GEODESICS

A modular collection for VCV Rack by Pyer & Marc Boulé

User Manual–version 1.0.0

GEODESICS

BLACKHOLES
gravitational attenumixset

TORUS
multimixer

ENTROPIA
thermodynamic microstate sequencer

PULSARS
neutron powered morphing

ENERGY
ringmod oscillator

IONS
atomic dual cv sequencer

FATE
event modifier

BRANES
colliding sample and hold

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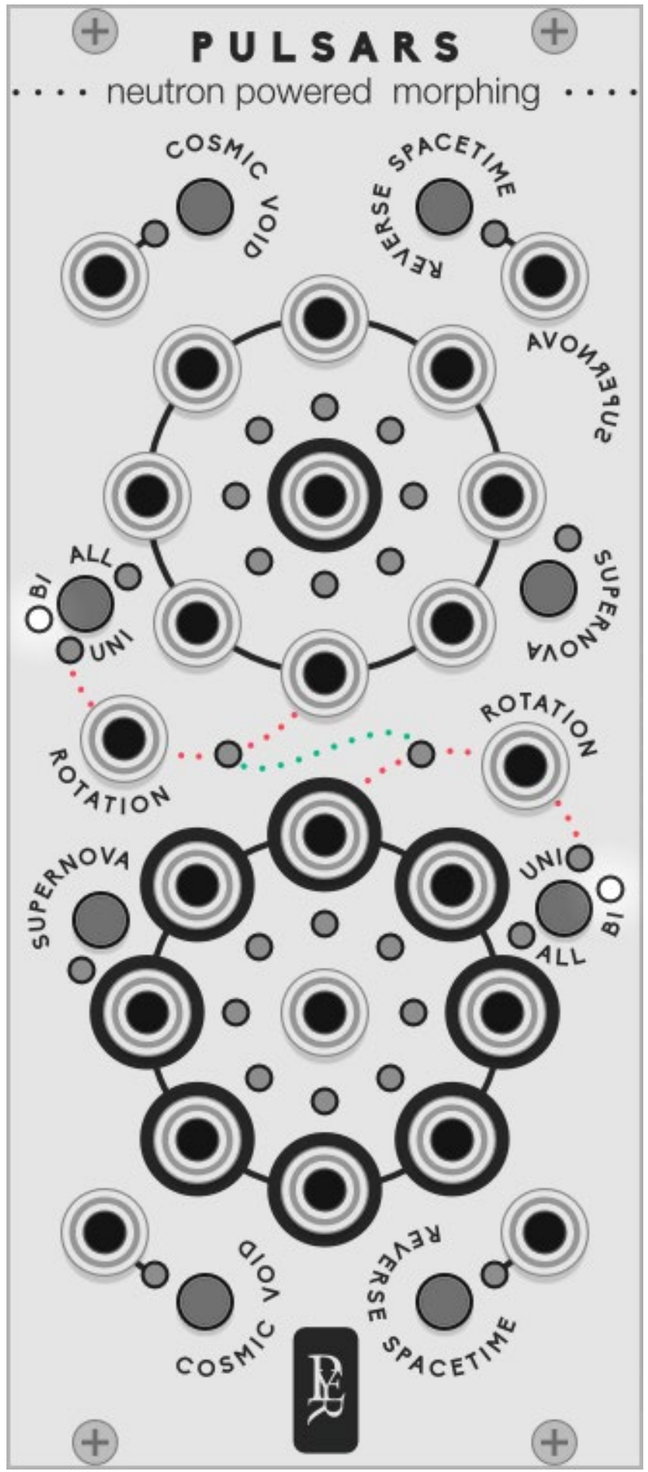
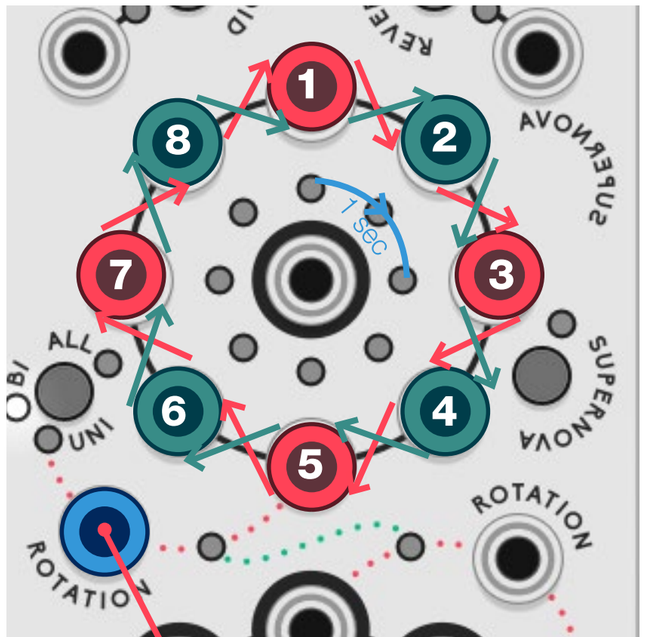


