

GEODESICS

A modular collection for VCV Rack by Pyer & Marc Boulé



User Manual - version 0.6.6

PHILOSOPHY

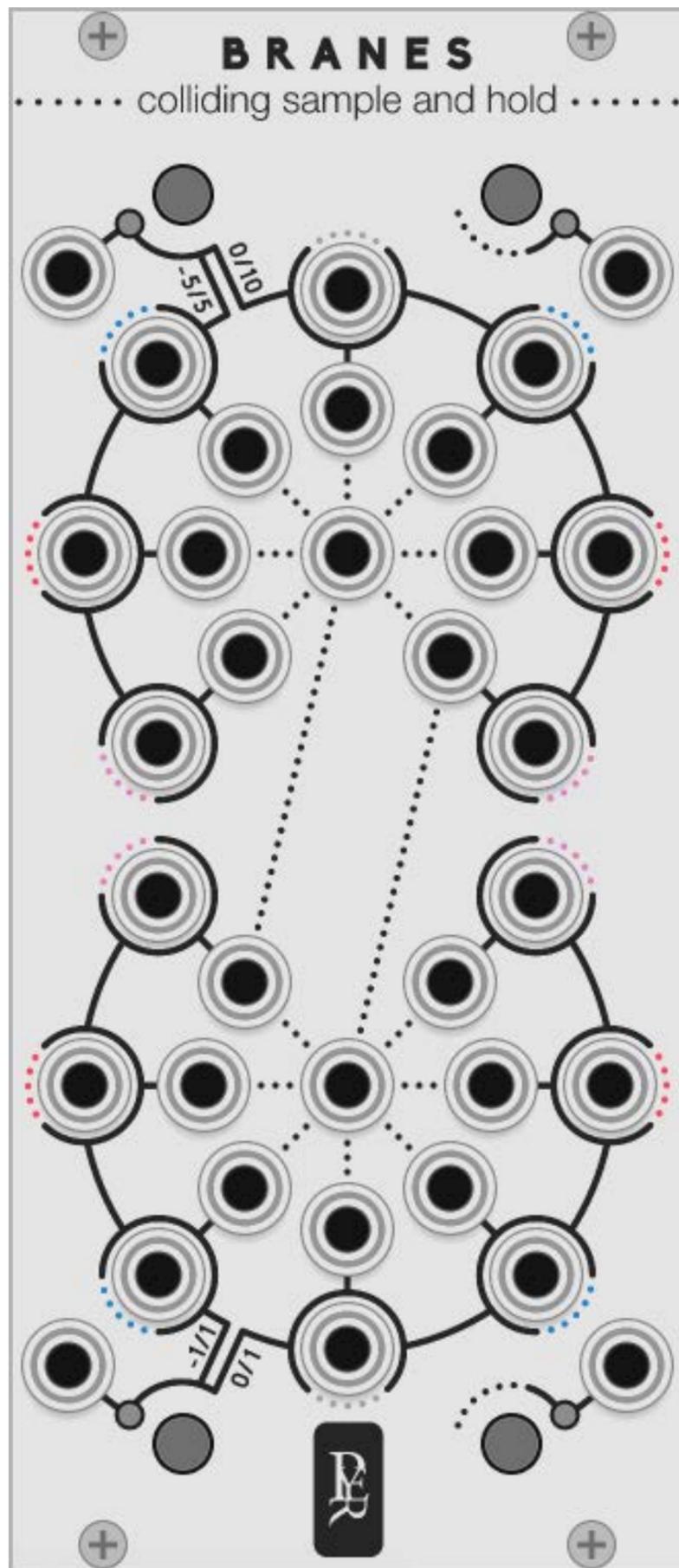
science inspires music

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.

