GEODESICS

A modular collection for VCV rack by Pyer & Marc Boulé

What's New? - version 0.6.1

TO THE READER
Note on who is concerned...

This file is only intended to anyone who already read the manual of the previous version. It garthers all the changes that you need to know.

There is no point to read this if your are a new user, or if you haven't read the manual of the previous version. You would be then encourged to read the complete manual of the current version.

Thanks.
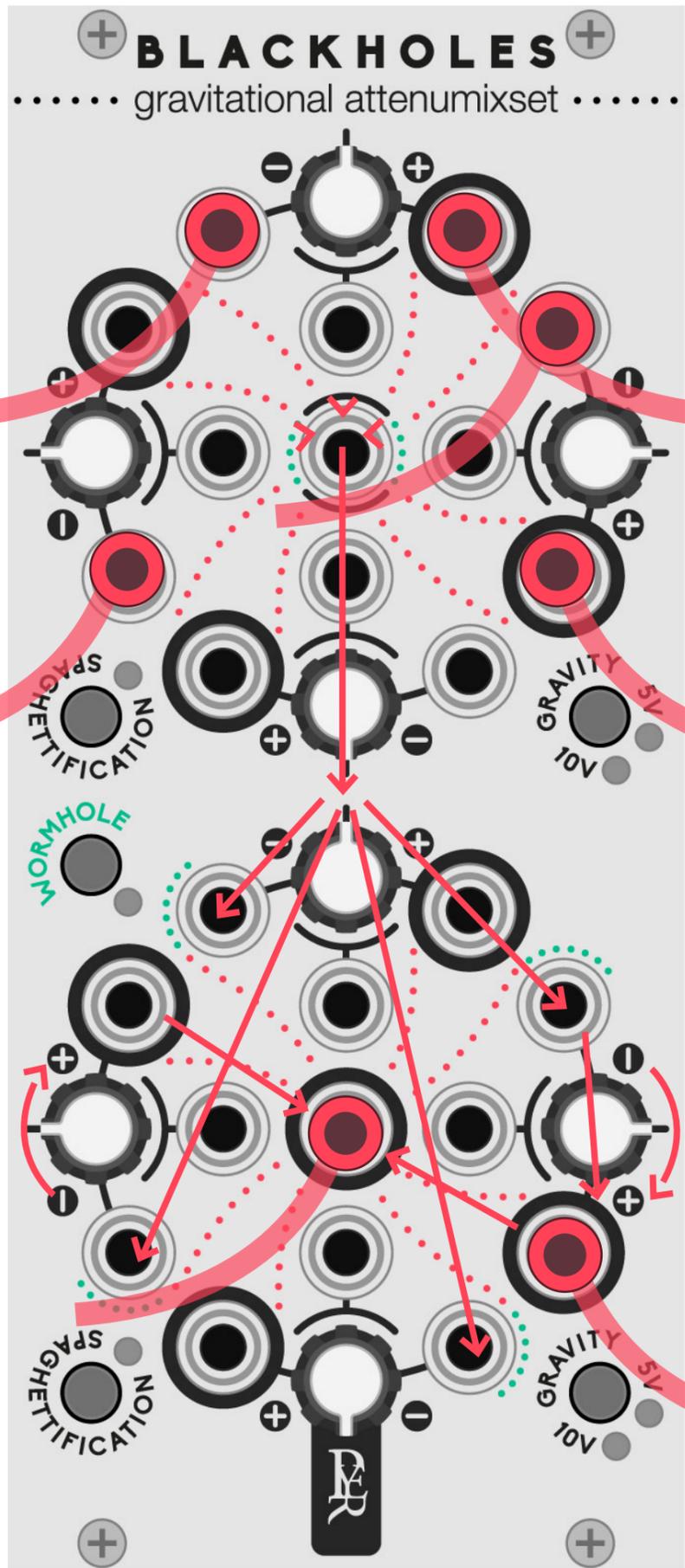
B L A C K   H O L E S
gravitational voltage controled amplifiers

Gravity control

Modulations sources where set for a 0/+10 volts signal. It has now changed...

