GEODESICS

A modular collection for VCV Rack by Pyer & Marc Boulé

User Manual - version 0.6.6

GEODESICS

ENTROPIA
thermodynamic microstate sequencer

AUDIO CV EXT SIGNAL RANDOM FIXED CV ENERGY PLANCK CONSTANT MICROSTATE UNIFORM ADD SWITCH MACROSTATE MODE CLOCK UNCERTAIN CLOCK LENGTH RUN MAGNETIC CLOCK ON RUN RESET

BLACKHOLES
gravitational attenumixset

SPAGHETTIFICATION WORMHOLE GRAVITY SV ADJ

PULSARS
neutron powered crossfader

COSMIC VOID REVERSE SPACETIME SUPERNOVA UNI BI MC2

BRANES
colliding sample and hold

SIG 0/1.0 LFO

IONS
atomic dual cv sequencer

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

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PHILOSOPHY

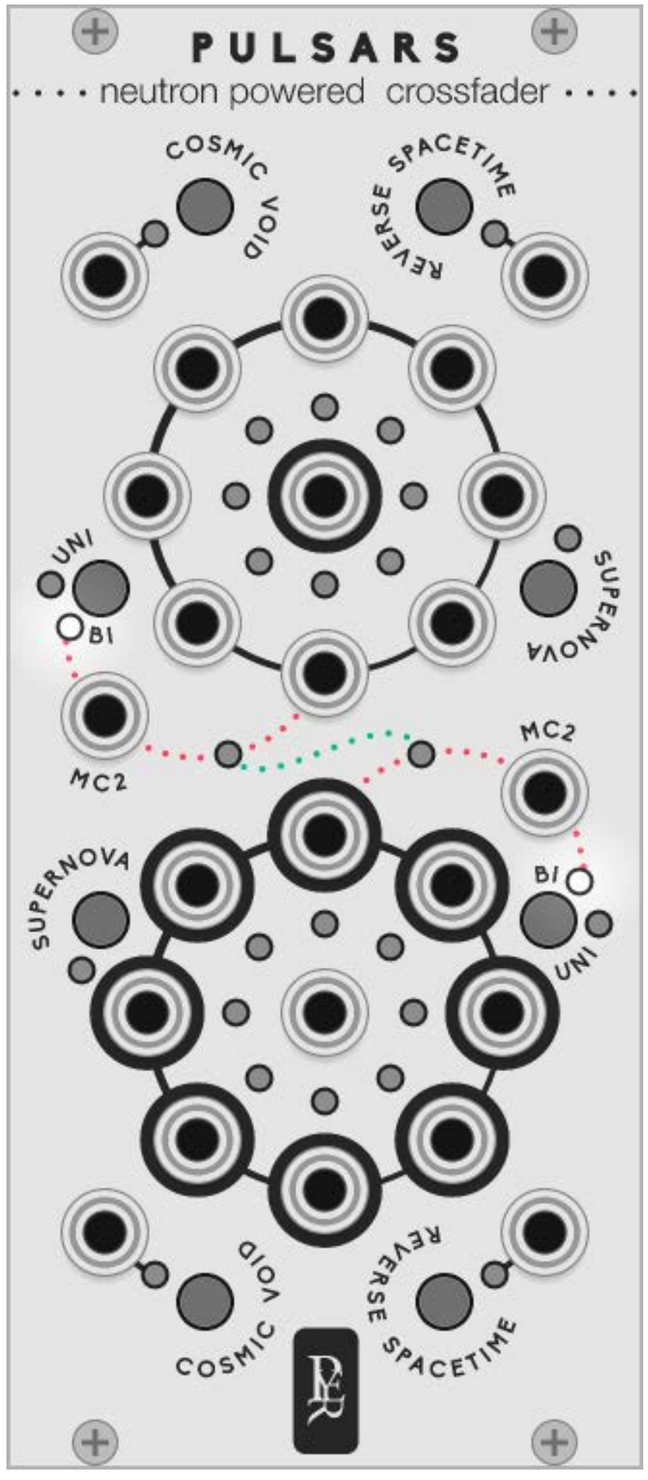
science inspires music

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, every parameter displayed uses 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.