PULSARS

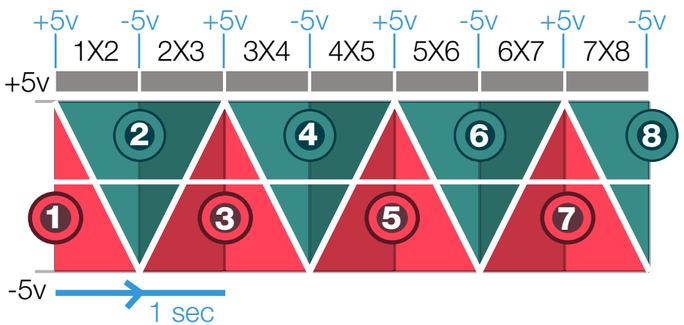
neutrons powered rotating crossfader

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

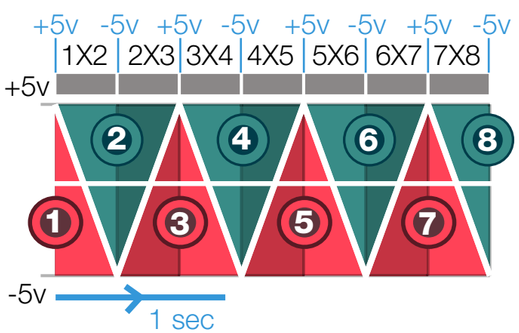
PULSARS is a rotating 8 to 1 and 1 to 8 selectors with crossfade in between each signal. It can be used to create cross fade mix of audio, complex wave tables with CV, standard sequential switch or extreme effects when turning at audio-rate speed.



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 rotation signal.

PULSARS

neutrons powered morphing

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

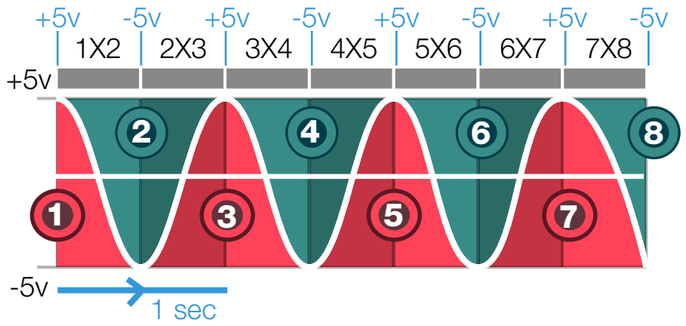
Pulsars needs a 5v binaural CV signal to power its rotation (**rotation IN**). When no signal is connected to the second pulsar, they are both driven by the first rotation signal