The modulation input can be set to -/+10 volts for enveloppe and gate sources, or -/+5 volts for LFO and VCO sources.
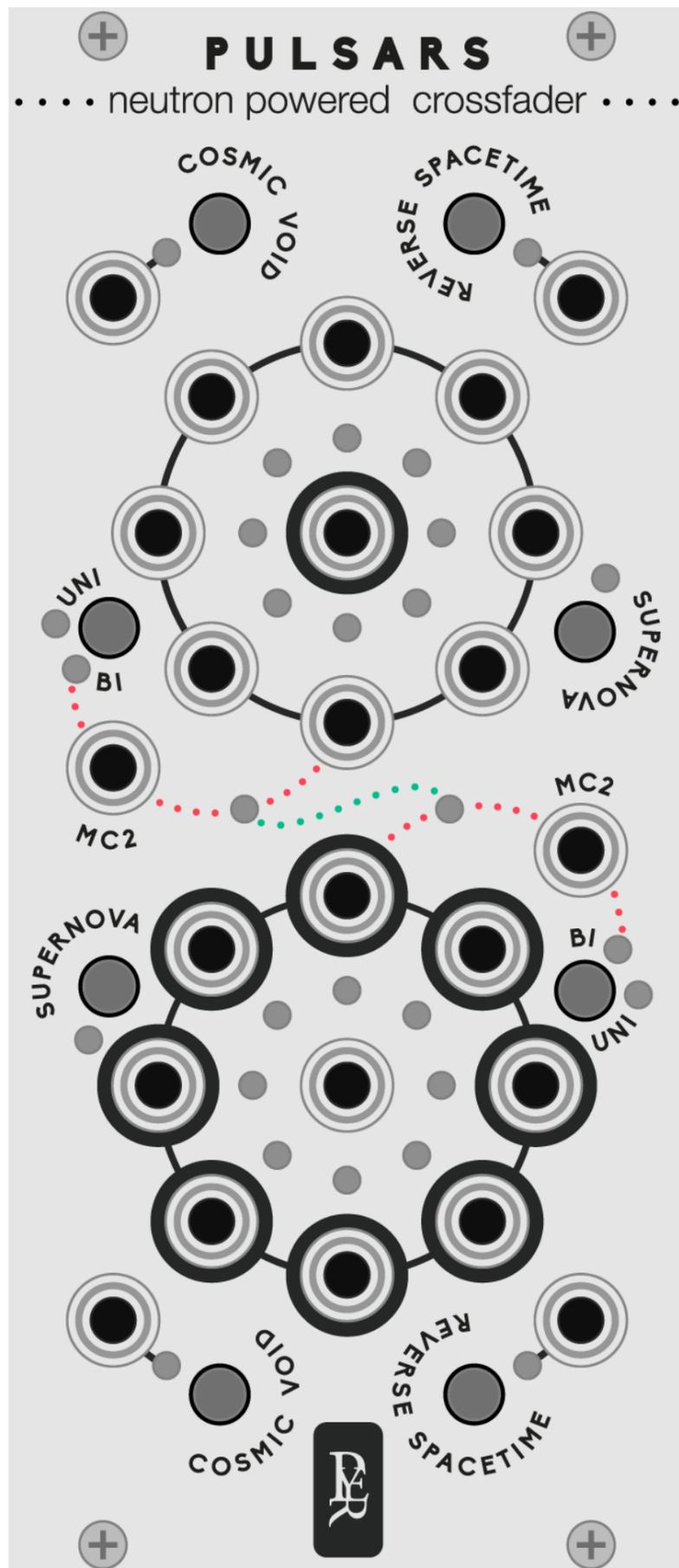
The Wormhole

Formerly knows as Multi-dimensional trick, has now a bypass button.

No one knows what is inside a black hole. Some people think there could be a wormhole to a "white hole" that ejects everything the black hole has absorbed...

Only when BlackHole 2 doesn't receive any direct signal, it becomes a White Hole. The mixed signal from BlackHole 1 travels through the wormhole and Black-Hole 2 becomes a 1x8 multiplier. The signal can be treated differently by each output. The worm hole can be closed if needed with the button.

The mass control combined with the multidimensional trick will manage both amp and offset of an external signal.

