GEODESICS

A modular collection for VCV Rack by Pyer & Marc Boulé

User Manual–version 1.0.0

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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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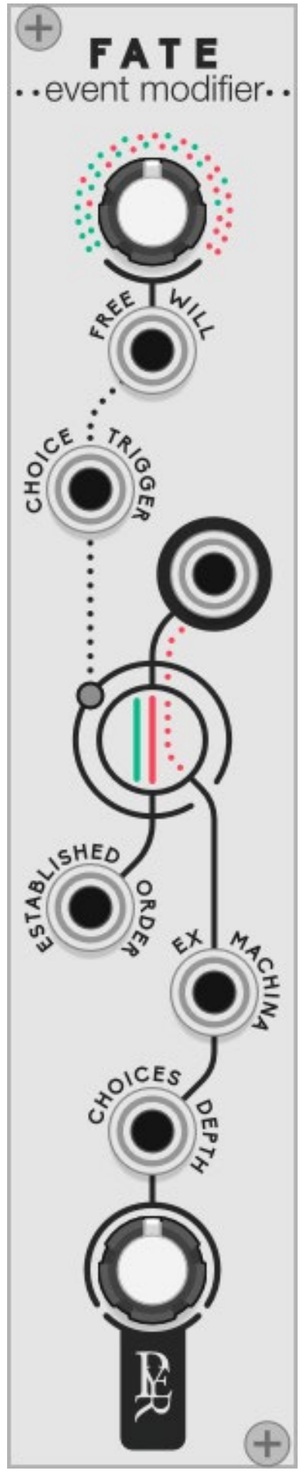
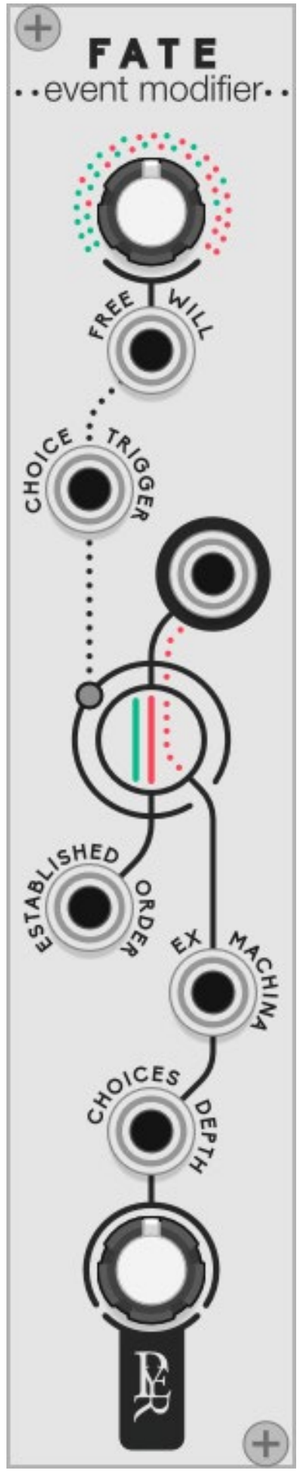


