

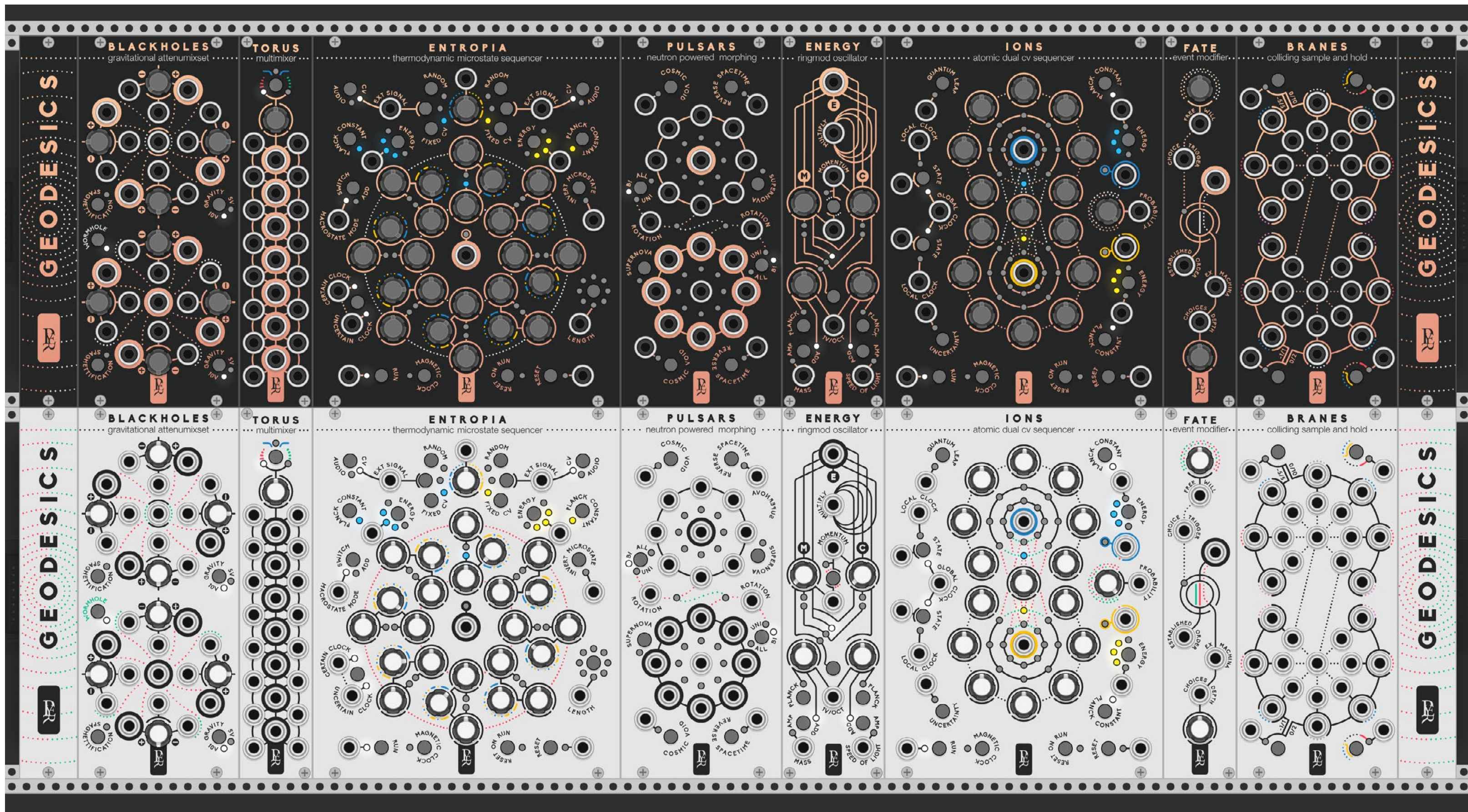
# GEODESICS

A modular collection for VCV Rack by Pyer & Marc Boulé



User Manual—version 1.0.0







# PHILOSOPHY

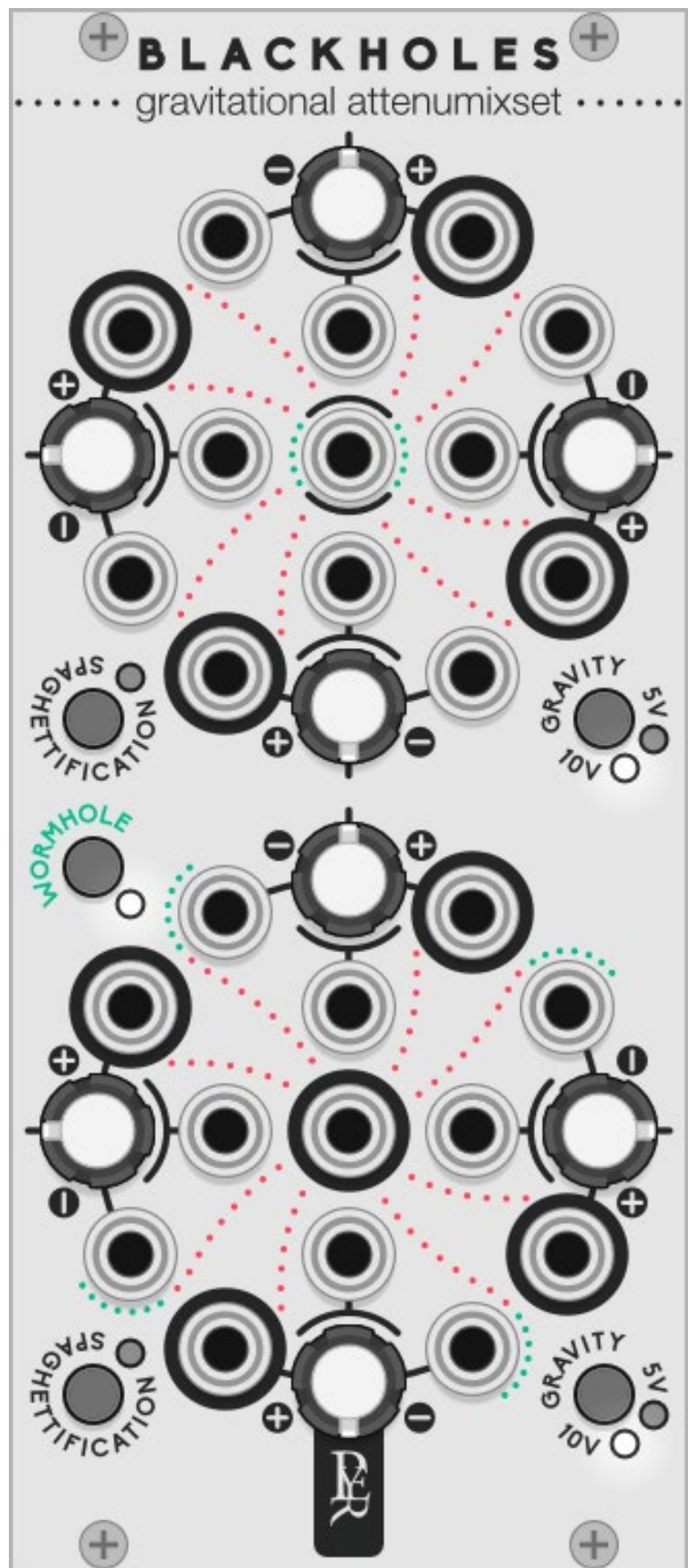
science inspires music

The modules are loosely inspired by astronomic events and physical theories. The goal is just to see how science can inspire us to create new music.

Every module is feasible in the hardware world, interacting elements are only knobs, buttons, LEDs and serigraphy. There is no right click option other than skin change.

For a more immersive concept, each parameter uses some terms related to the scientific phenomenon that inspires the module. It might be confusing at first but that's why this manual is here. As every unusual musical instrument, a learning curve is required to make the best of it.

While a lot of advanced science is involved, the final purpose is to create musical and creative instruments, effective and friendly to use.