P U L S A R S

neutron powered crossfader

COSMIC VOID

REVERSE SPACETIME

UNI
BI

SUPERNOVA

MC2

MC2

SUPERNOVA

BI
UNI

COSMIC VOID

REVERSE SPACETIME

P U L S A R S

neutrons powered rotating crossfader

Unipolar - Bipolar

This setting was in right click and now moved on the main pannel for each pulsar

The MC2 is set to recieve a -/+5v bipolar signal. When configured to Unipolar, This will set the MC2 to receive a 0/10v to react with envelope generators. A new cycle will be started each time the MC2 Signal reaches 0 or 10 Volt.

10v	0v	10v	0v	10v	0v	10v	0v
1X2	2X3	3X4	4X5	5X6	6X7	7X8	

10v

2   4   6   8

1   3   5   7

0v
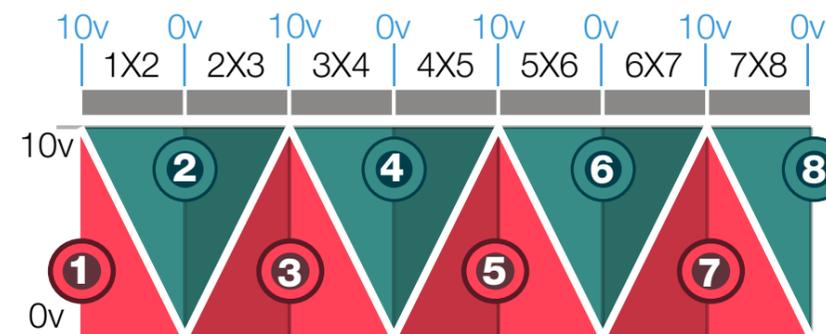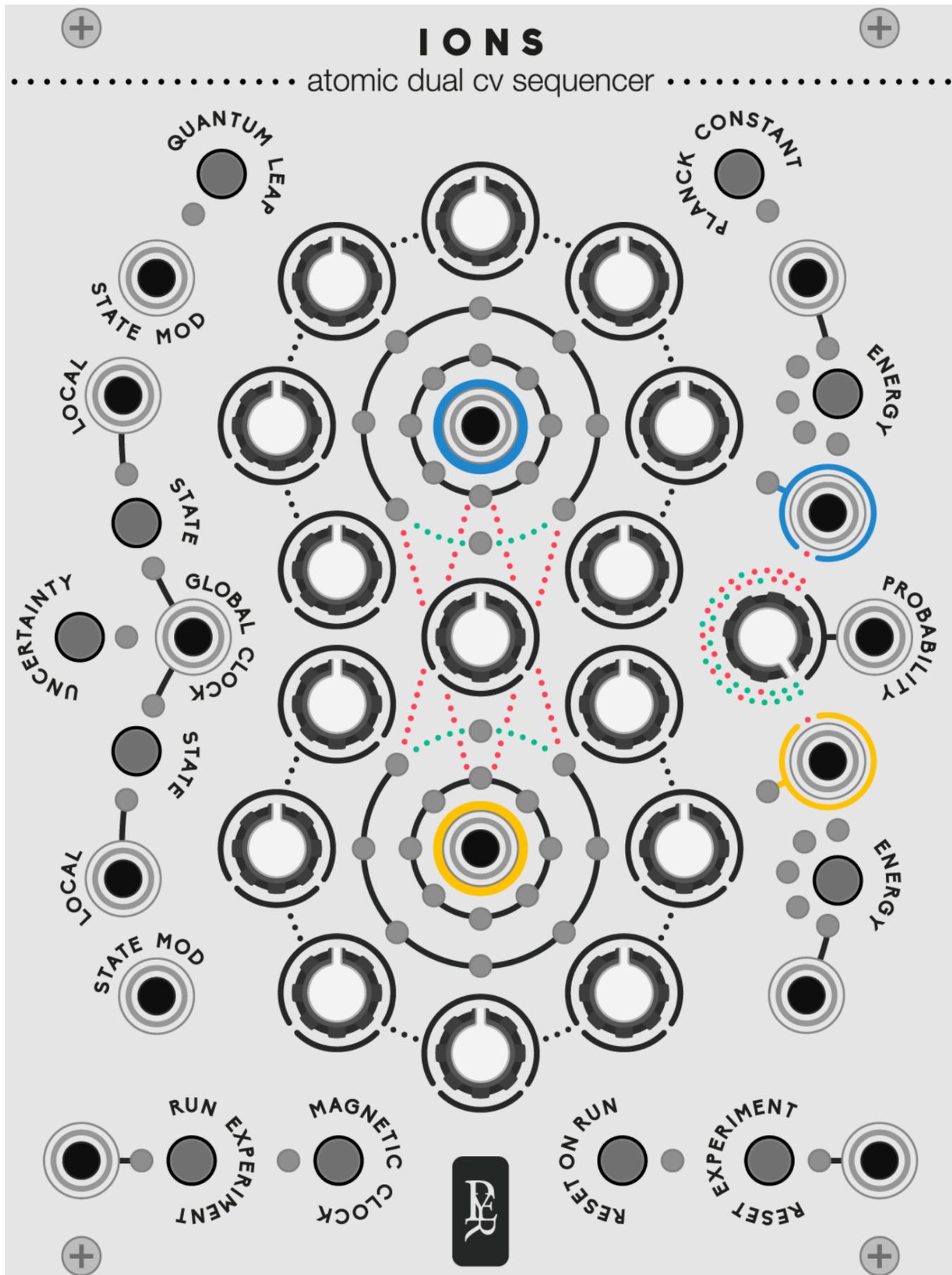
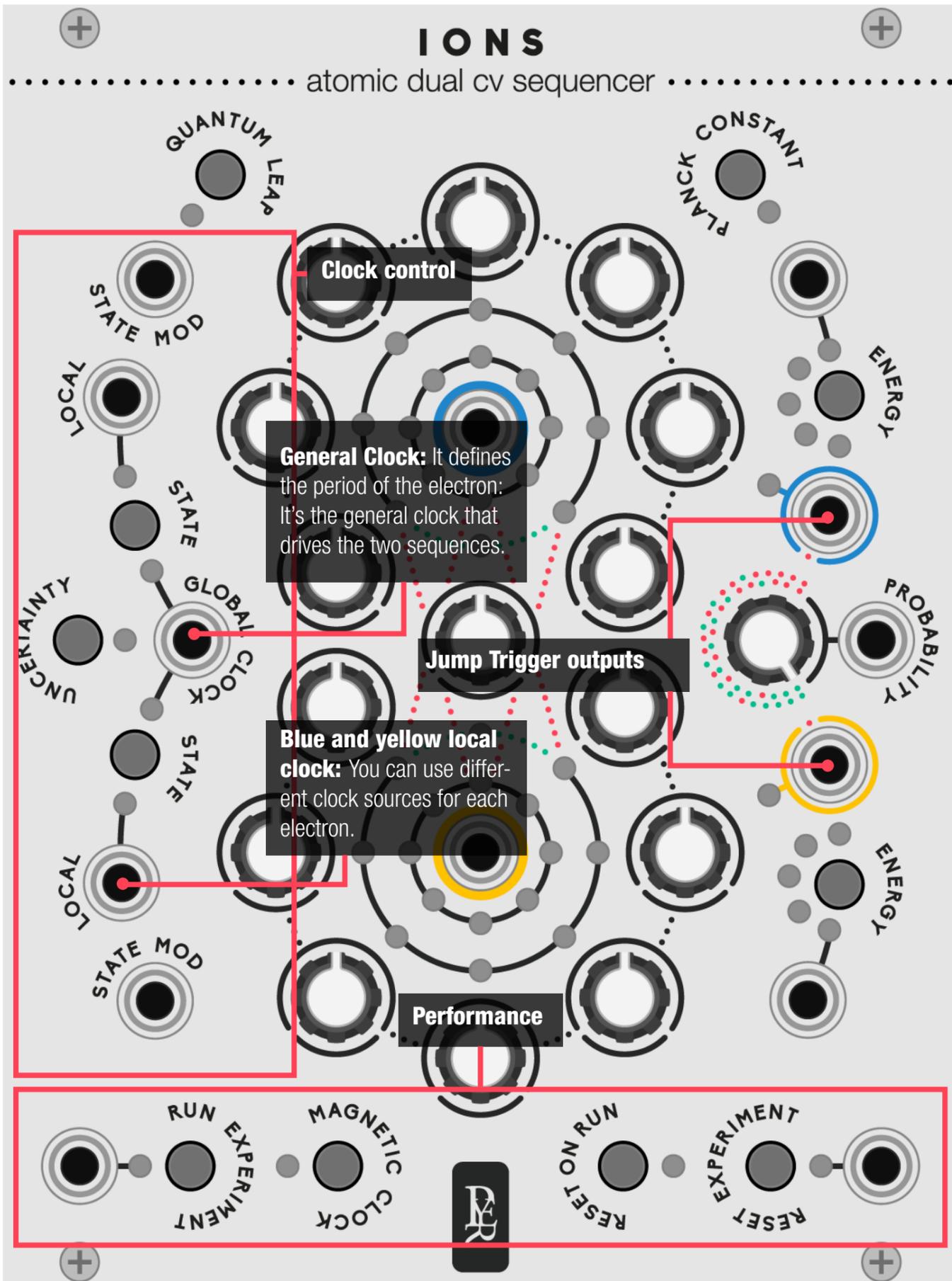# I O N S