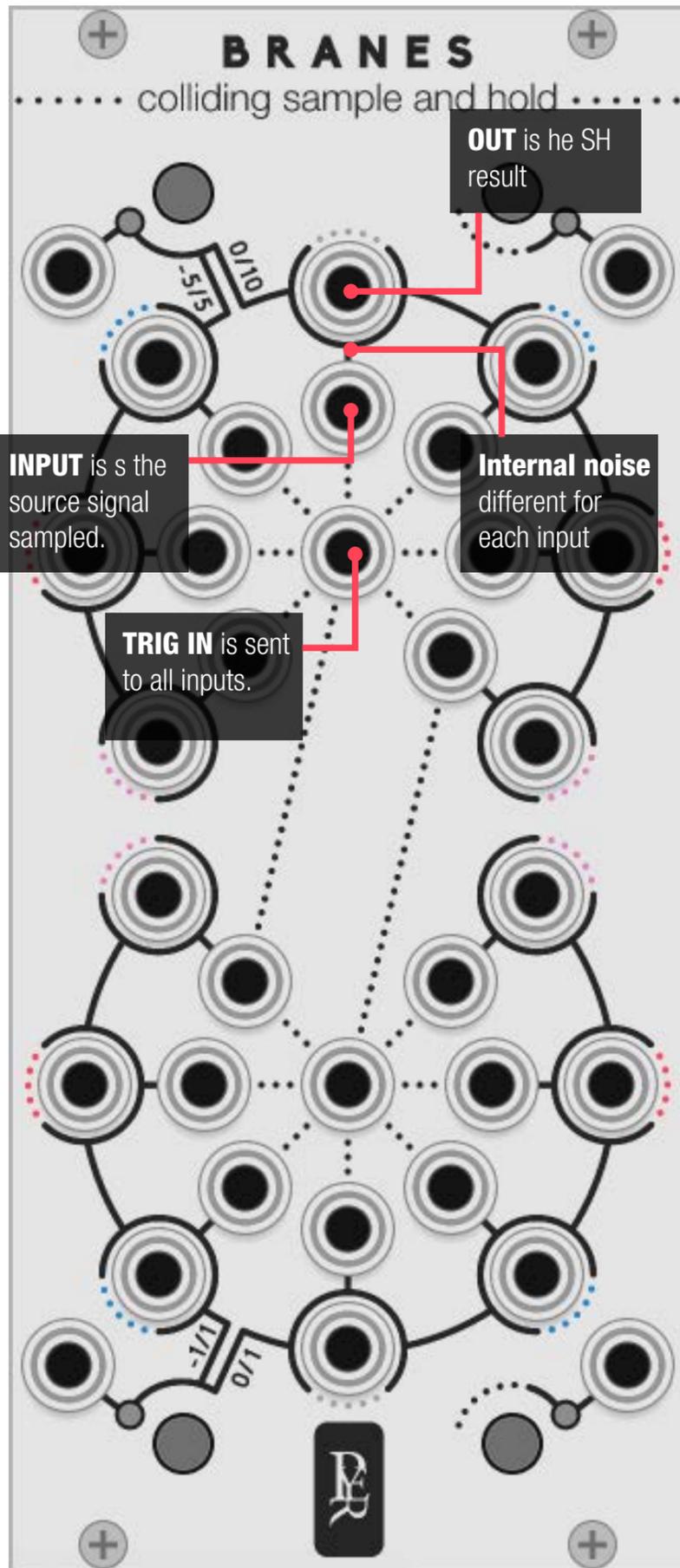


BRANES

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.



