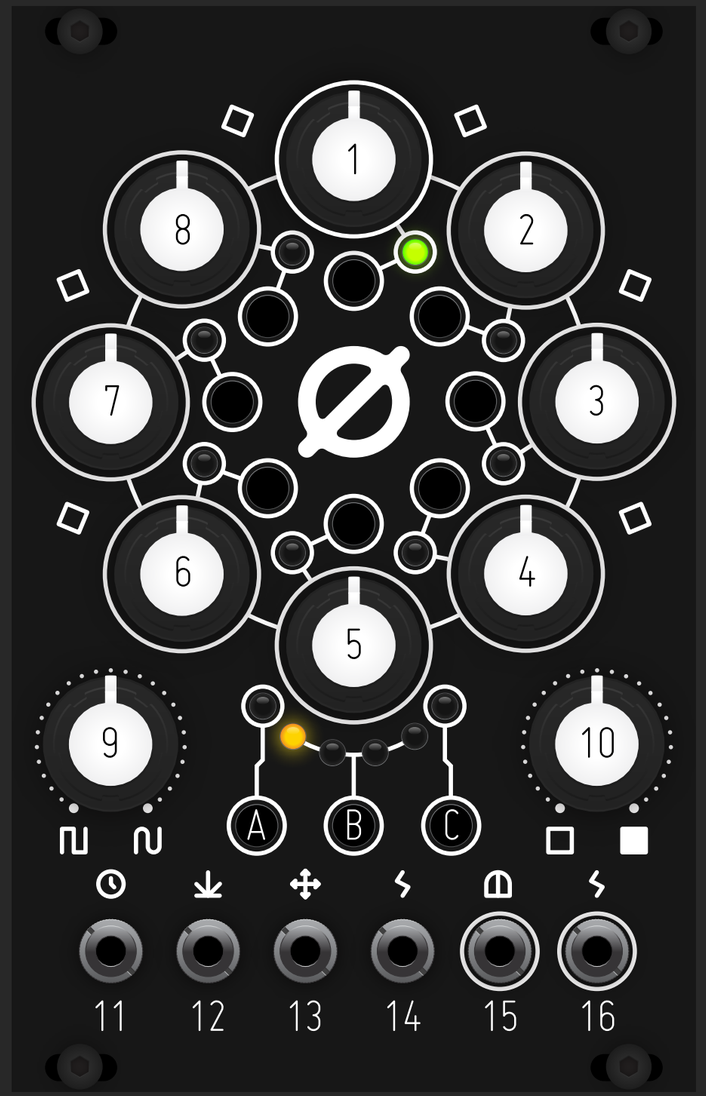
02. BACK



On the back there are two jumpers that can be set.

← The top one selects the maximum voltage that goes in the pots, to the output, this can be set to 5V or 12V.

← The bottom one enables or disables the jack lights.



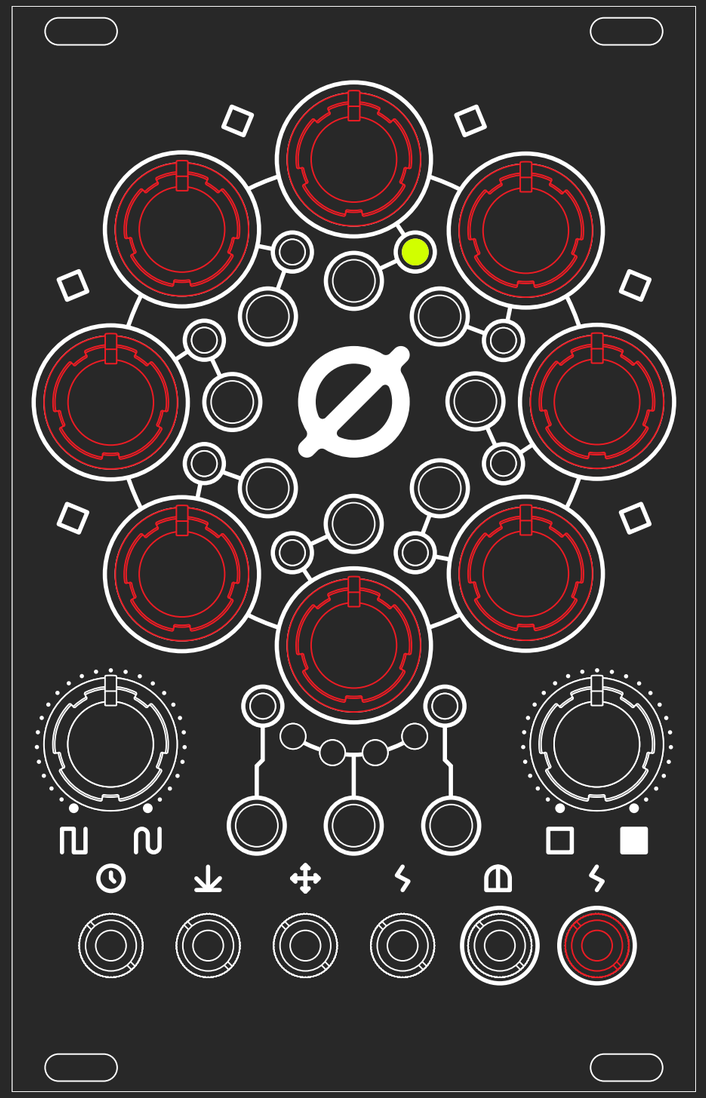
03. FRONT

1-8 POTS, LEDS AND BUTTONS PER STEP
(refered to as knob 1, LED 1, button 1, etc.)