atomic duophonic voltage sequencer

Goodbye

- The Super symetry mode has been deleted.
- All right click features are now on the main pannel.

Hello

- More CV control
- Change of behavour of energy and Planck mode
- New trigger at jump outputs
- New manual clock for programming.
- New uncertainty random mode - kind of...

IONS
atomic dual cv sequencer

Clock control

General Clock: It defines the period of the electron: It's the general clock that drives the two sequences.

Jump Trigger outputs

Blue and yellow local clock: You can use different clock sources for each electron.

Performance

QUANTUM LEAP · STATE MOD · LOCAL · STATE · GLOBAL CLOCK · UNCERTAINTY · STATE · LOCAL · STATE MOD · PLANCK CONSTANT · ENERGY · PROBABILITY · ENERGY · RUN EXPERIMENT · MAGNETIC CLOCK · RESET ON RUN · EXPERIMENT RESET
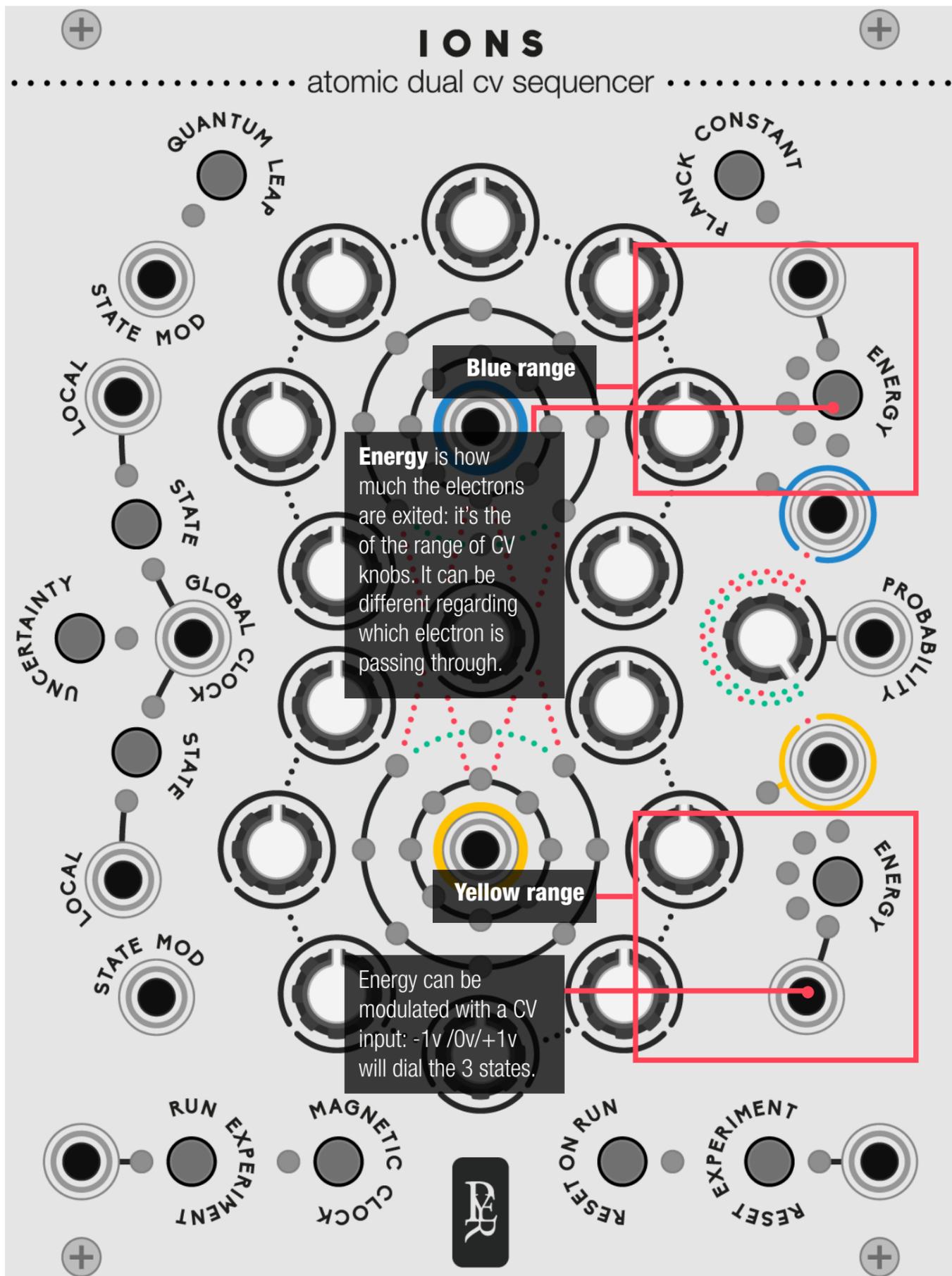