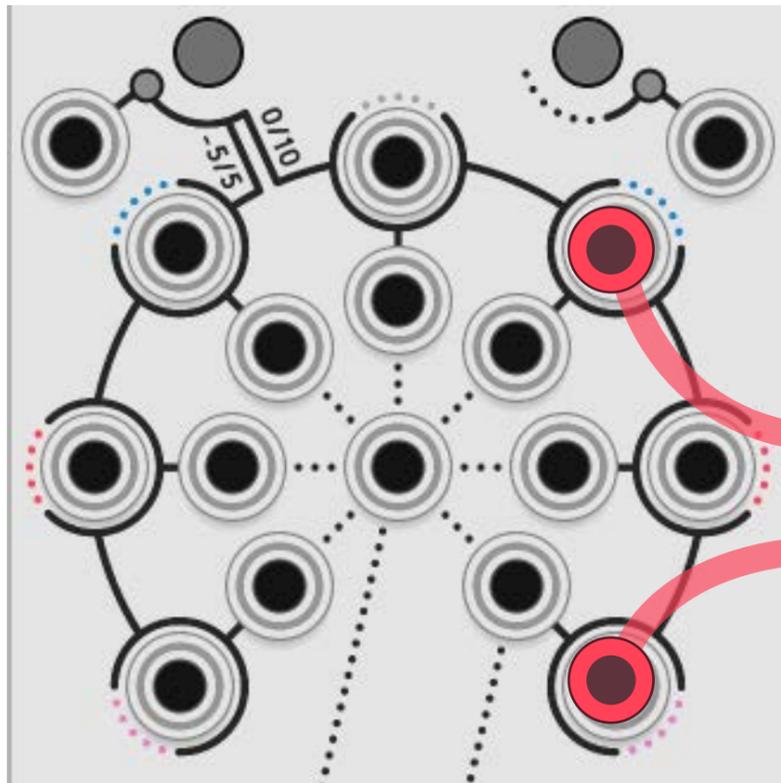
BRANES

colliding sample and hold

The Idea came from the Buchla Music Easel with its 4 uncorrelated random sources: random and different

Each output has its own internal noise generator, with different colours so you can have 7 different random CV driven by the same trigger without any external input.

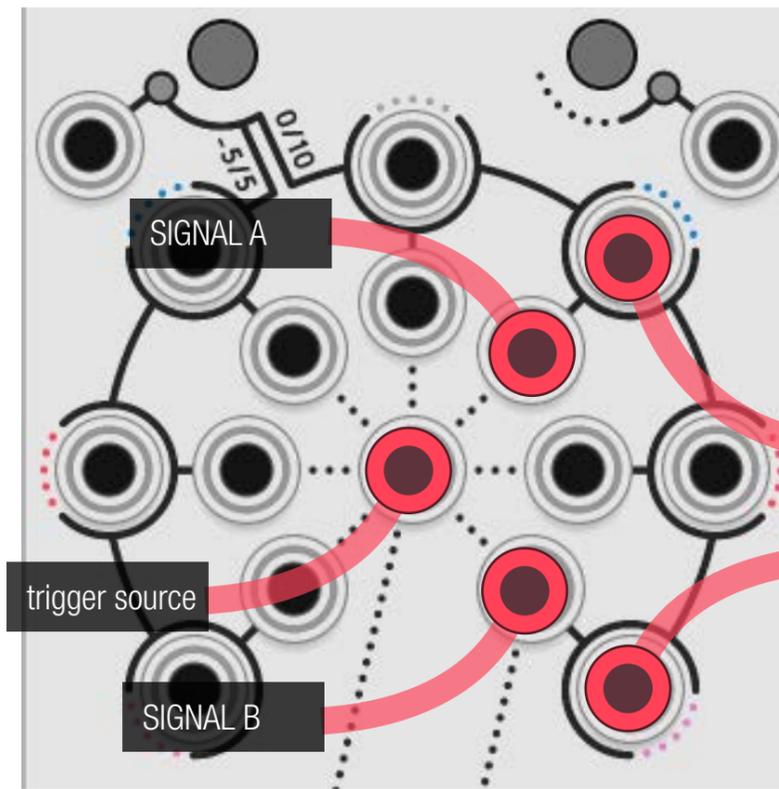
The noise generator is bypassed when an input source is connected.



When no trigger or input source is connected: The outputs are just noise sources, different kinds of noise for each.