9 SLEW POT
10 ASSIGNABLE POT

11 CLOCK IN JACK (0-12V)
12 RESET IN JACK (0-12V)
13 DIRECTION CV IN JACK (0-5V)
14 ASSIGNABLE CV IN JACK (0-5V)
15 GATE OUT JACK (0-5V)
16 CV OUT JACK (0-5V or 0-10V)

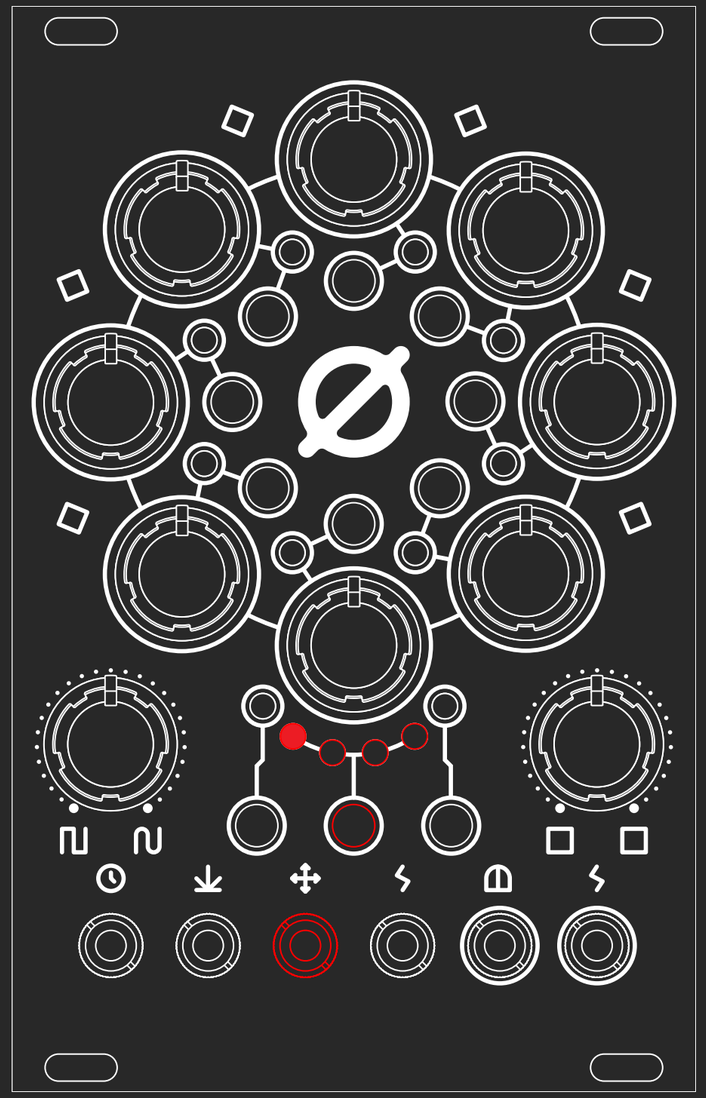
A-C BUTTONS
(plus LEDs A, B1-4 and C)



04. SEQUENCE

The sequence is set by potentiometers 1-8, the value of the active step (indicated by green LED on LEDs 1-8) is output on the CV out jack.

The output path is fully analog, so there's no quantization on the output.

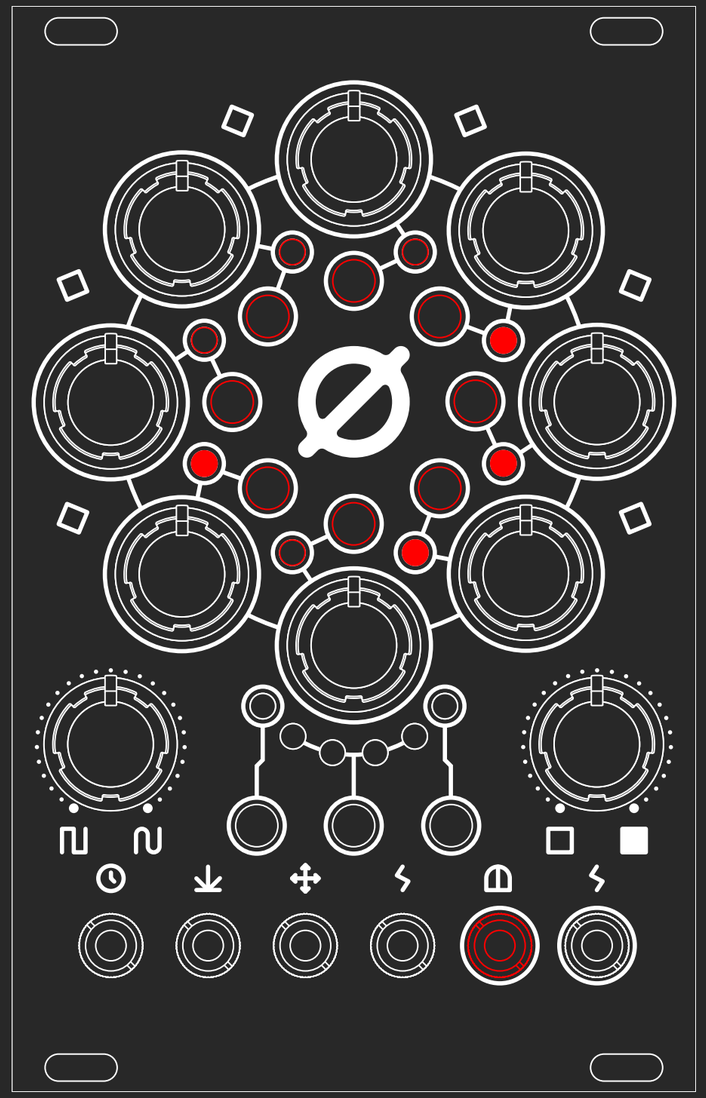


05. DIRECTION

Direction is indicated by LEDs B1-4, and are cycled by pressing the B button, or feeding CV into the direction CV in jack.