In Depth:

State Mod can be modulated with a CV input: -1v will use the local clock. +1v will use the global clock. Anything in between will use both clocks

The magnetic clock will excite the electrons in an alternative way: It's a manual clock. It is active when the experiment is not running, to set the CV value step by step. It is also active when the experiment is running, to interact with the sequence manually, adding a bit of human mess.

The Jump Trigger outputs are emitted a trigger each time at each jump from one electron to another.

IONS
atomic dual cv sequencer

Blue range

Energy is how much the electrons are exited: it's the of the range of CV knobs. It can be different regarding which electron is passing through.

Yellow range

Energy can be modulated with a CV input: -1v /0v/+1v will dial the 3 states.

New CV Behaviour:

Energy is the range of the CV knobs. Each electron has its own energy setting. When passing through a CV step, the blue electron can interpret the value with a different range than the Yellow one would do if it passes through the same step. The behaviour of energy is depending on the Planck constant.

The Planck Constant: In 1900, Max Planck discovered that the electrons were not sharing energy on a smooth and continuous way, but by very small bits: "quantums". The Planck mode will quantise the CV output and modify the energy behaviour.

When the Planck constant is OFF, IONS is a smooth CV sequencer with Energy defining the range of CV:

-/+ 1 volt   -/+ 5 volts   -/+ 10 volts

When the Planck constant is ON, IONS is a chromatic sequencer with Energy defining the range of CV:

1 octave   3 octaves   5 octaves

The planck constant can be set for both channels (white LED) or each channel separately (blue or yellow LED) to generate both a melody and a free cv sequence at the same time.
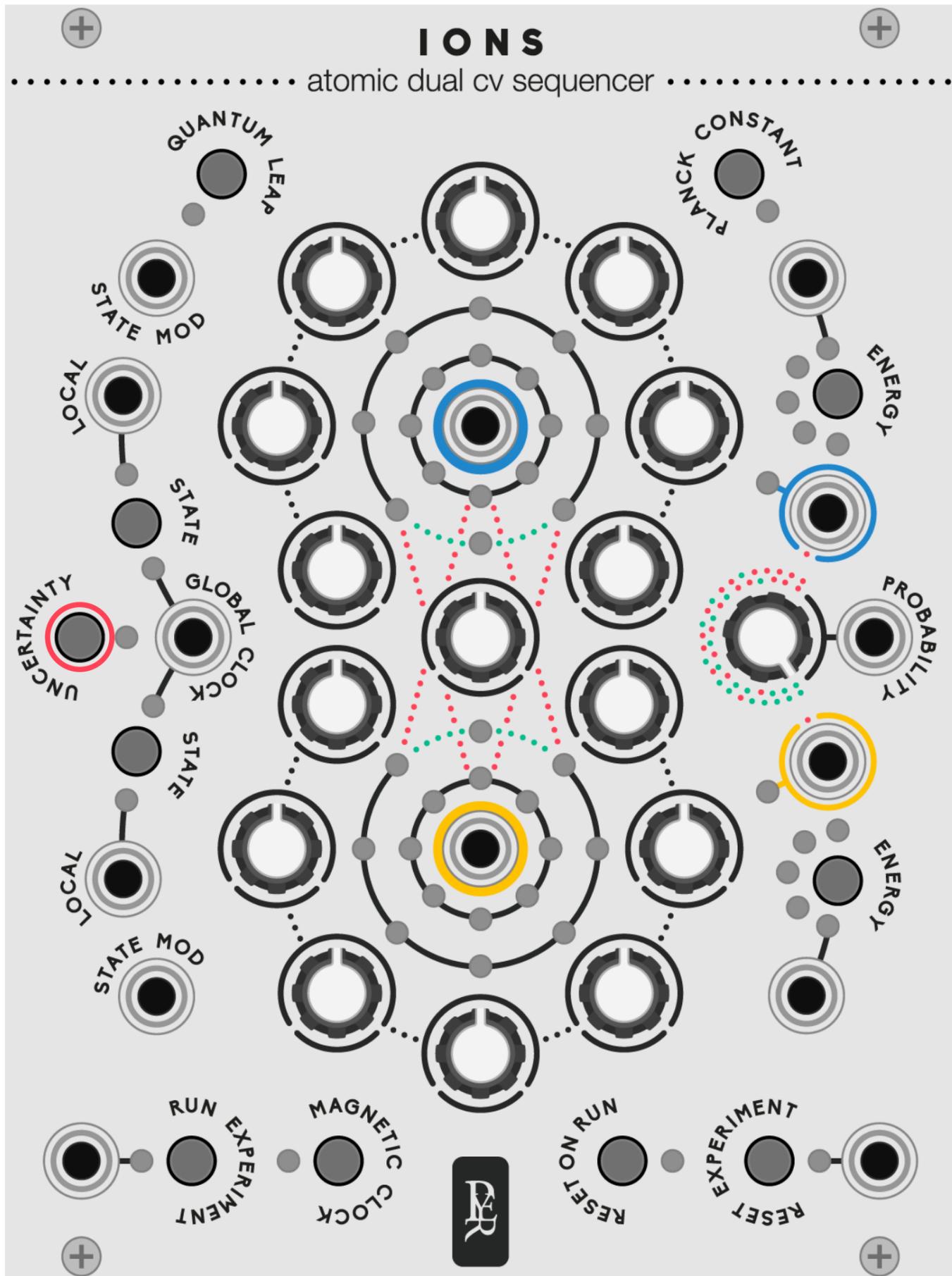
NewAlternate Modes

Uncertainty principle. In quantum mechanics, Heisenberg discovered that there is no way to know with certitude both the speed and the position of a particle. Uncertainty will add different flavours of randomness in the position of the electron.

- Every trigger sent by the local clocks will move the electrons forward on a random number of steps (small values are more likely, for musical purposes).
- Every trigger sent by the reset button will place the electrons in a random place in the sequencer.
- Every trigger sent by the global and magnetic clock will continue to work normally, one step at the time.

With Uncertainty mode ON, 4 levels of randomness can be achieved:

- **Order:** using only the global clock will move the electrons on a regular step by step way.
- **Casual random:** using both global and local clock input, with a regular clock on global and an occasional clock on local (divided, gate sequence or even manual trigger) to have some random jumps in a regular sequence
- **Linear random:** using only the local clock to have a forward random walk.
- **Chaos:** sending a clock into the reset input to have a complete random sequence. In this case, the jump probability becomes useless.

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Coded and released by Marc Boulé