Blue noise

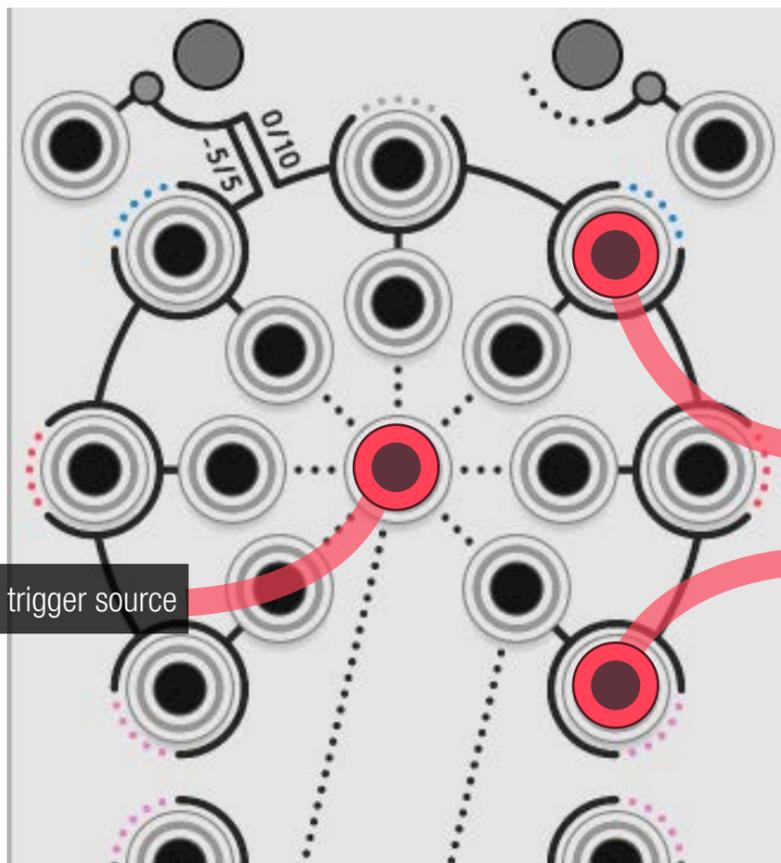
Pink noise



When a trigger and an input are connected, the noise generator is bypassed, and the S&H uses the input as material.

SIGNAL A based S&H

SIGNAL B based S&H

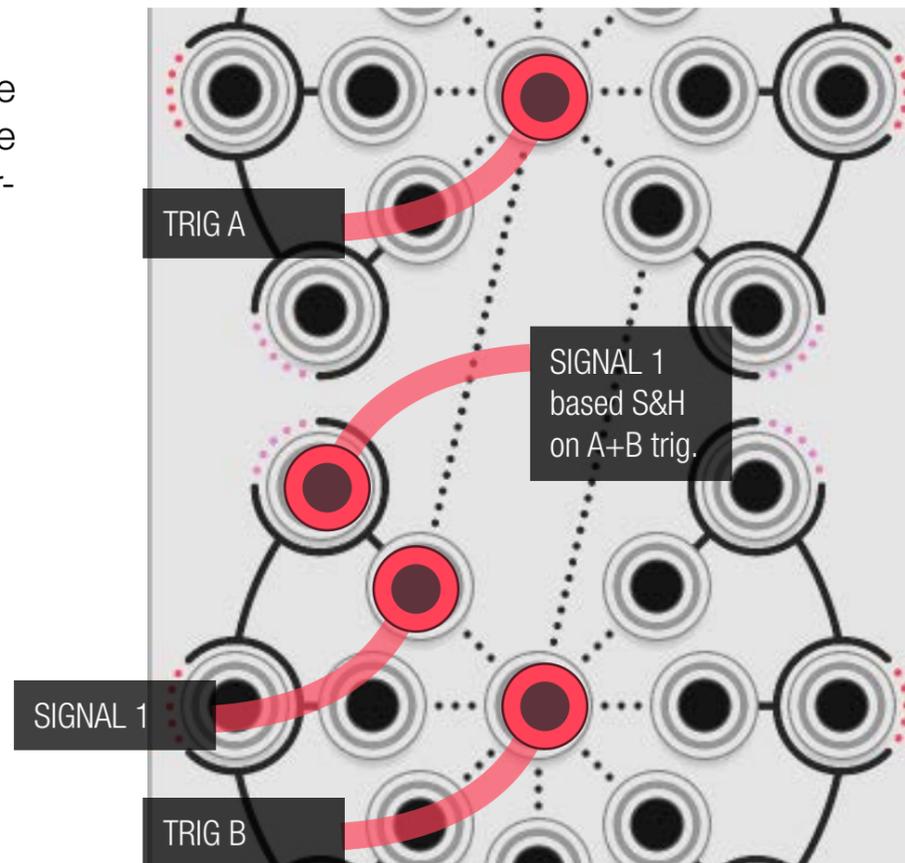


When a trigger is connected, the outputs use the trigger to sample and hold their internal noise generator and send random CV.