The directions from left to right are the following:

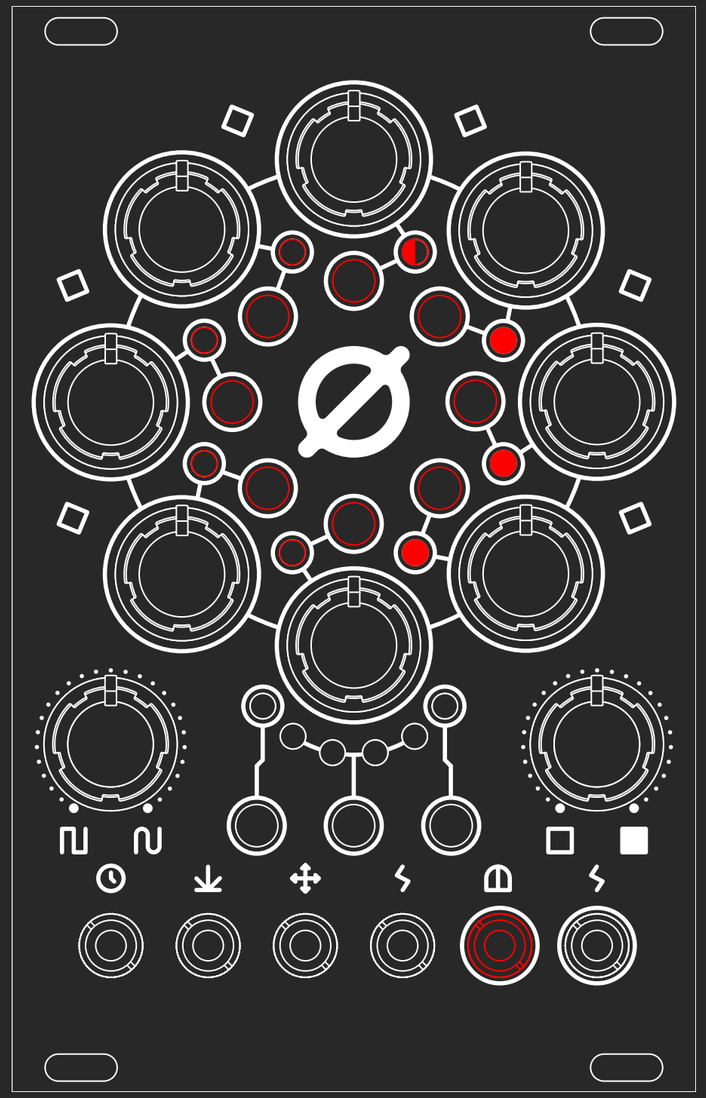
B1 Forward (clockwise)
B2 Backward (counter clockwise)
B3 Pendulum
B4 Random



06. GATE PAGE

Gate page is indicated by A and C LEDs being turned off. You can enter a gate per step by pressing buttons 1-8. Active gates are represented by red LEDs on each step.

When the sequence reaches a step with a gate set to on, it'll output a gate signal on the gate output jack. It's length is based on the gate length setting, which will be explained later in the manual.