The first connected cable defines the start of the cycle

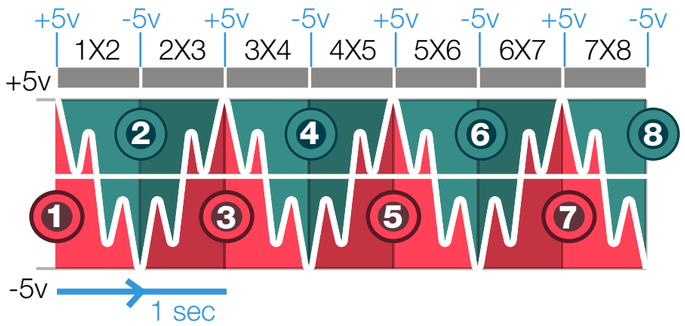
The rotation starts at **source 1** when it receives +5v.

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

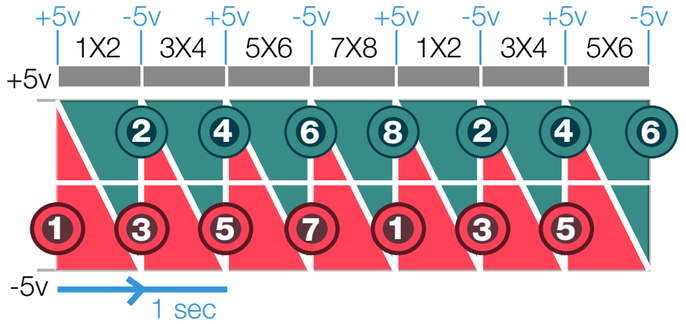
It will reach **source 3** when it receives +5v…



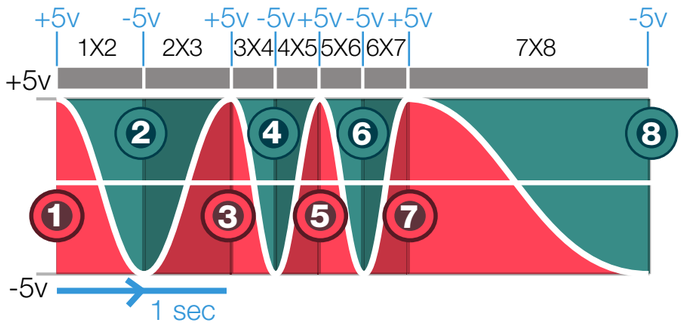
A triangle wave will make linear crossfade, while a **sine wave** will create an exponential cross-fade



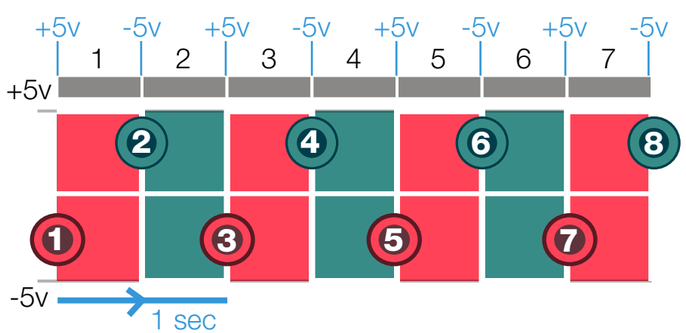
A folded wave source will create backwards and forwards effects



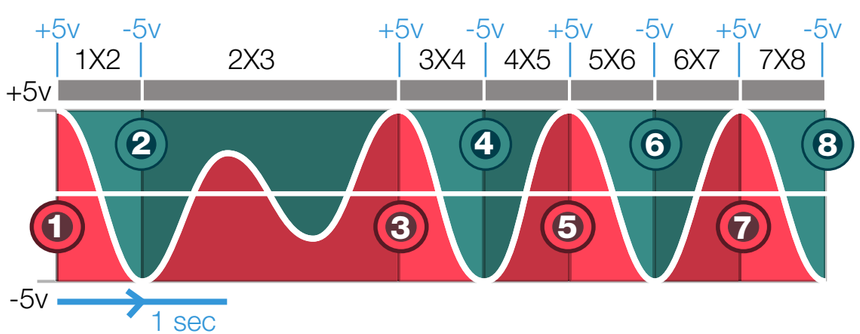
A sawtooth wave will switch from one step to another without transition