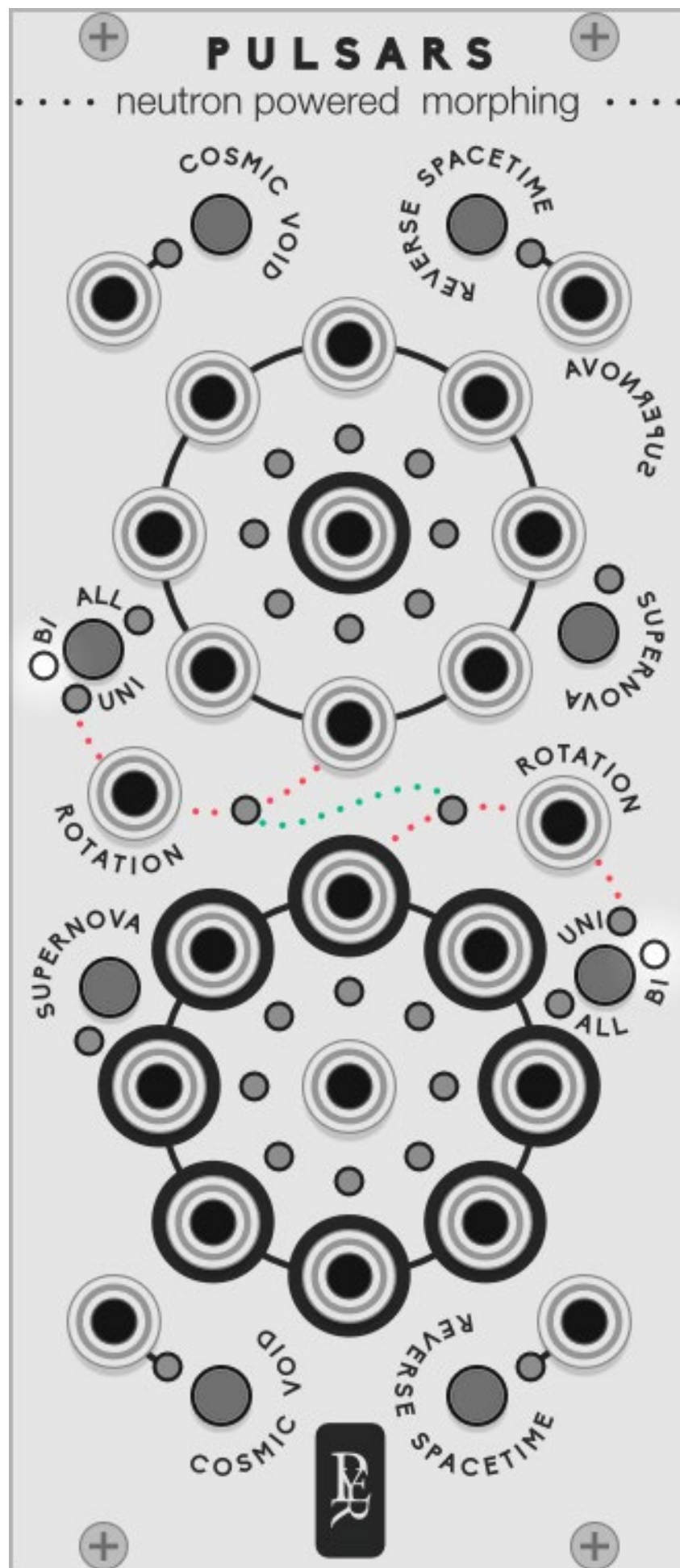


# BLACK HOLES

gravitational voltage controled amplifiers

A black whole attracts everything that gravitates around its centre, even audio and CV signals...