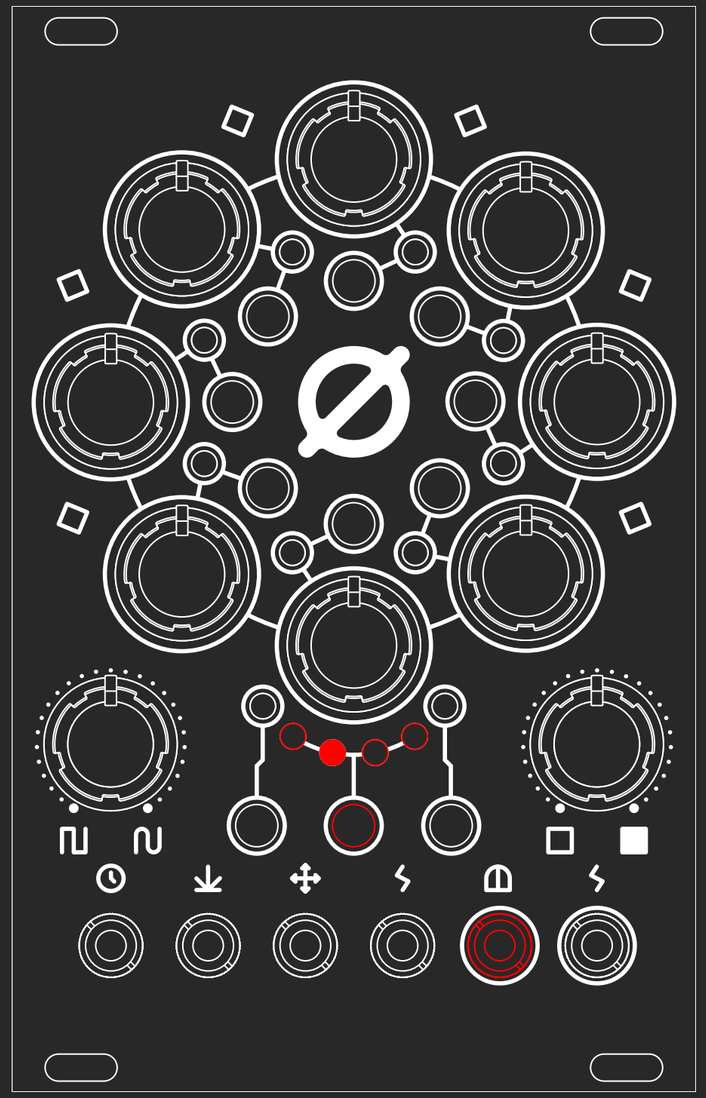


07. STEP SETTINGS

Step settings are accessed by long pressing a step button. The selected step will blink. Buttons in this mode select the number of repeats on the selected step from 1-8, this allows you to expand the sequence to more than 8 steps.

To exit the step settings press the selected value one more time. Now in the gate page the steps with repeat enabled are going to blink slowly if gate is not enabled on the step, and will blink quickly if it is.

For gate settings see the next page.



08. GATE MODE

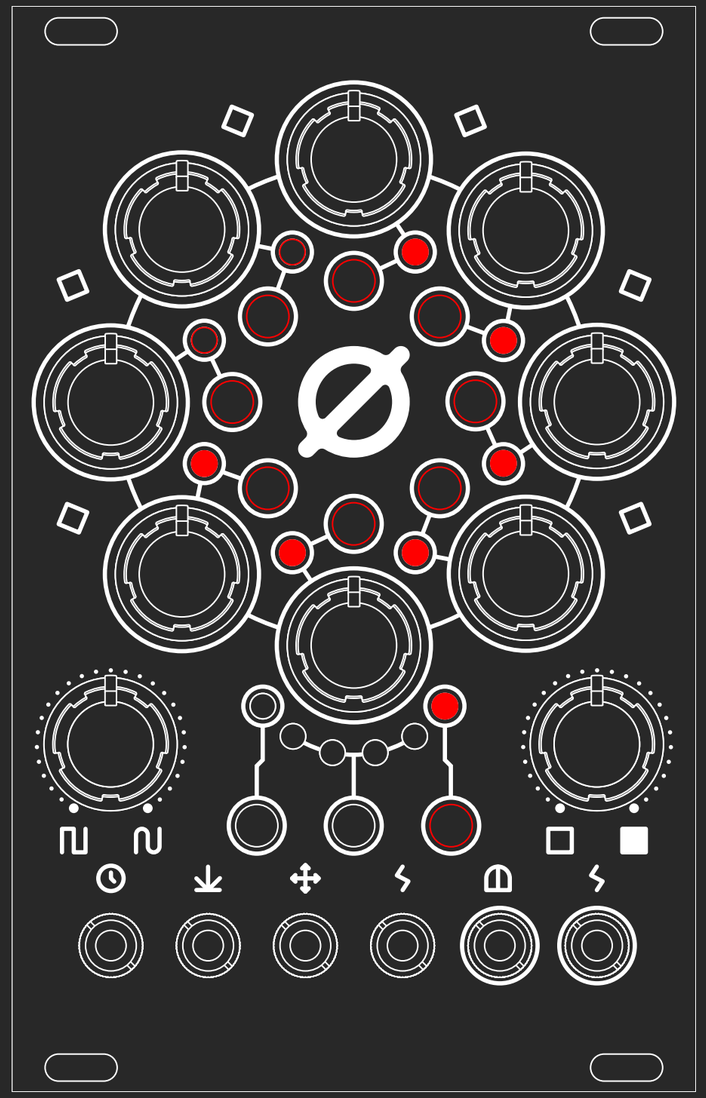
In step settings, button B cycles through gate modes for the step. The step will only produce gates if it is enabled on the gate page. The four gate modes are:

B1 SINGLE TRIGGER (default):
There is a single gate output on the step, repeats after it won't produce gates.

B2 TRIGGERS:
All triggers of the clock will produce gates.

B3 HOLD:
Gate will go high and will be held open till the last repeat.

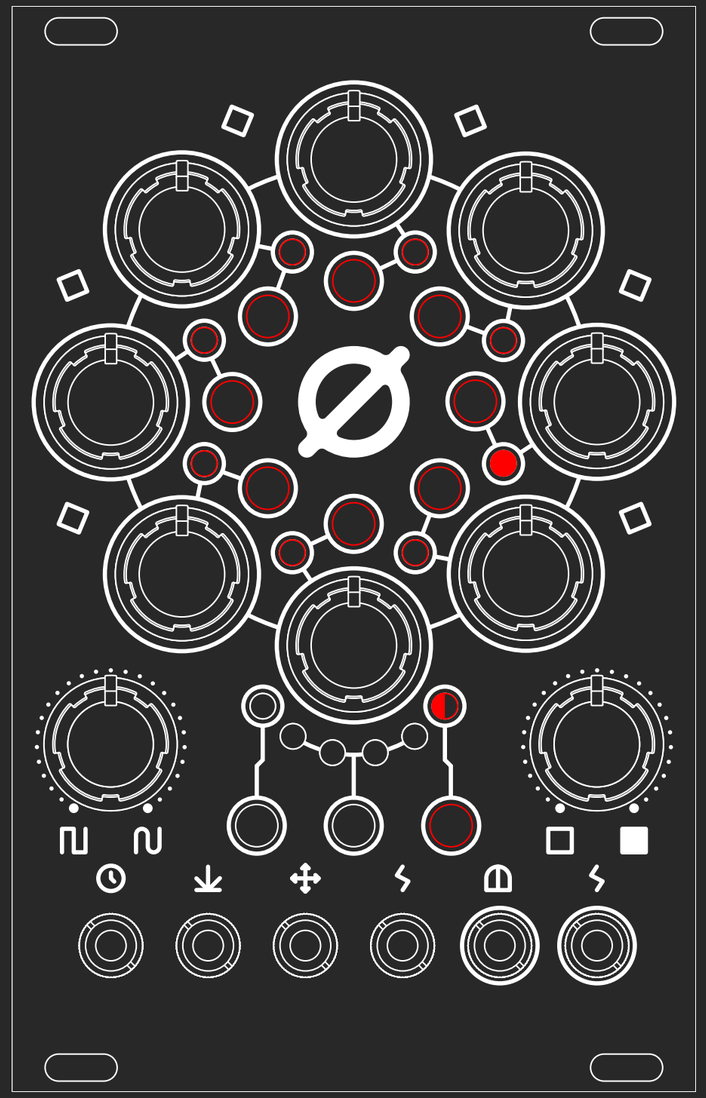
B4 RANDOM:
Gates are randomly on or off on each repeat.