Blue noise based S&H

Pink noise based S&H

trigger source



The two Colliding S&H

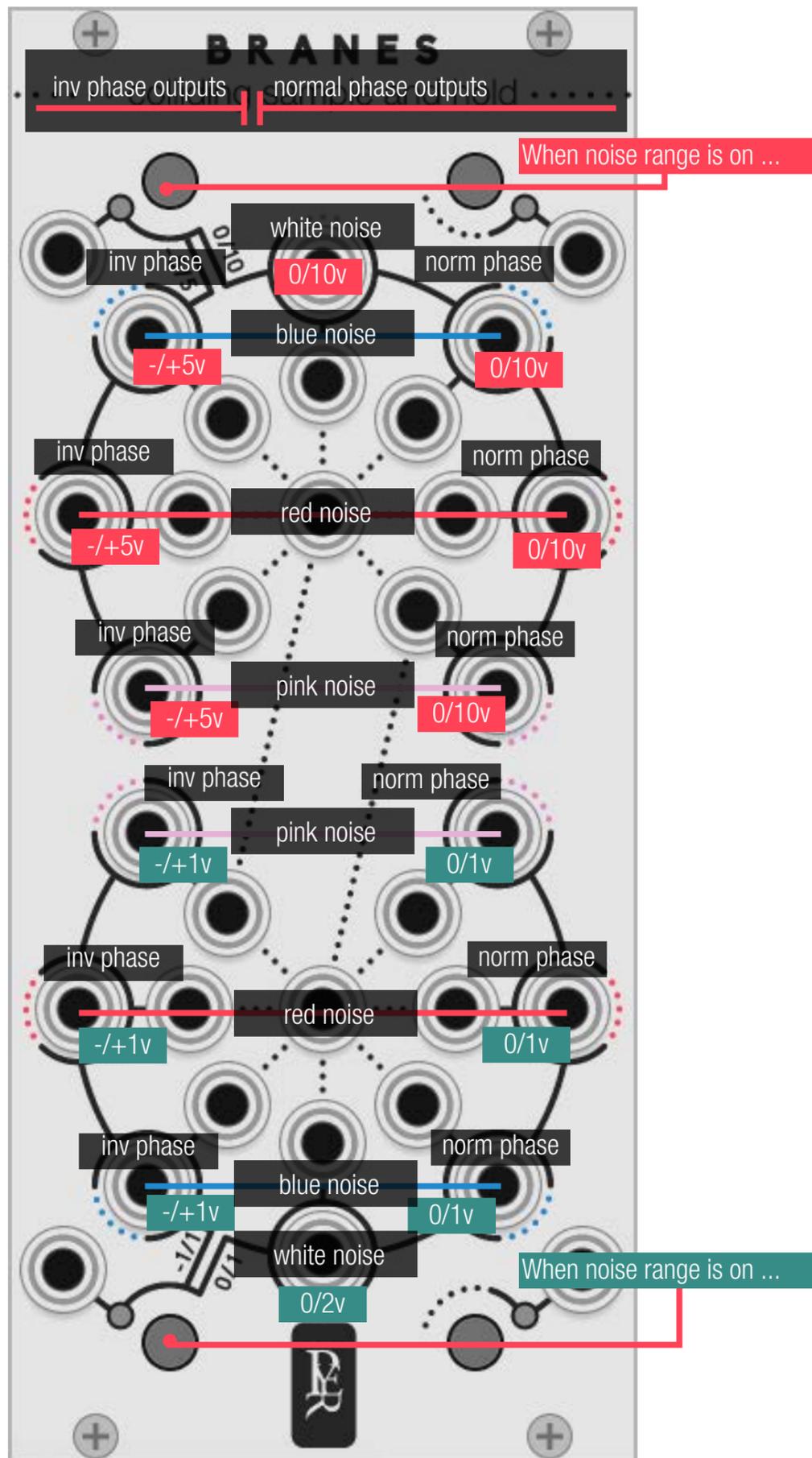
They work as expected, but their trigger source is an addition of the two trigger sources. It allows you to create polyrhythmic melodies.