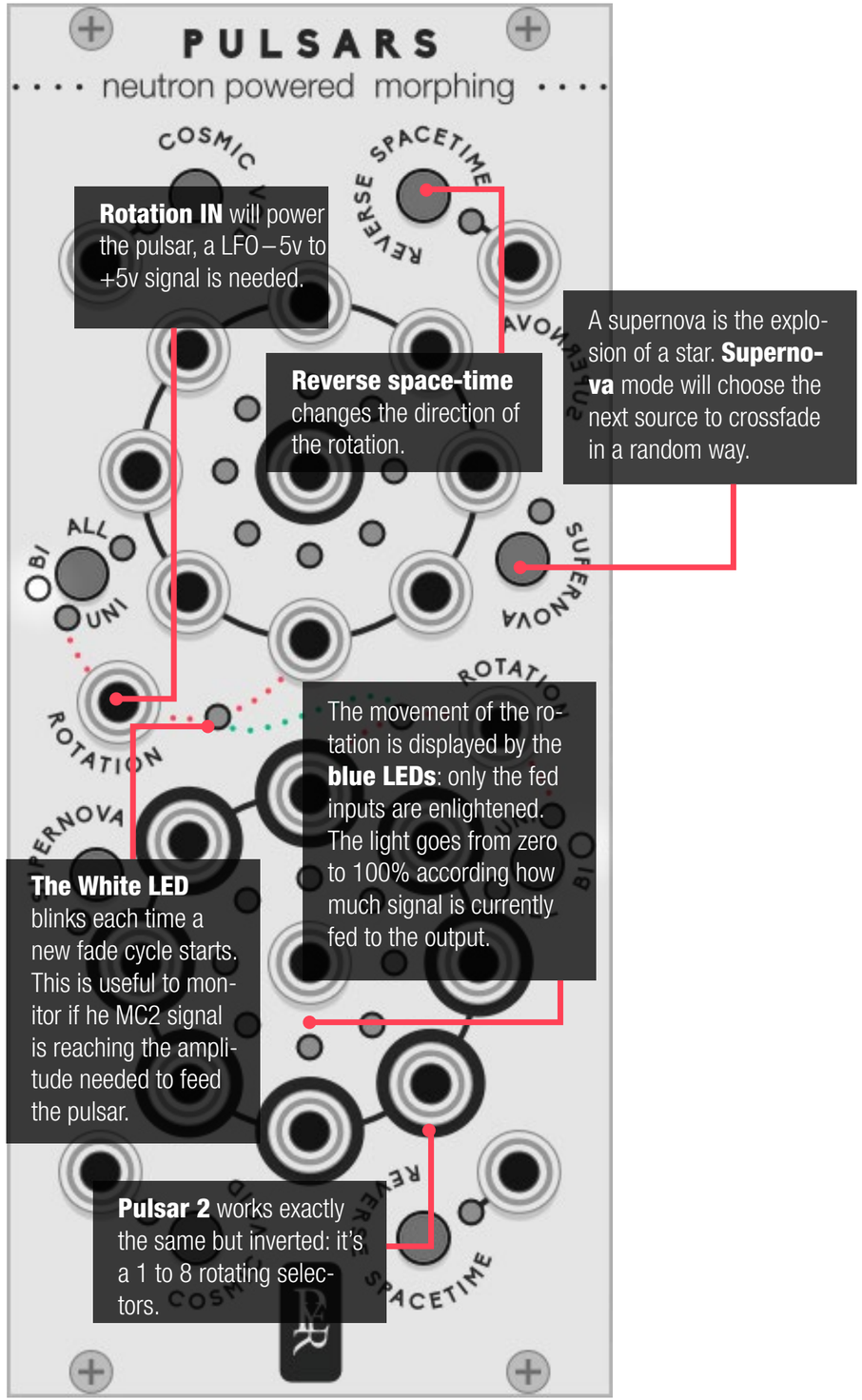
Modulating the rate of the signal will make some steps shorter and can create some rhythmic variations



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.