09. SEQUENCE LENGTH PAGE

Sequence length page is accessed by pressing button C, and is indicated by LED C lighting up.

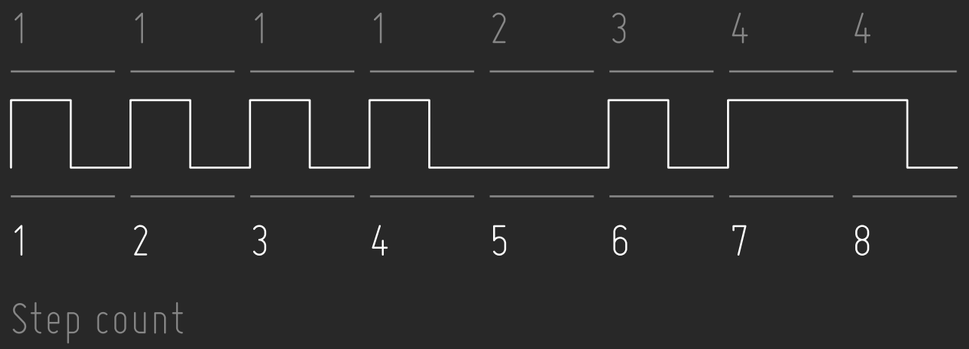
On this page you can set the length of your sequence by pressing the step buttons. After the last selected step, the sequence will start again from step 1.

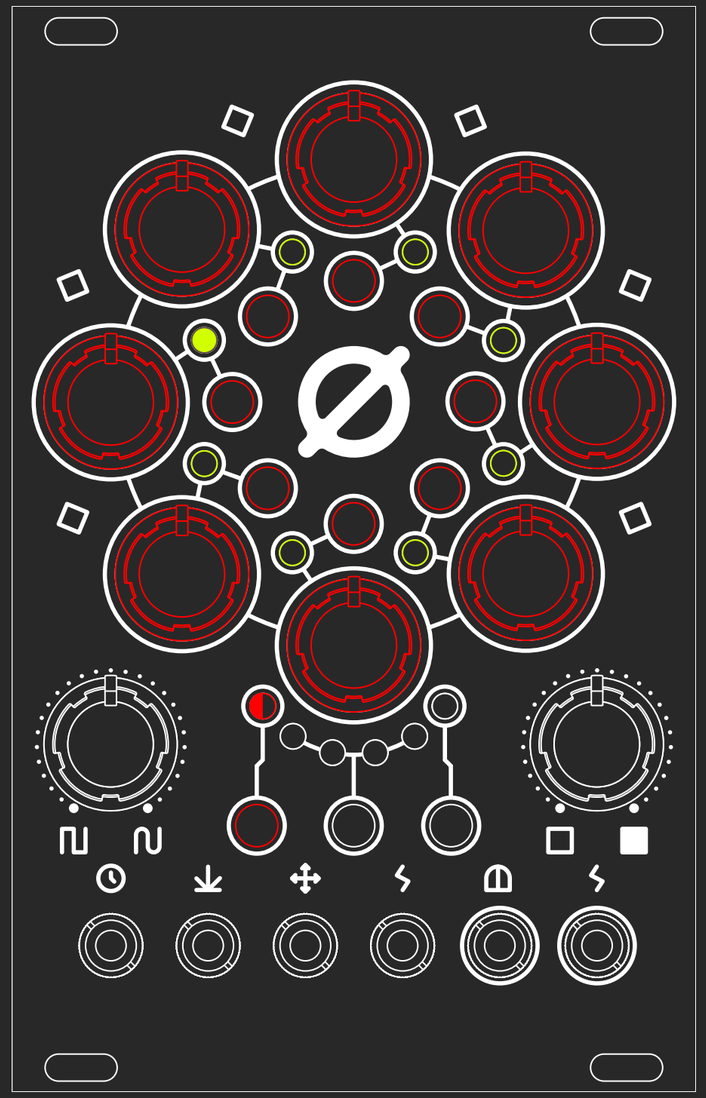


10. SEQUENCE RESET PAGE

Sequence reset page is accessed by long pressing button C, and is indicated by LED C blinking.