SIGNAL 1 based S&H on A+B trig.

SIGNAL 1

TRIG B

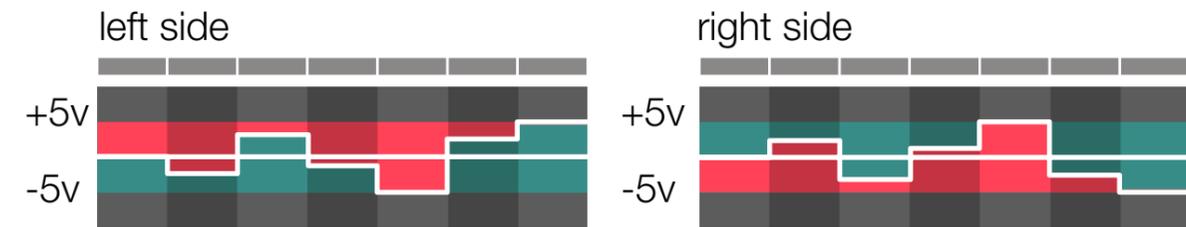
TRIG A



The inverted phase noise generators

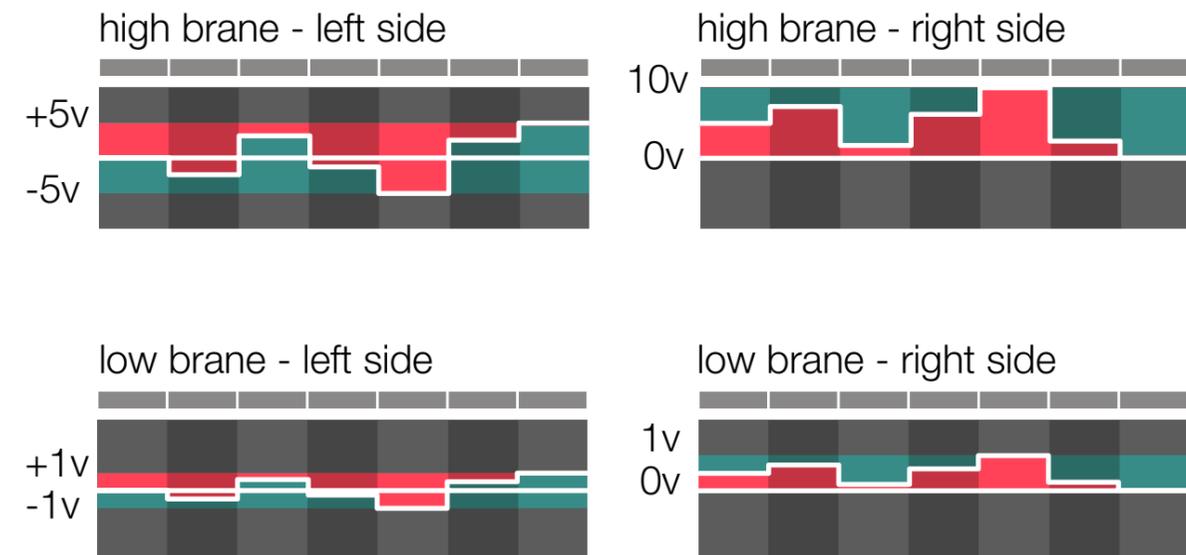
Every noise generator on the left-hand side is the inverted phase version of the right-hand side.