**BLACK HOLES** is 8 VCAs in two groups of 4, it's also two mixers with 4 channels each.

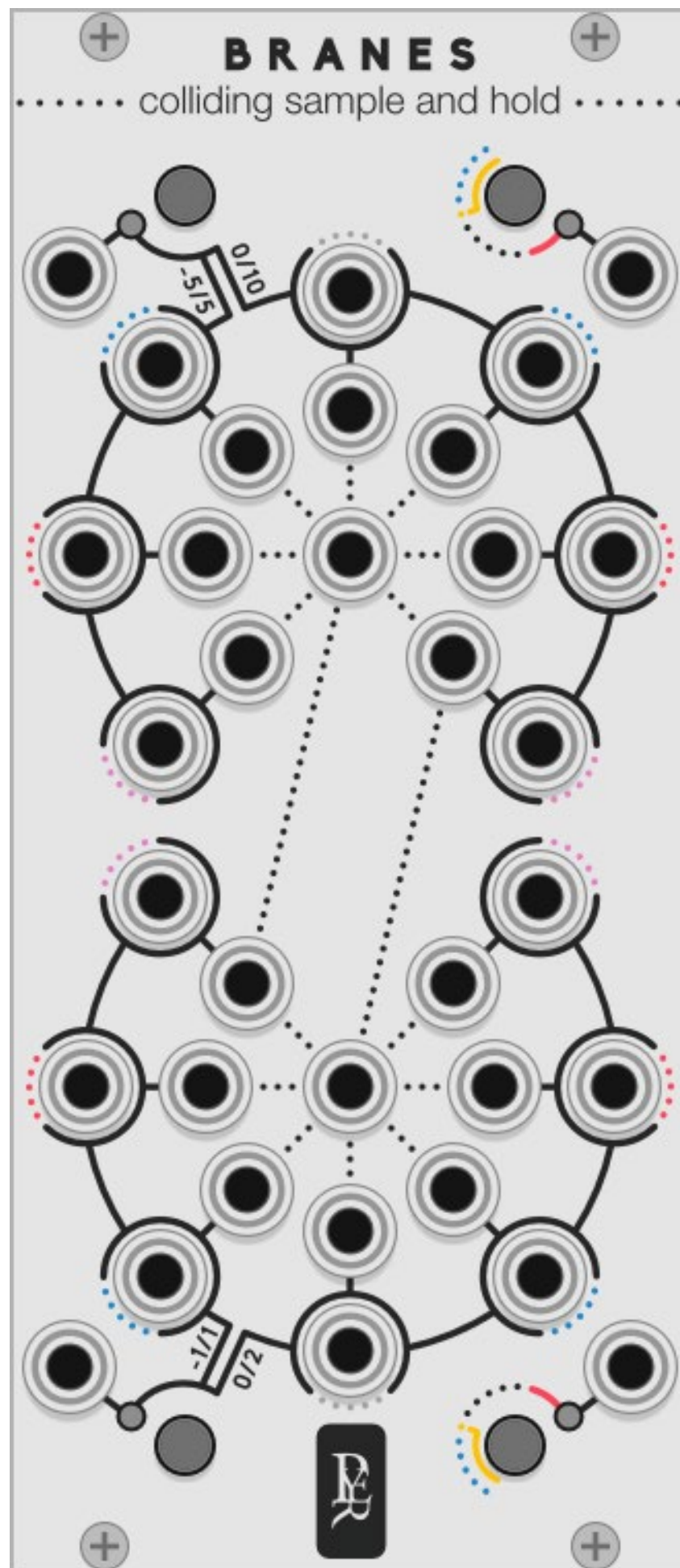


# PULSARS

neutrons powered morphing

A pulsar is a star rotating around its axis and emitting very high and precise frequencies on its spinning axis.

**PULSARS** is a rotating 8 to 1 and 1 to 8 selectors with crossfade in between each signal. It can be used to create cross fade mix of audio, complex wave tables with CV, standard sequential switch or extreme effects when turning at audio-rate speed.