If repeats are enabled, the sequence can go beyond 8 steps, and will likely consist of even steps. On the sequence reset page you can constrain the sequence to the following measures with the step buttons: no constrain, 4, 8, 16, 32, 64, 128, 256





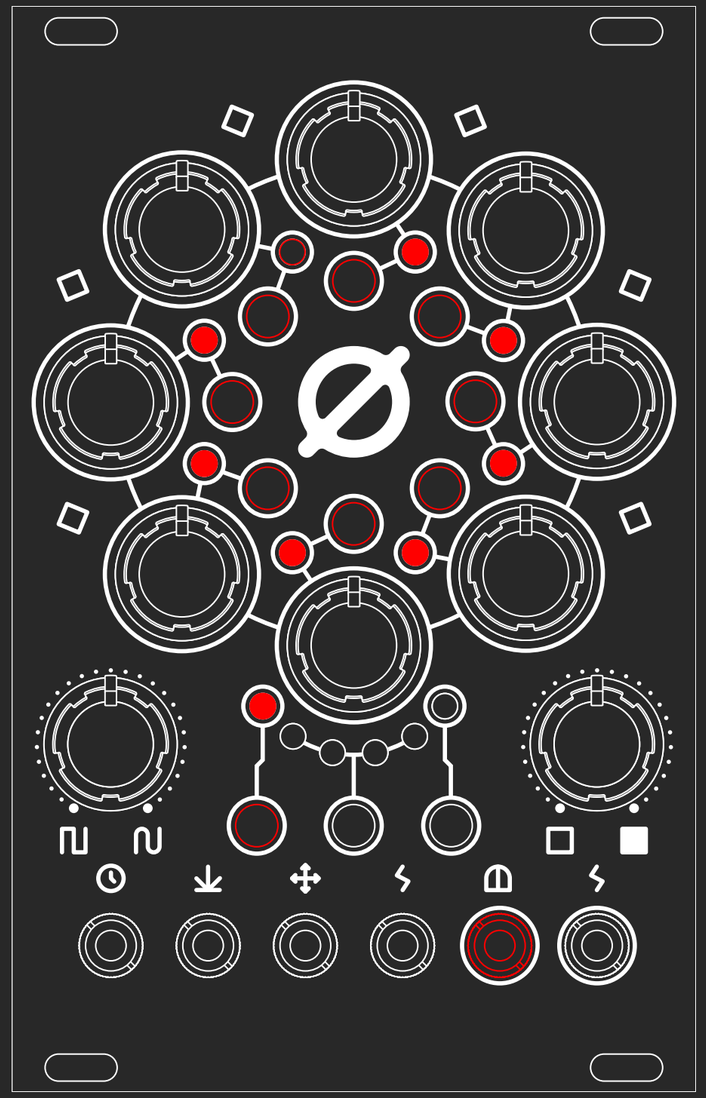
11. TUNE PAGE

You can access the tune page by long pressing on button A, and is indicated by LED A blinking.

When you access the tune page, the sequence is paused, and you can change steps by pressing the step buttons. This is great if you want to tune the knobs to certain positions.

You can leave this page by pressing button A again.

When you leave this page, the sequence will continue from the last selected step.

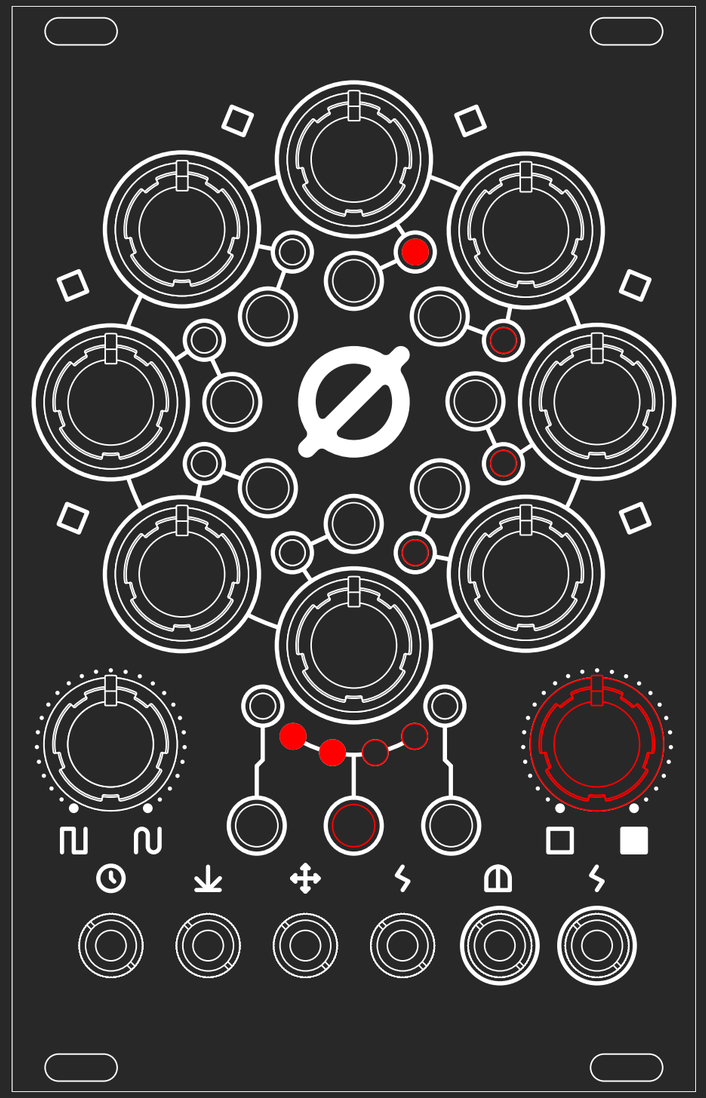


12. GATE LENGTH PAGE

Gate length page is accessed by long pressing button C, and is indicated by LED C blinking.