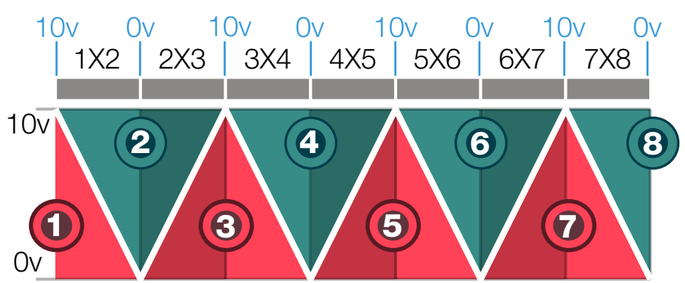


PULSARS

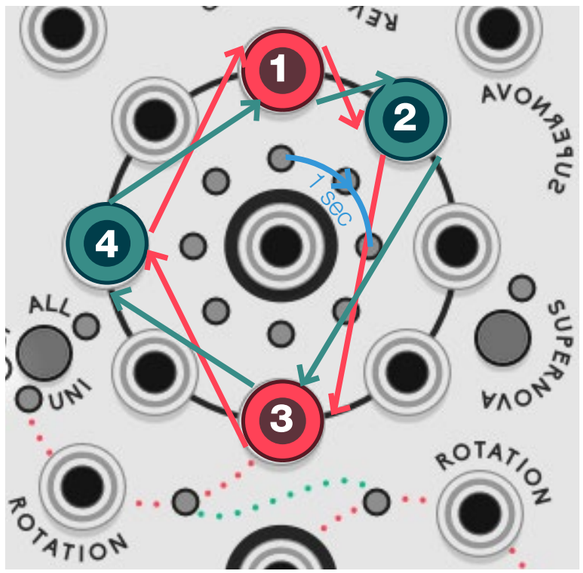
neutrons powered rotating crossfader

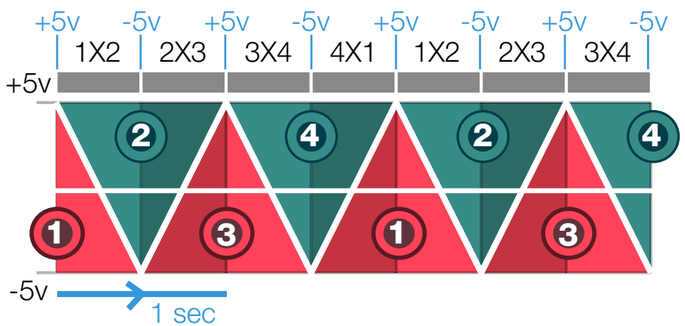
Unipolar – Bipolar

The MC2 is set to receive a –/+5v bipolar signal. When configured to Unipolar, this will set the rotating IN 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**