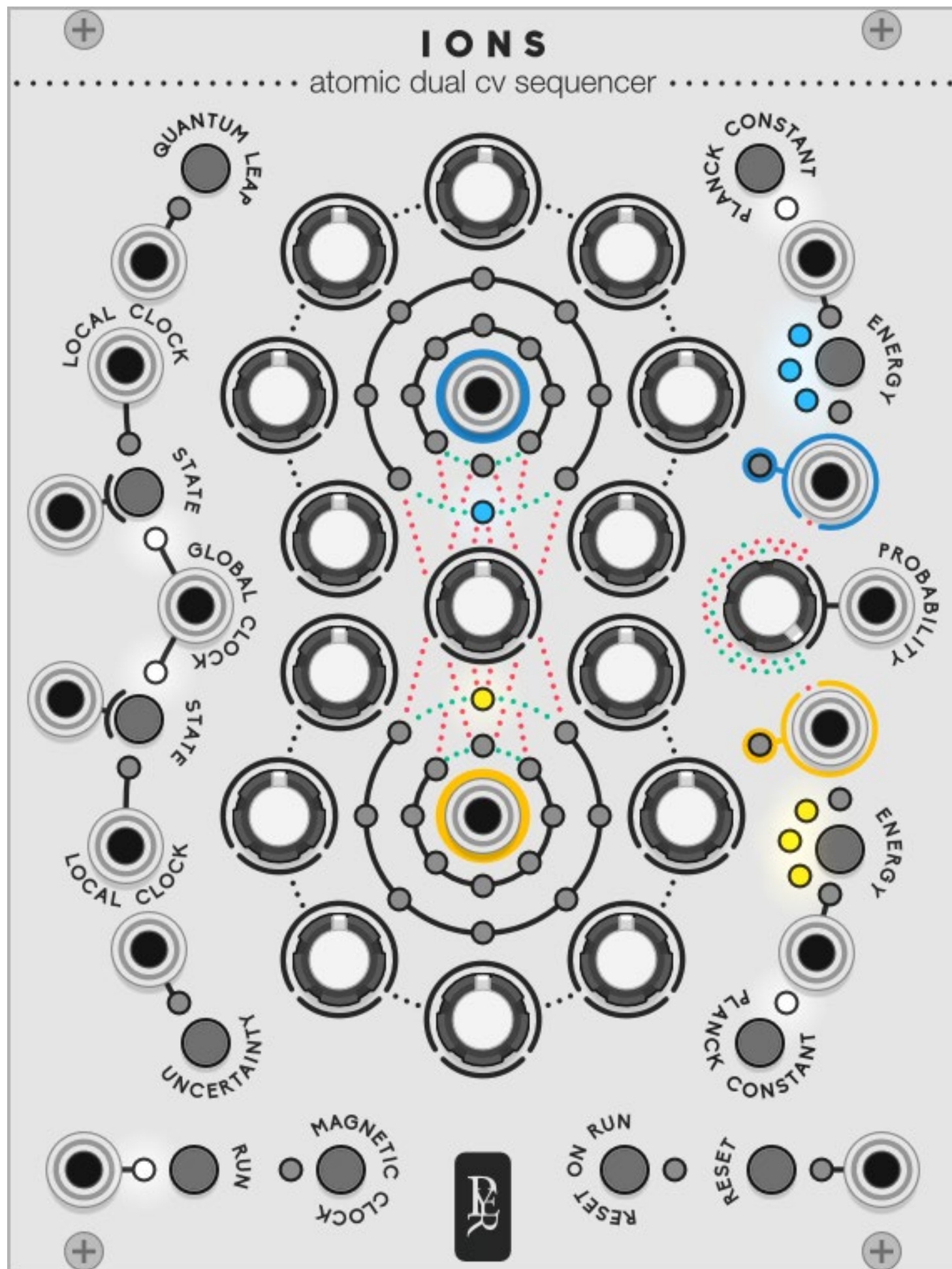
# BRANES

colliding sample and hold

Branes are multidimensional objects involved into the ekpyrotic universe theory that describes two parallel universes colliding to create our world...

**BRANES** is 2 groups of seven S&H driven by the same trigger source. Two of them receive added trigger clocks for polyrhythmic effects.