Here you can set the gate length with the step buttons. Gate length is a percentage value calculated from the time between two clock inputs. The values selectable from this page are the following:

1	5%
2	13%
3	25%
4	38%
5	50%
6	63%
7	75%
8	88%



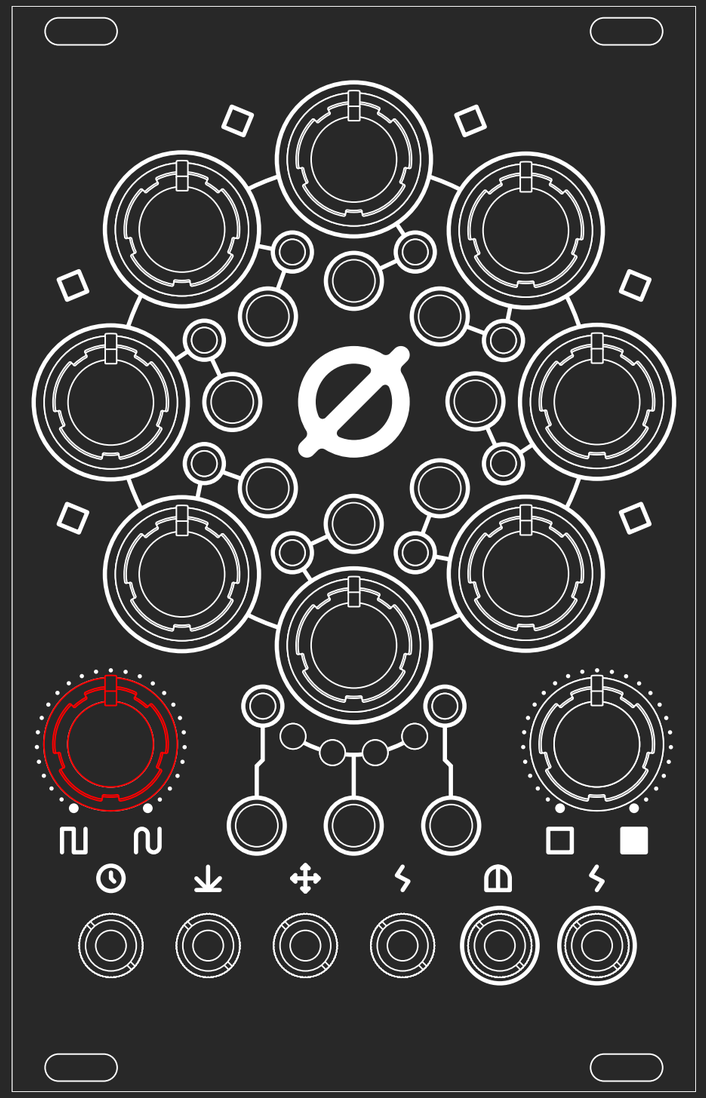
13. ASSIGN MENU

Assign menu is accessed by long pressing button B, B1 and B2 LEDs light up. You can switch between CV assignment (B1 & B2 LEDs) and pot assignment (B3 & B4 LEDs) by pressing button B while in this mode. Leave this page by long pressing on button B again.

On both pages you can set which parameter is controlled by CV (coming in on the CV input jack) and pot 10.
If both of them are assigned to the same parameter, pot 10 acts as an offset to the CV signal.

Assignable parameters:

1 **Step (0-8):** sets the current step to given value.
2 **Gate length (1-95%):** sets gate length.
3 **Sequence length (0-8):** sets sequence length.
4 **Pause (0-1):** pauses sequence when input is high.