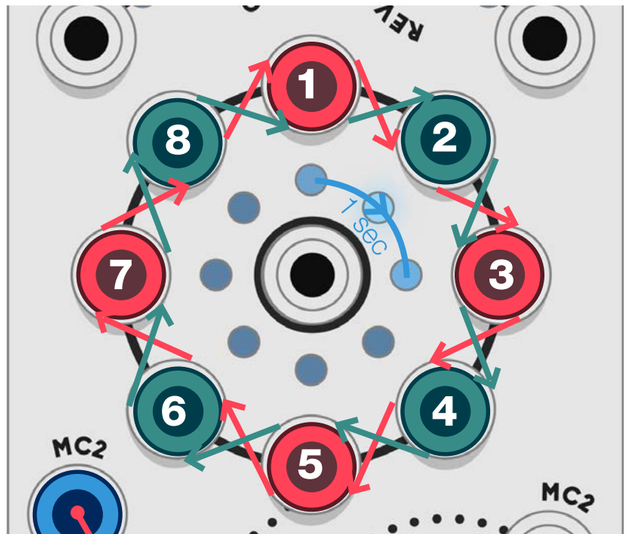


PULSARS

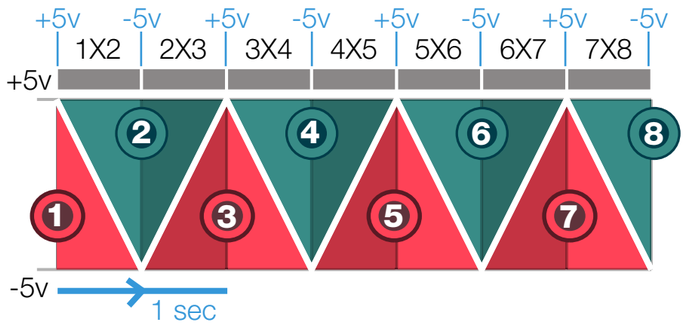
neutrons powered rotating crossfader

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

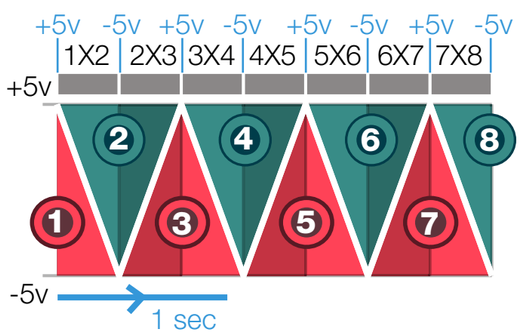
PULSARS is a rotating 8 to 1 and 1 to 8 selectors with crossfade in between each signal. It can be used to create cross fade mix of audio, complex wave tables with CV, standard sequential switch or extreme effects when turning at audio-rate speed.



white line on the graph +/- 5 volts



At each peak, PULSAR starts another crossfade sequence. Any value between +5 and -5 will be interpreted as a mixed value between the first and the second source.



The speed of the sequence is defined by the rate of the MC2 Signal.

PULSARS

neutrons powered rotating crossfader

MC2 is the energy needed for a pulsar to spin on itself.

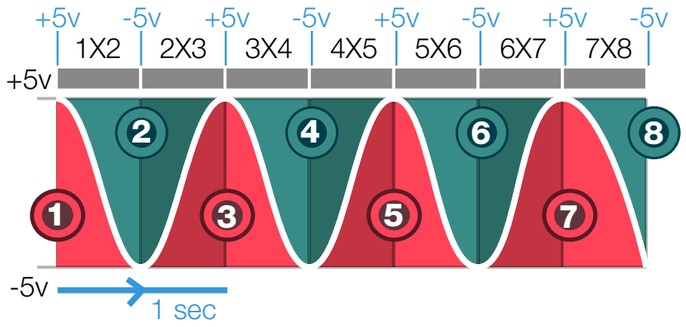
Pulsars needs a 5v binaural CV signal to power its rotation (**MC2 IN**).
When no MC2 is connected to the second pulsar, they are both driven by the first MC2