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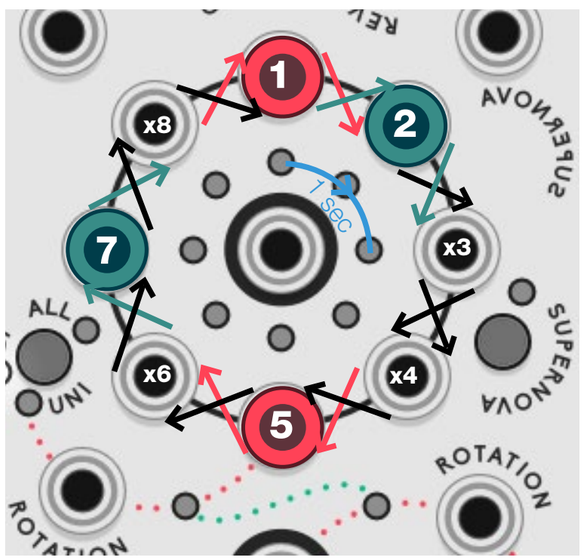
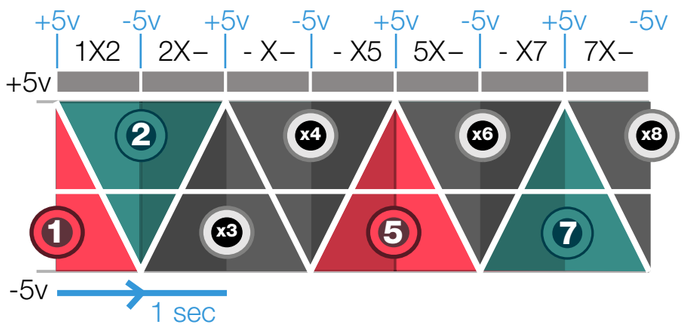
Cosmic void mode **ON**