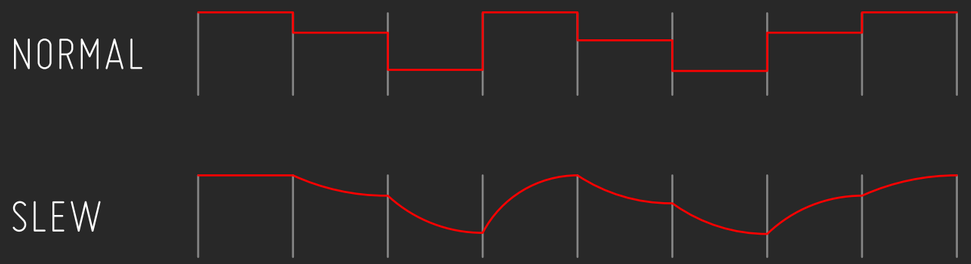


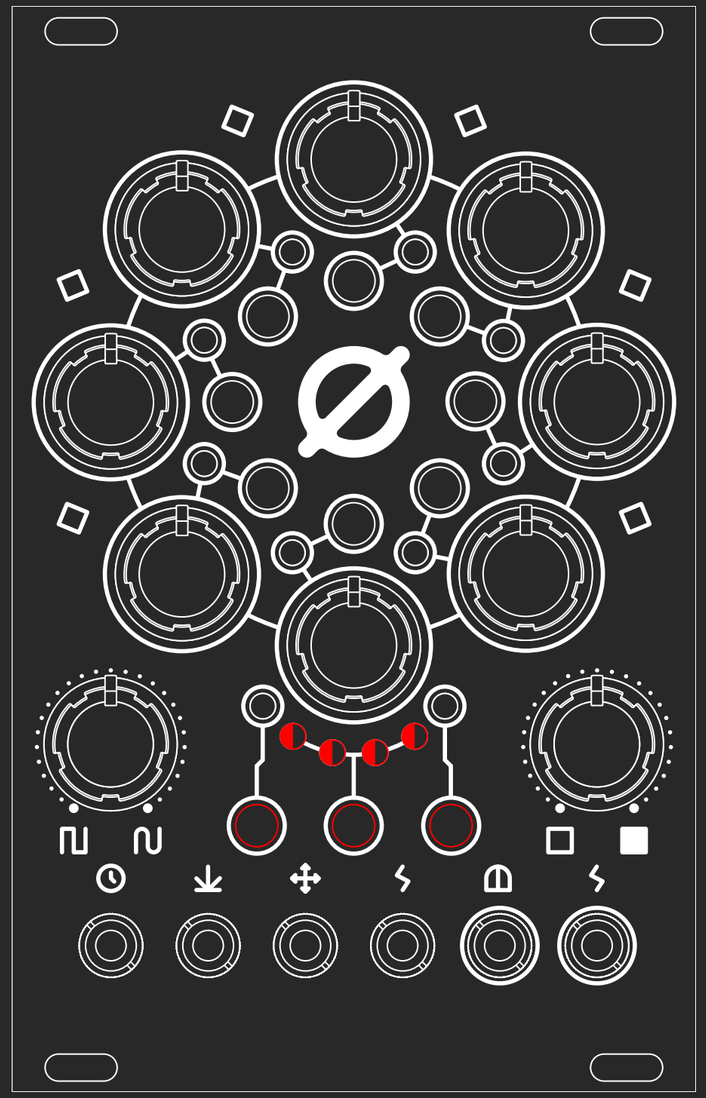
14. SLEW

The voltage from the step pots are sent through an analog slew circuit, and then to the output. Slew smooths the transition between two values, creating glides.

Full counter-clockwise there is no glide effect at all, while fully clockwise, the transition between two steps is slowed down.

You probably want to turn this off if you want to use the output with a quantizer.



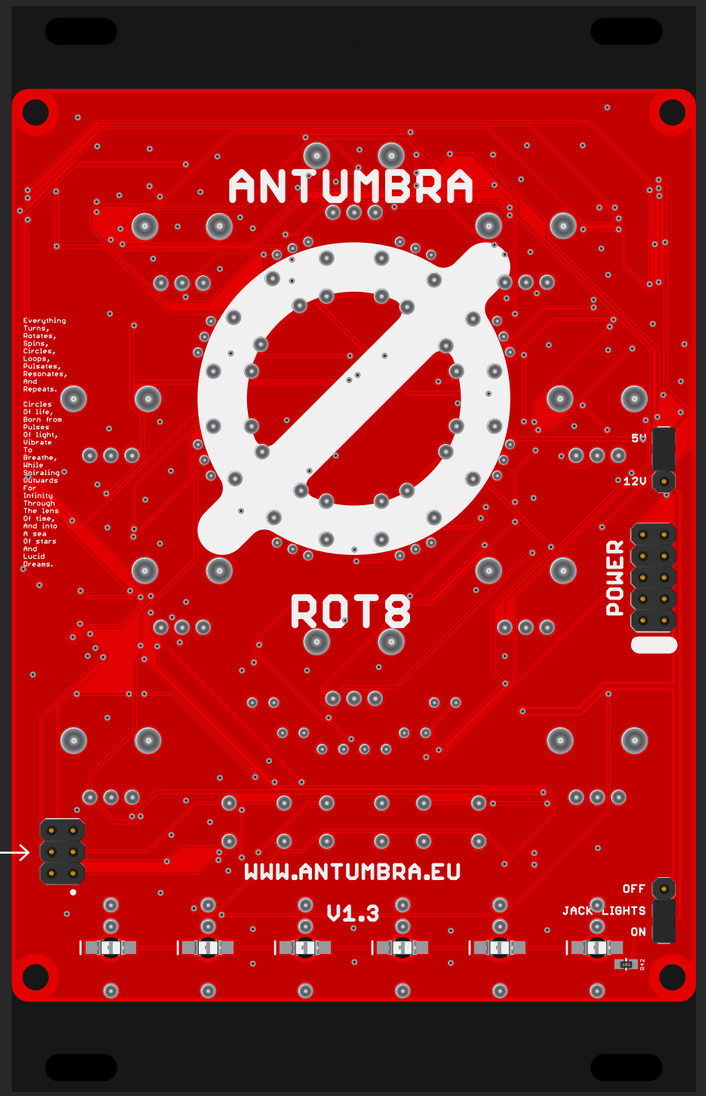


15. RESET TO DEFAULT

To reset the module to it's default settings, long press button A and C, till the B LEDs blink.

Default settings are:

Gate steps: ..... cleared
Repeats: 0
Gate mode: ..... single trigger
Sequence length: ..... 8 steps
Sequence reset: ..... no reset
Gate time: 50%
CV assign: ..... gate length
Pot assign: ..... sequence length



16. SOFTWARE MODIFICATIONS

Feel free to modify the software of your module, but at your own risk! Antumbra doesn't take responsibility for damaged microcontrollers, if you proceed from here I assume you know what you are doing.

If you are unsure of what you are doing, please contact Antumbra in email at antumbramodular@gmail.com!

Use the 6 pin SPI header on the back to upload code to the module. You will need an AVR programmer for this.

ROT8 is designed by David Szebenyi under Antumbra.

www.antumbra.eu

Manual by David Szebenyi (www.aman.hu)