The first connected cable defines the start of the cycle

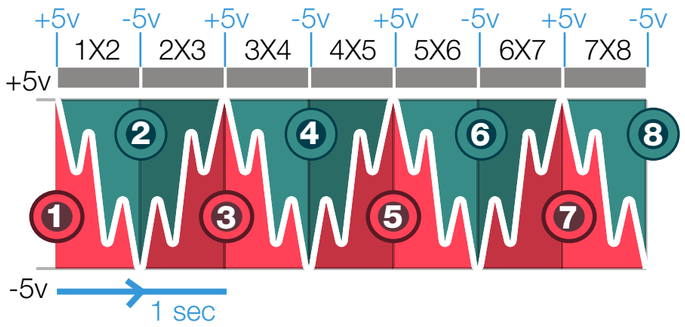
The rotation starts at **source 1** when it receives +5v.

It will reach **source 2** when it receives –5v

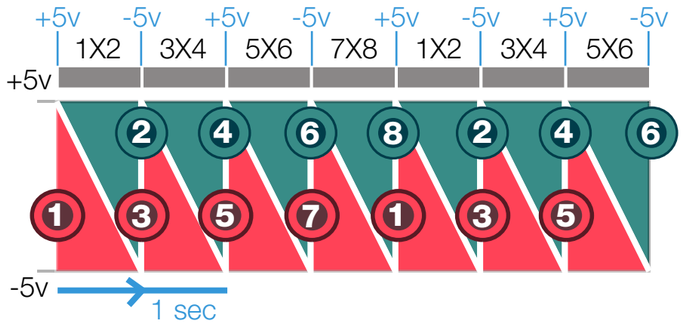
It will reach **source 3** when it receives +5v…



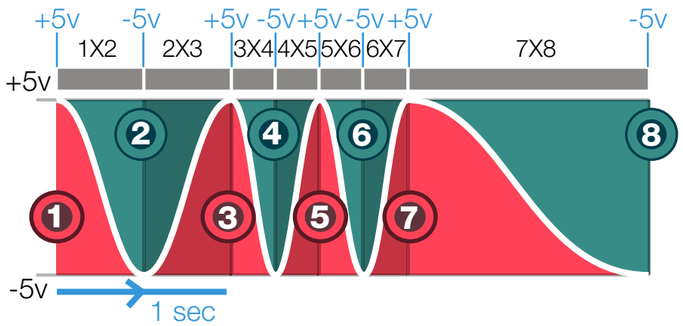
A triangle wave will make linear crossfade, while a **sine wave** will create an exponential cross-fade



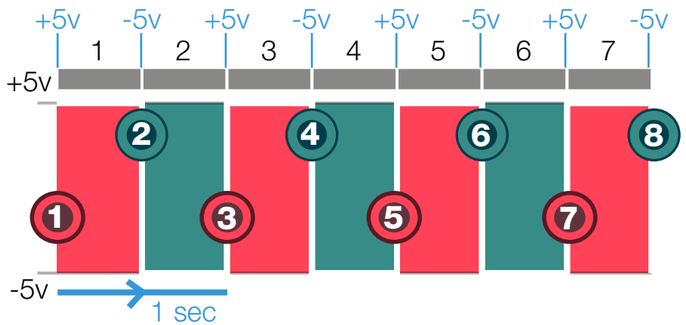
A folded wave source will create backwards and forwards effects