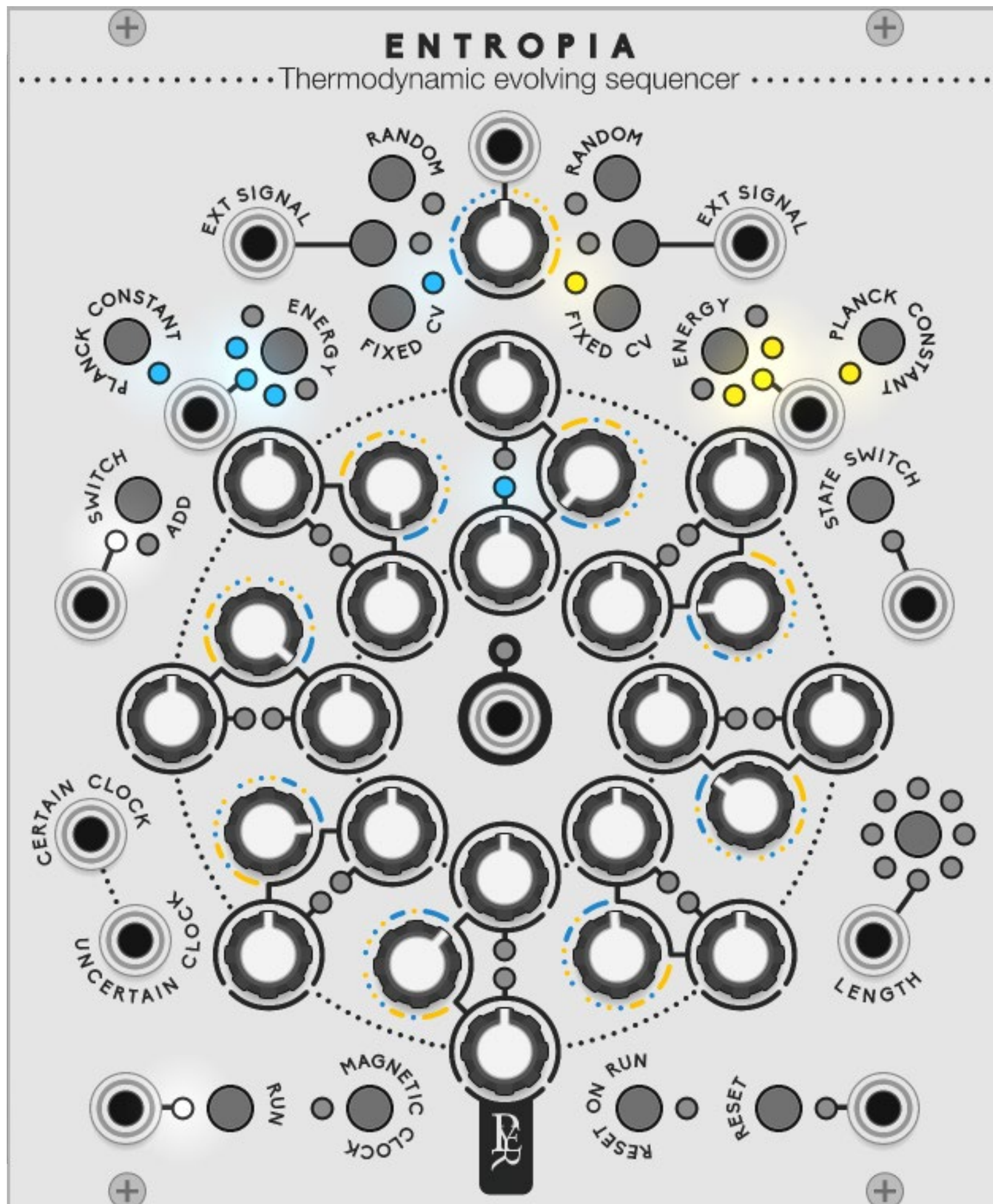


# IONS

atomic duophonic voltage sequencer

An Ionic bond describes two atoms that exchanges electrons.

**IONS** is a two voices sequencer. While each voice has its own sequence, they can exchange their sequences as easily as an electron can jump from one atom to another.