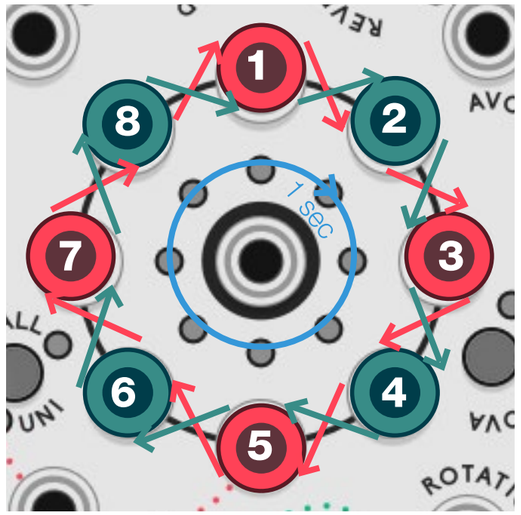


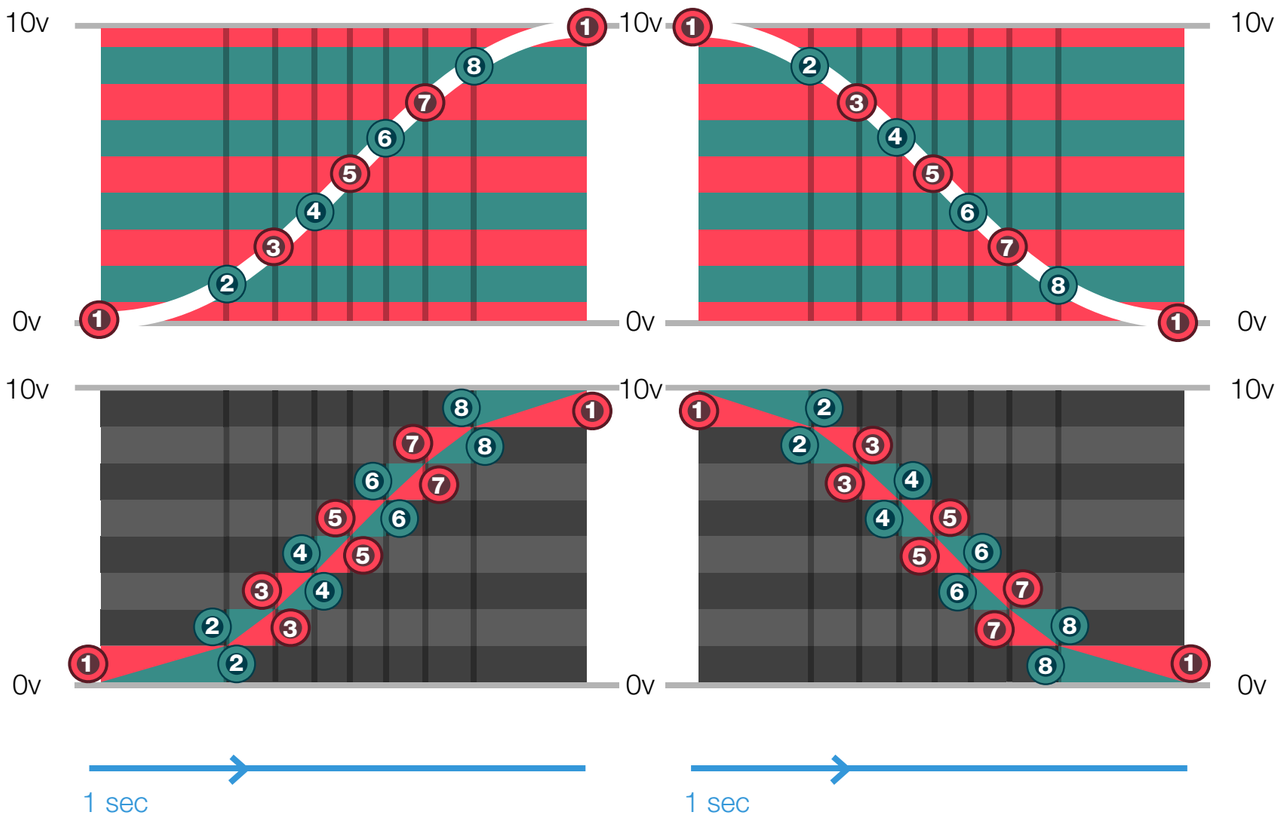


Cosmic Void mode

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.