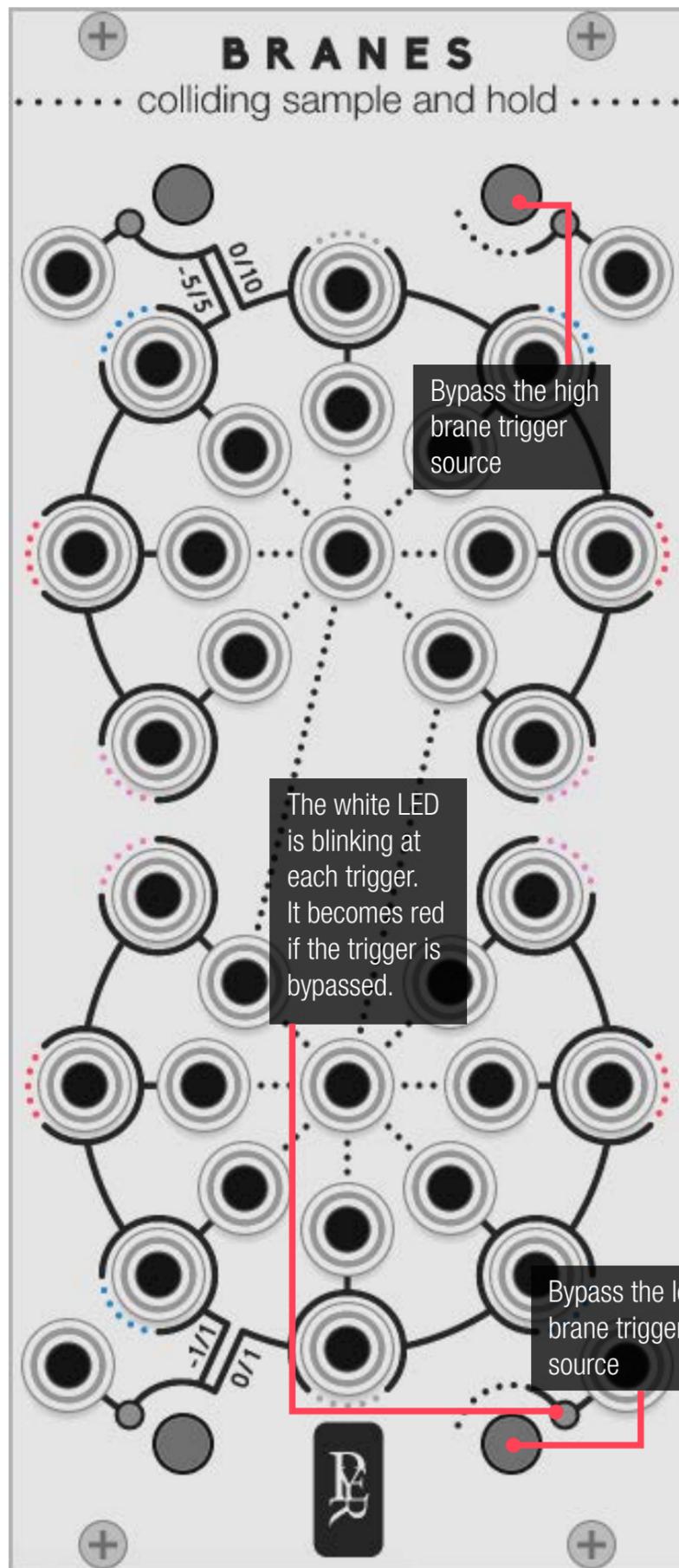
It is not really useful as a noise source, but when the noise is sampled, every left-hand side output will provide the opposite value of the right-hand side.



Range noise button

The noise generators are emitting signals from -5 to +5 volts, so will be the sampled signal. This can be too wide for pitch control, or too small for 0 to 10 volts modulation input. While this is usually fixed with an external VCA, the noise range button will change the range and offset of each noise generator according to the following rules:





BRANES

colliding sample and hold

The vibrations button

When the trigger source connected, the vibration button lights on: the brane starts to vibrate and to sample the signals on every trigger. When the vibrations are bypassed, every output will send the unsampled source input or noise.

This is useful to switch between the original signal and the quantised one.

It can also be used to momentary bypass one of the two triggers of the colliding outputs.

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.

Amongst 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

vcvrack.com/plugins.html#Geodesics

github.com/MarcBoule/Geodesics

Creations from composers using Geodesics:

[https://www.youtube.com/playlist?list=PLEh-5QLxa-](https://www.youtube.com/playlist?list=PLEh-5QLxa-BlqLI9rBcncUTFm2Lk-ZMgvZ)

[BlqLI9rBcncUTFm2Lk-ZMgvZ](https://www.youtube.com/playlist?list=PLEh-5QLxa-BlqLI9rBcncUTFm2Lk-ZMgvZ)

Tutorials on Geodesics by Omri Cohen:

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

[Blr4dsurkkwUehFsNI7T_Jv-](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