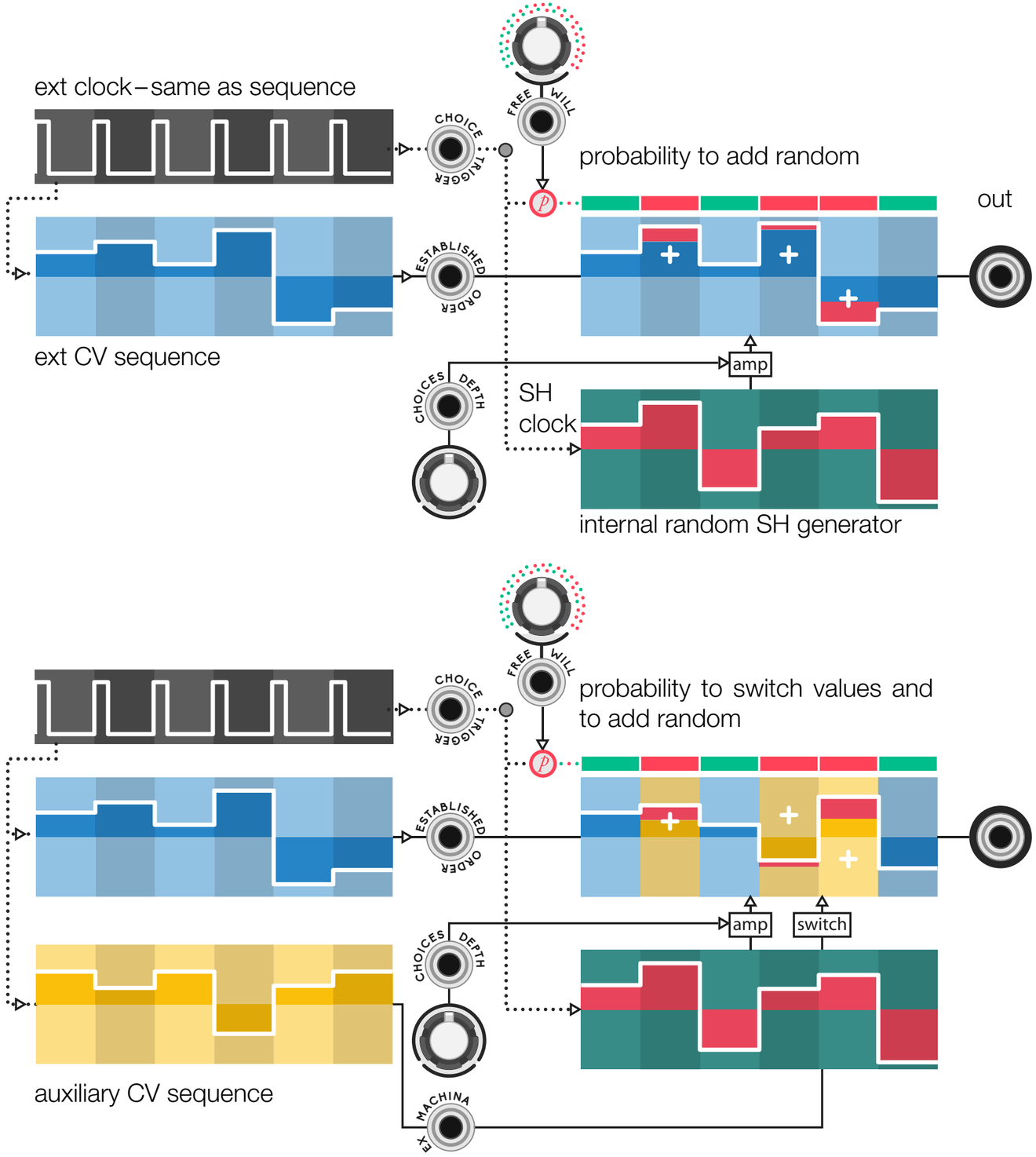
FATE

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.