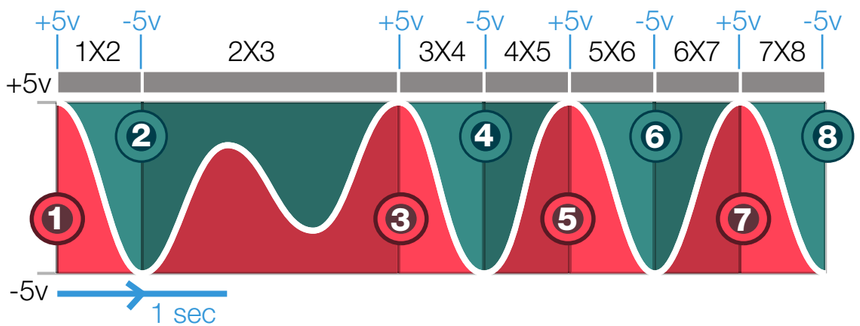
A sawtooth wave will switch from one step to another without transition



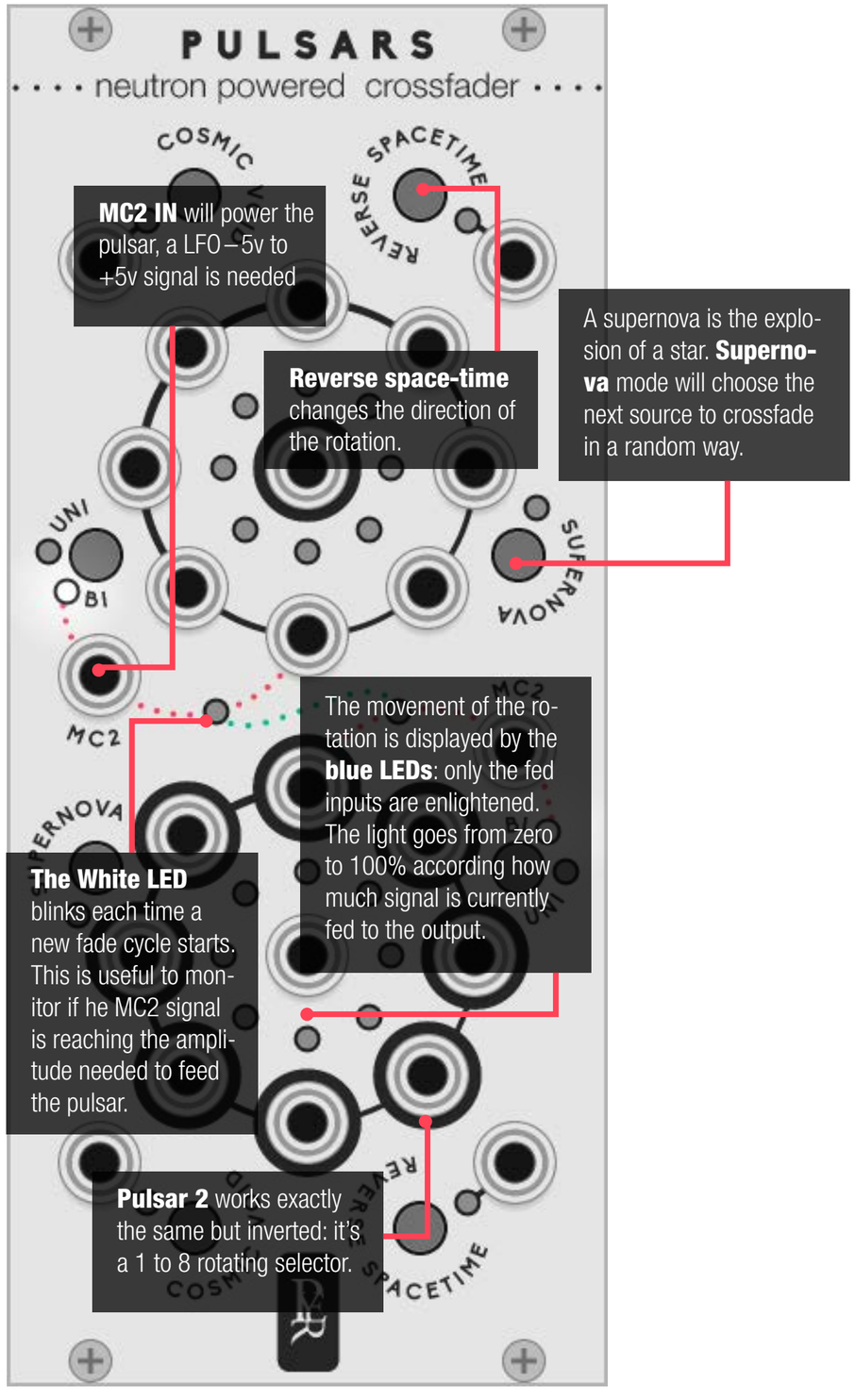
Modulating the rate of the signal will make some steps shorter and can create some rhythmic variations