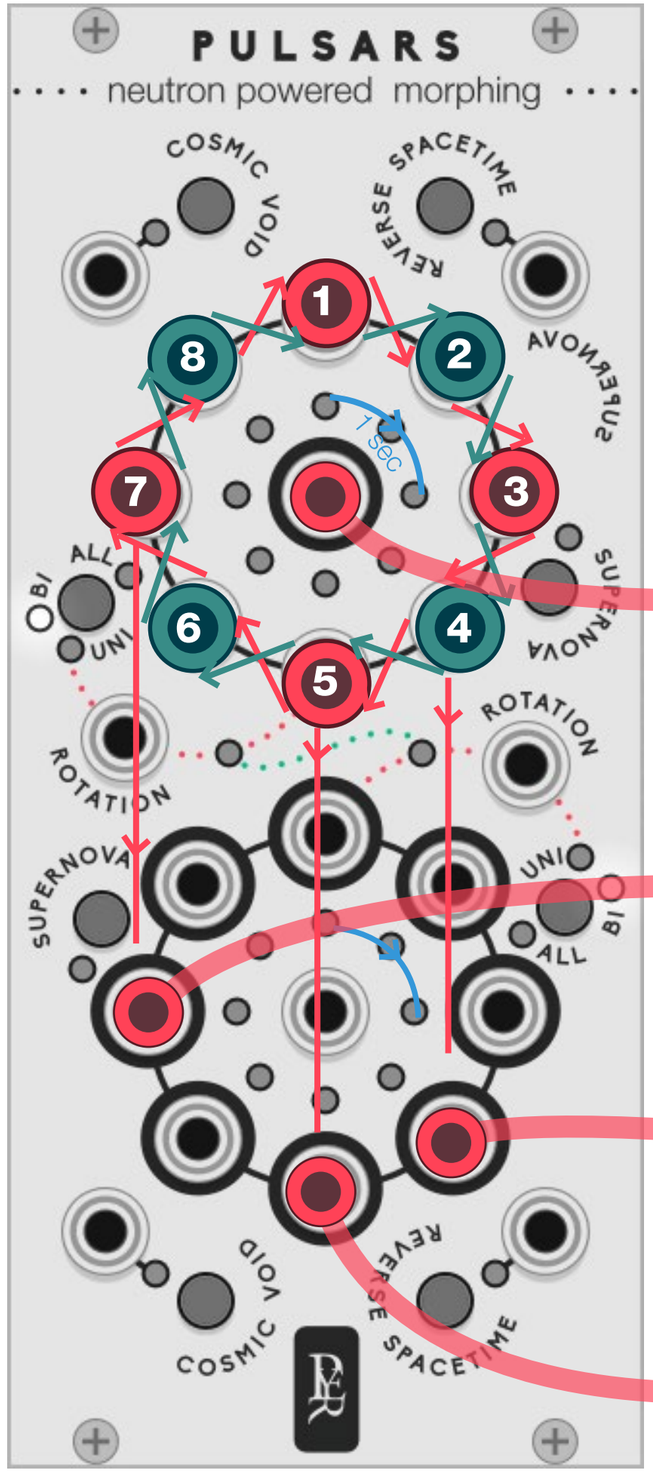
All mode

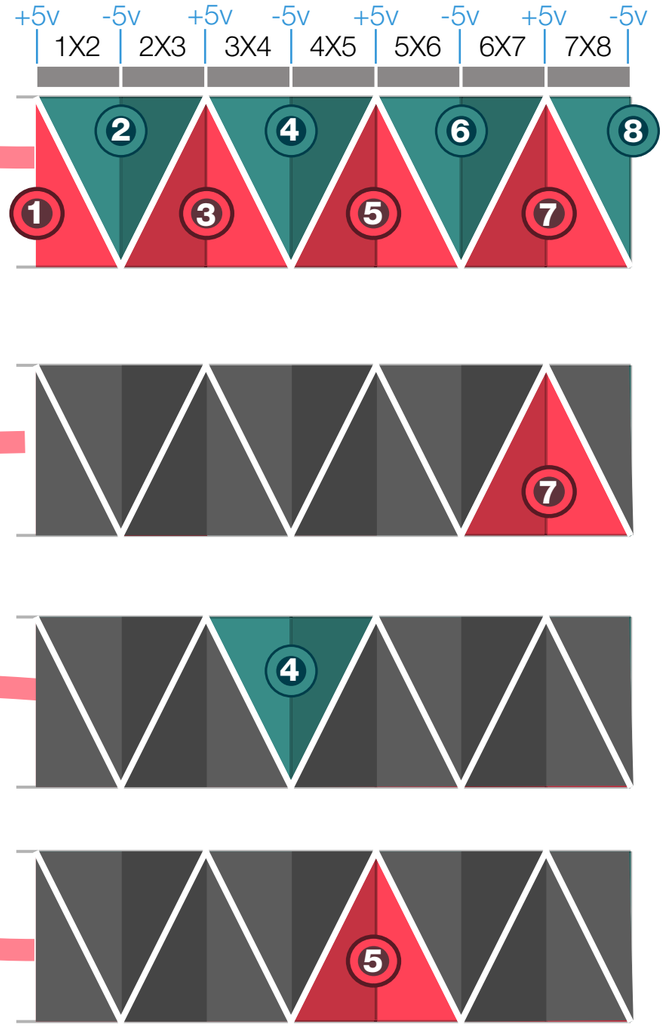
While the uni and bi mode are using the rotation signal to orchestrate a fade between each of the 8 sources, the mode “all” manages a scan trough all the sources in a signle circle.

On its way from zero to 10V, the rotation signal will scan every connected jacks from 1 to 8.

Once the rotation signal has reached 10 V, the cycle get inverted and continue it way from jack 1 to 8 as it goes down from 10 to 0V to avoid a back and forward effect and makes a true infitite cycling.

This mode is compatible with the reverse space time, cosmic void and supernova features. The all mode can be usefull in 8 to 1 out for complex wavetable scaning effect. The 1 to 8 out can be used for octophonic rao-tating effect.





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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.

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**, **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-Blr4dsurkkwUehFsNI7T_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