Main Concept

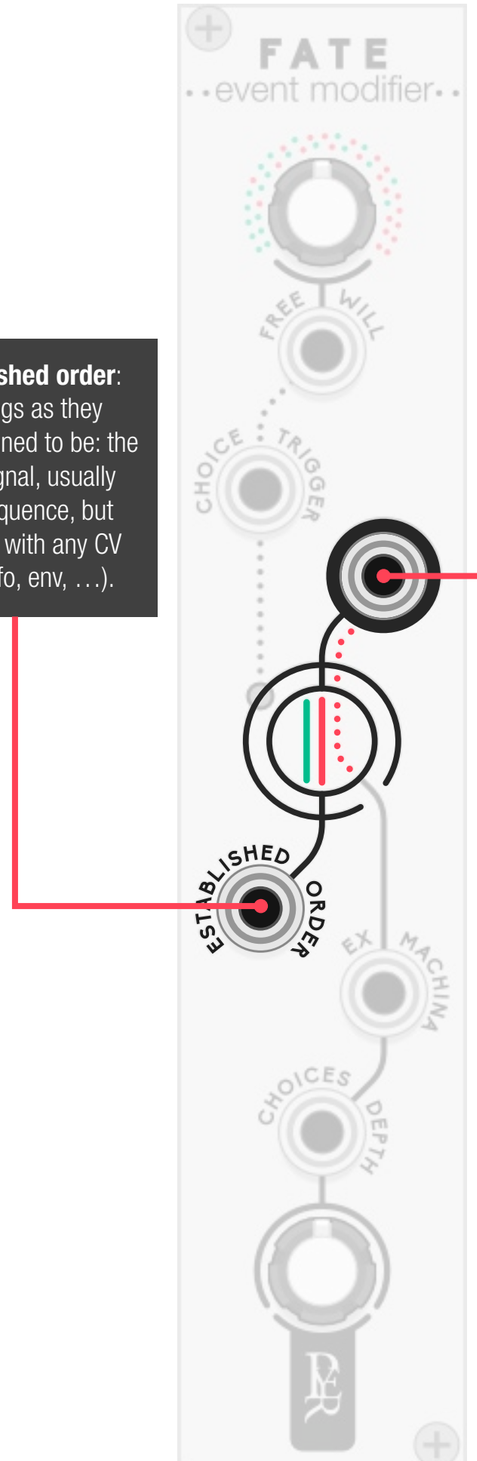
If you are familiar with Geodesics **Entropia**, this module will be easy to use. It can be considered as a module that can turn any sequencer into entropia. It can also be seen as a Bernoulli gate, but for CV.

Probabilistic random adder

Fate is made to receive a CV sequence (**established order**), and will leave it unaffected on default settings. When Fate receives a clock signal (**event trigger**), it can decide to add randomness s on some steps. The added randomness has a controllable range (**choice depth**). Whether the randomness will be added or not is set by a probability from zero to 100 (**free will**). A new probability is calculated at each event trigger.

Probabilistic A/B switch

When an external signal is connected (**ex machina**), Fate will then act as a probabilistic switcher, but the random generator can still be added to the external signal for more surprises.

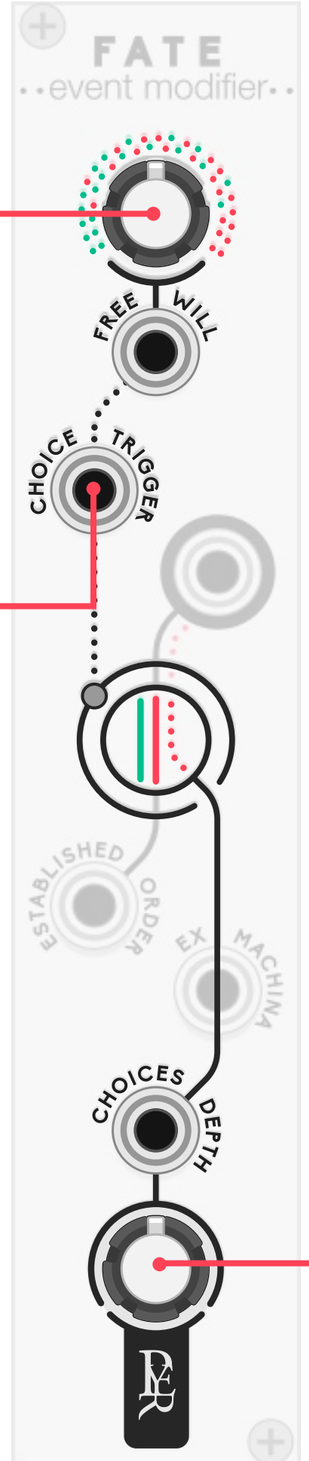


Established order: The things as they are planned to be: the input signal, usually a CV sequence, but it works with any CV signal (lfo, env, …).