A square wave won't create a cross fade effect, it can then be used as a standard sequential switch.



Modulating the amplitude of the signal can create some interesting rhythmic effects as it only switches to the next step when it reaches +/- 5 volts.

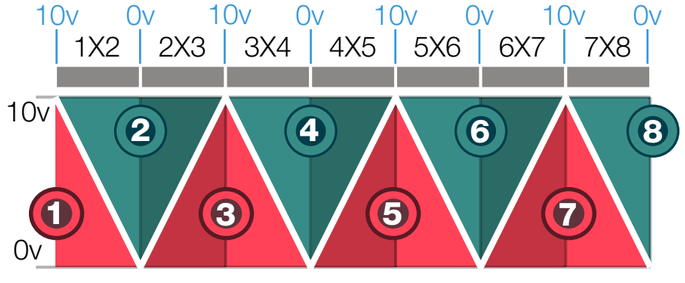


PULSARS

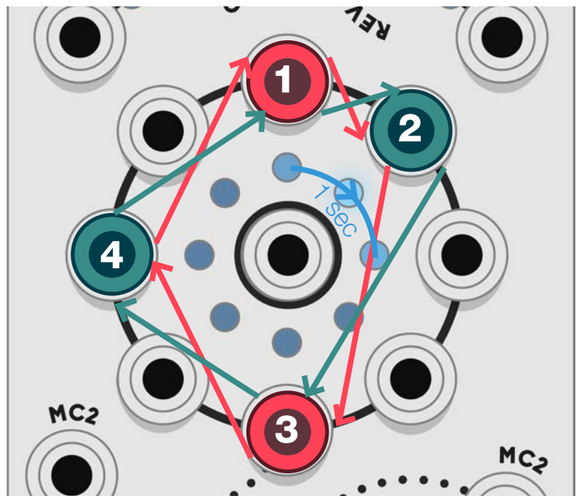
neutrons powered rotating crossfader

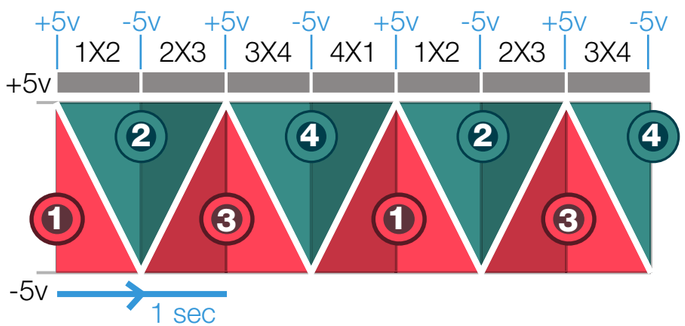
Unipolar - Bipolar

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.