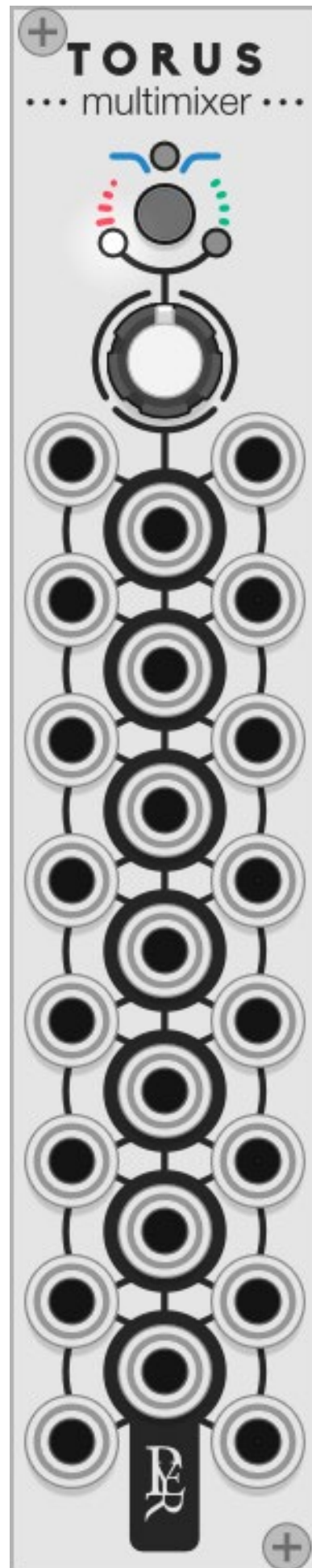
# ENTROPIA

thermodynamic evolving sequencer

Entropy is a measure of disorder in a system: many microstates of atoms that create a rich and complex macrostate.

**ENTROPIA** is an 8-step sequencer with two values per step, and a probability to play one of the two values. Both values can be a defined sequence of voltages, a range controlled random source, or an external source.





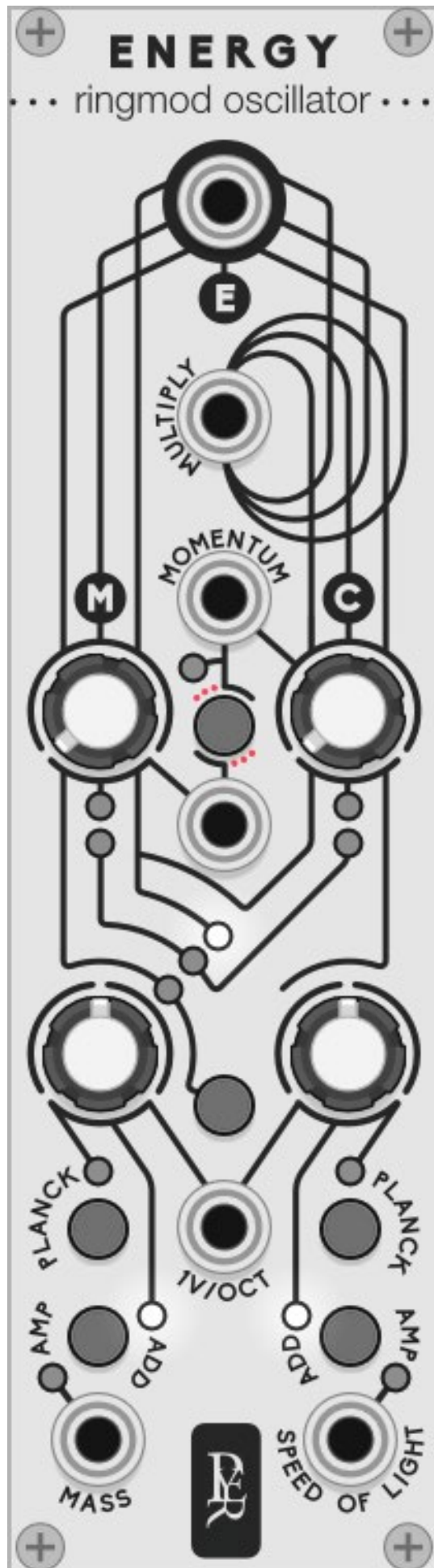
# TORUS

bi-dimensional multimixer

A torus is a 2-dimensional surface closed on itself. Some believe it could be the shape of the universe.

**TORUS** mixes and attenuates the incoming signal in different ways depending on the distance between the input and output jack.

Torus is a small module that can be many things: up to 6 4-channel adjustable mixers, 3 multipliers, 7 unity mixes with 4 channels, 7 attenuators ... and all at the same time.