Output: the altered signal, a complex blend in between what is planned and what is not.

Free will: controls how often the fate will alter the established order. It sets the probability for unplanned events to happen.

Event trigger: for each trigger received, a probability is set for something unplanned to happen. In most cases it would be the sequencer's clock, or any gate synced to the input signal.



Choices depth: controls the strength of the free will. It attenuates the internal random generator.

Ex machina: a deus ex-machina is an external character that will allow the author to modify the end of his story.

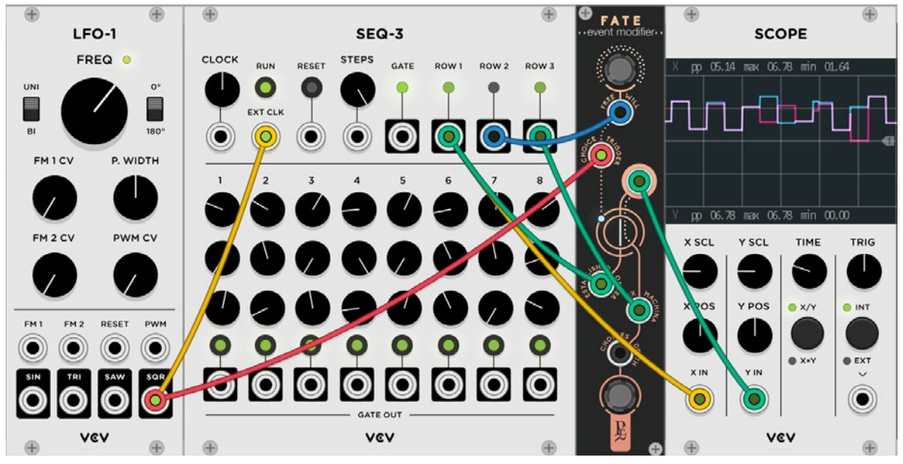
Ex machina is an auxiliary input. When a signal is connected, FATE becomes a probabilistic A/B switch that will replace some notes of the original sequence by the auxiliary.

The internal random generator is still being added to the aux signal. The Choice depth needs to be set to zero use FATE as a classic sequential A/B switch.

Patch ideas

As a random adder

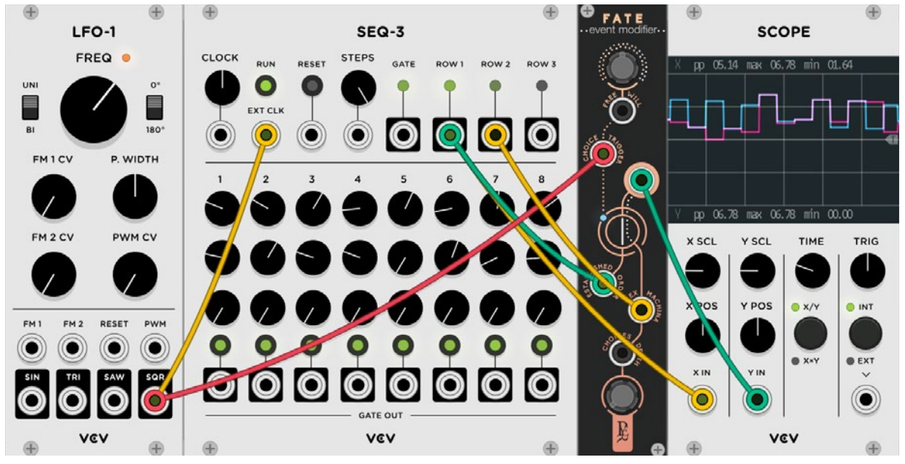
As a probabilistic switch



As an entropia sequencer
add mode (multichannel)

As a complex LFO

As an entropia sequencer
switch mode (multichannel)



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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