Cosmic void mode **OFF**





PULSARS

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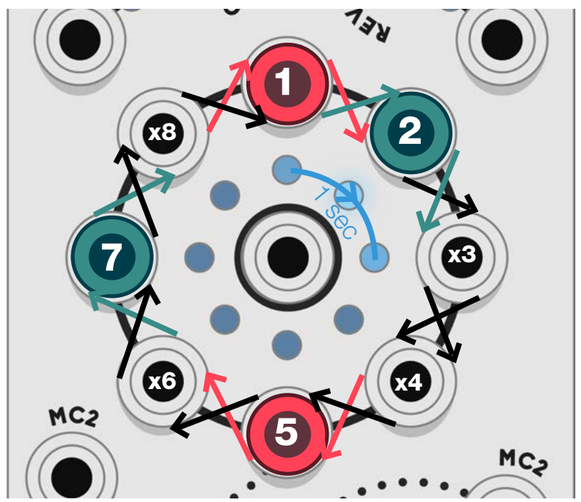
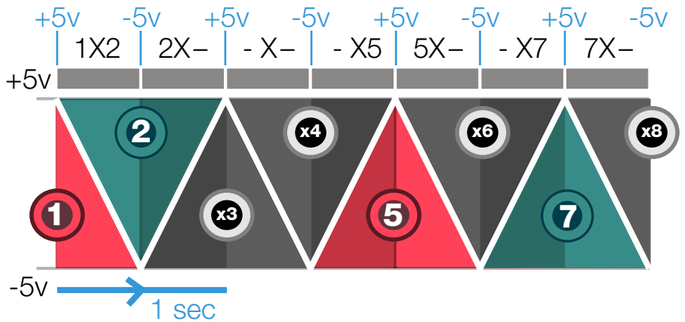
Cosmic void mode **ON**