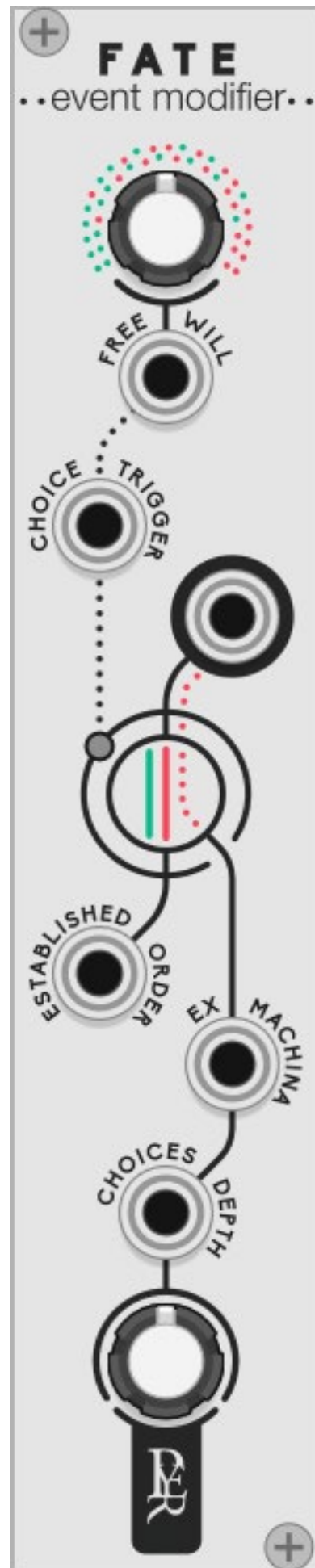
# ENERGY

relativistic ring modulation oscillator

How would the most meaningful equation of modern physics sounds? If a small amount of mass can be turned into an incredibly big amount of energy, two simple sine waves can create unexpected tones with rich harmonic content.

**ENERGY** is a digital oscillator/synth voice that focuses on ring modulation synthesis. Two sines are multiplied according Einstein/Poincaré's famous equation. It is capable of meditative drones, organ tones, extreme noises, and low modulations.





# FATE

non-deterministic event modifier

Is there such thing as free will? While Scientists and philosophers are debating the question, Geodesics proposes FATE, an event modifier that will bring any sequencer to life by making its own musical choices.

**FATE** will alter any CV sequence by adding a specific amount of randomness at some chosen points. It can also replace some notes by another external sequence, or do both at the same time.

# G E O D E S I C S

A modular collection for VCV Rack by Pyer & Marc Boulé

Geodesics has been created in July 2018 by **Pierre Collard** (industrial and graphic designer based in Brussels) and **Marc Boulé** (developer and creator of Impromptu Modular based in Montréal).

Just like many projects within VCV Rack, Geodesics is also a community effort and it would not have been possible without the help of many users, composers and developers participating one way or another to enhance the quality of the project.

Among them we would like to address a special thank to those who helped us in the beta testing phases, who made tutorials, who proposed their help in any way and those who brought the collection to life with some great pieces of music: **Omri Cohen, Georg Carlson, Xavier Belmont, Steve Baker, Marc Demers, Adi Quinn, Ben De Groot, Latif Karoumi, Espen Storo, Synthikat, Dave Phillis, Carbonic Acid, Martin Luders, Ghaleb, Stephen Askew, Lars Bjerregaard, Richard Squires, Lorenzo Fornaciari, Adi Quinn, NO rchestra, Poxbox23 and Ananda Bhishma.**

## Geodesics links

[www.pyer.be/geodesics](http://www.pyer.be/geodesics)  
[vcvrack.com/plugins.html#Geodesics](http://vcvrack.com/plugins.html#Geodesics)  
[github.com/MarcBoule/Geodesics](https://github.com/MarcBoule/Geodesics)

## Creations from composers using Geodesics:

<https://www.youtube.com/playlist?list=PLEh-5QLxa-BlqLI9rBcncUTFm2Lk-ZMgvZ>

## Tutorials on Geodesics by Omri Cohen:

[https://www.youtube.com/playlist?list=PLEh-5QLxa-Blr4dsurkkwUehFsNI7T\\_Jv-](https://www.youtube.com/playlist?list=PLEh-5QLxa-Blr4dsurkkwUehFsNI7T_Jv-)

## Marc's work links

[github.com/MarcBoule/ImpromptuModular](https://github.com/MarcBoule/ImpromptuModular)

## Pierre's work links

[www.pyer.be](http://www.pyer.be)