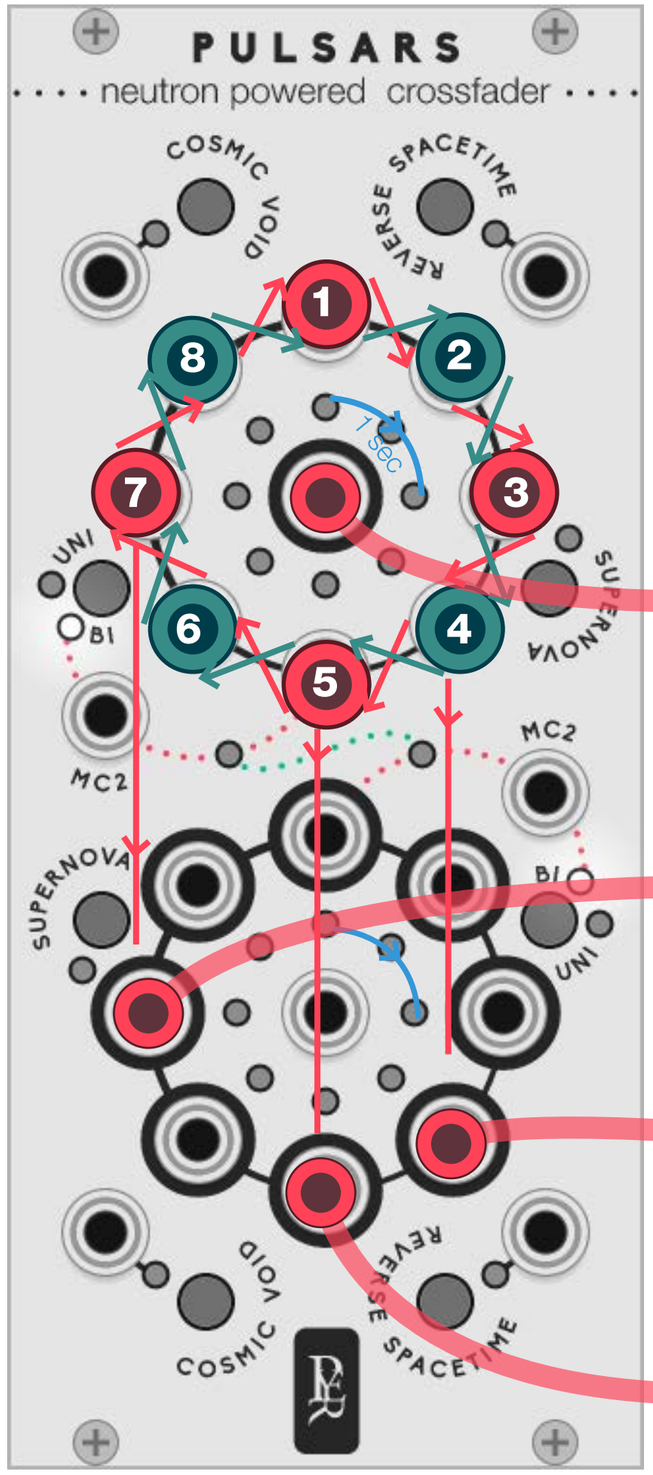


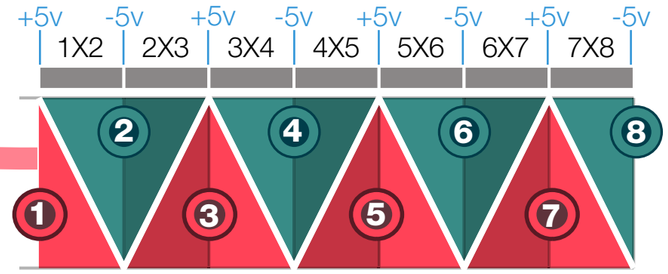


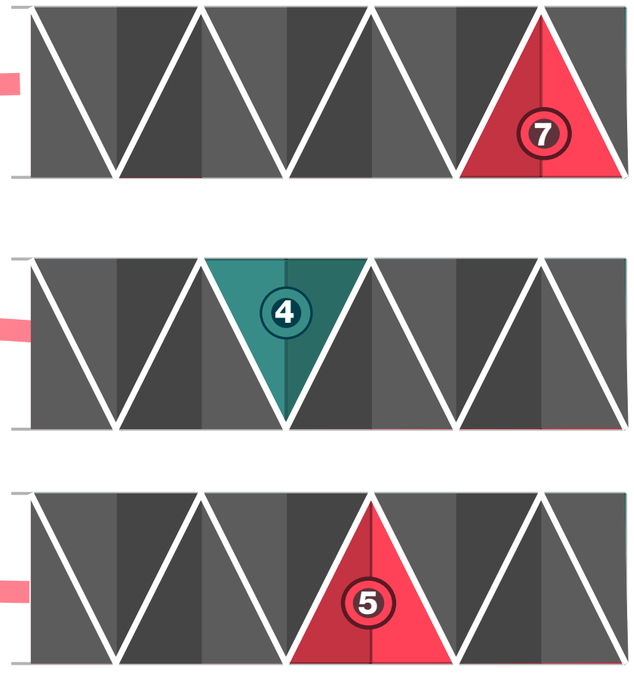
Cosmic Void mode

By default, Pulsars takes only account of the fed inputs, wherever they are plugged along the way. If only 3 inputs are fed, Pulsar will be a 1 to 3 switch.

When the cosmic void mode is on, PULSARS take account of the empty inputs, it will always be a 1 to 8 switch, and if it goes through a non-fed input, it will send a zero volts signal. This mode is useful to create rhythmic or tremolo effects.







PULSARS

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Multidimensional trick

If no input is connected to Pulsar 2, it will send the separate input of Pulsar1 amplified by its rotation. This is useful if you want to have stereo effect of post treatment of each source.

GEODESICS

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.

Amoung them we would like to adress a special thank to those who helped us in the beta testing phases, who made toturials, 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**, **Ghalebor, Stephen Askew, Lars Bjerregaard, Richard Squires, Lorenzo Fornaciari, Adi Quinn, NO rchestra, Poxbox23** and **Ananda Bhishma.**

Geodesics links
www.pyer.be/geodesics
vcvrack.com/plugins.html#Geodesics
github.com/MarcBoule/Geodesics

Creations from composers using Geodesics:
https://www.youtube.com/playlist?list=PLEh-5QLxa-BlqLl9rBcncUTFm2Lk-ZMgvZ

Tutorials on Geodesics by Omri Cohen:
https://www.youtube.com/playlist?list=PLEh-5QLxa-Blr4dsurkkwUehFsNl7T_Jv-

Marc's work links
github.com/MarcBoule/ImpromptuModular

Pierre's work links
www.pyer.be

Coded and released by Marc Boulé - Concept and visuals by Pierre Collard