

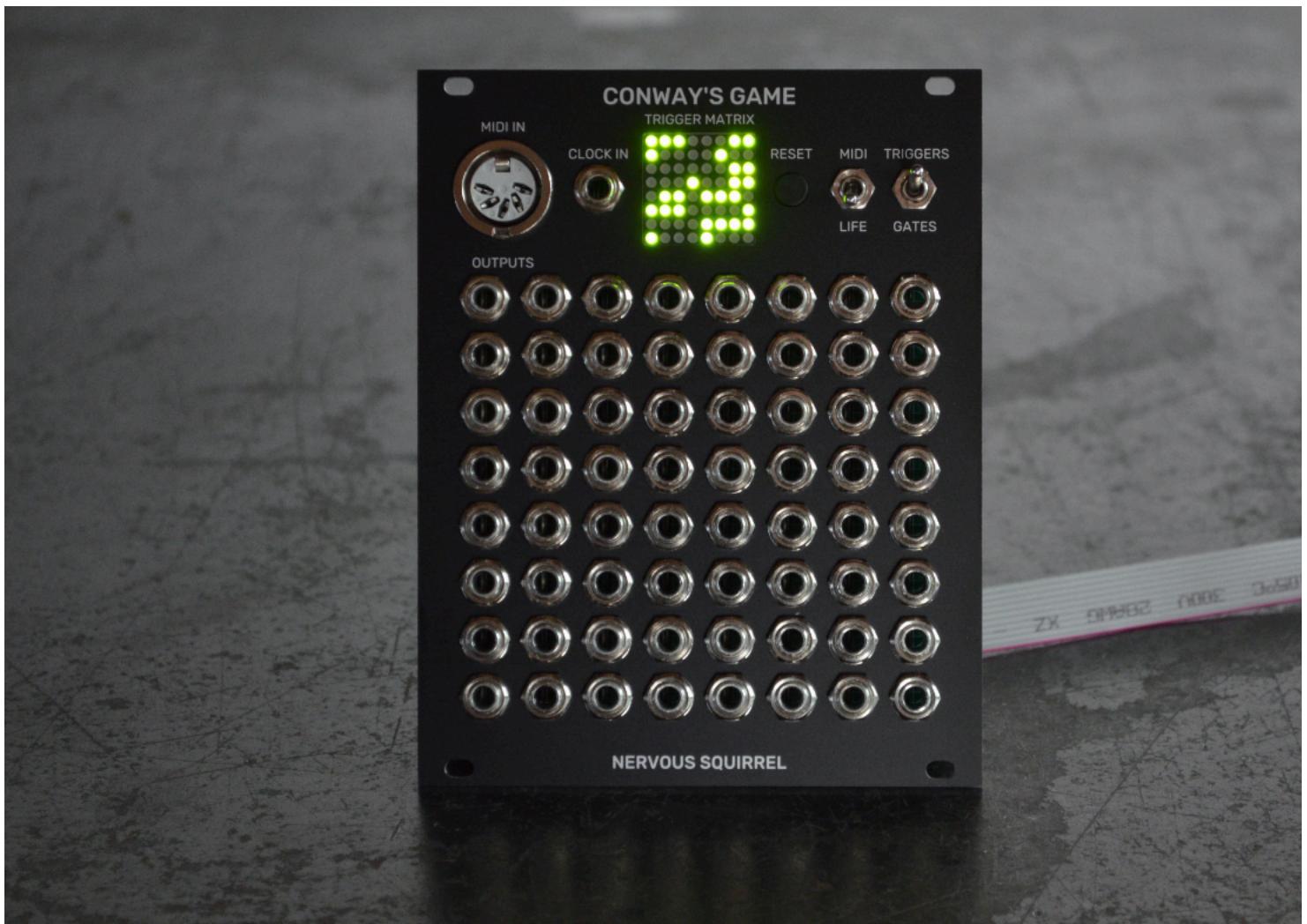
Conway's Game

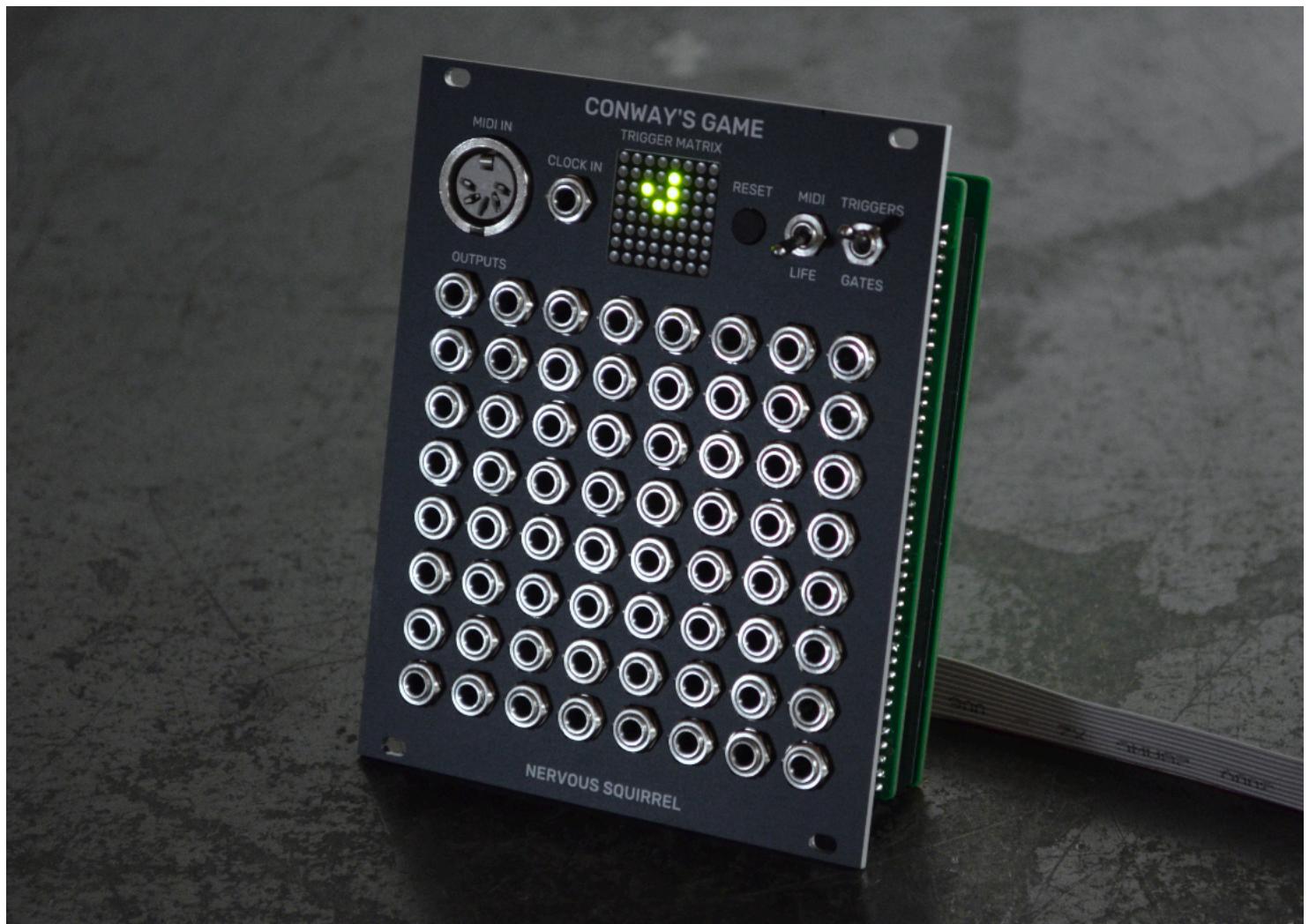
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A cellular automaton pattern generator that also functions as a MIDI to trigger converter.

Legendary mathematician John Horton Conway's "Game of Life" algorithm is generated and displayed on the 8x8 LED matrix, with the activity of the cells mapped to the outputs below.

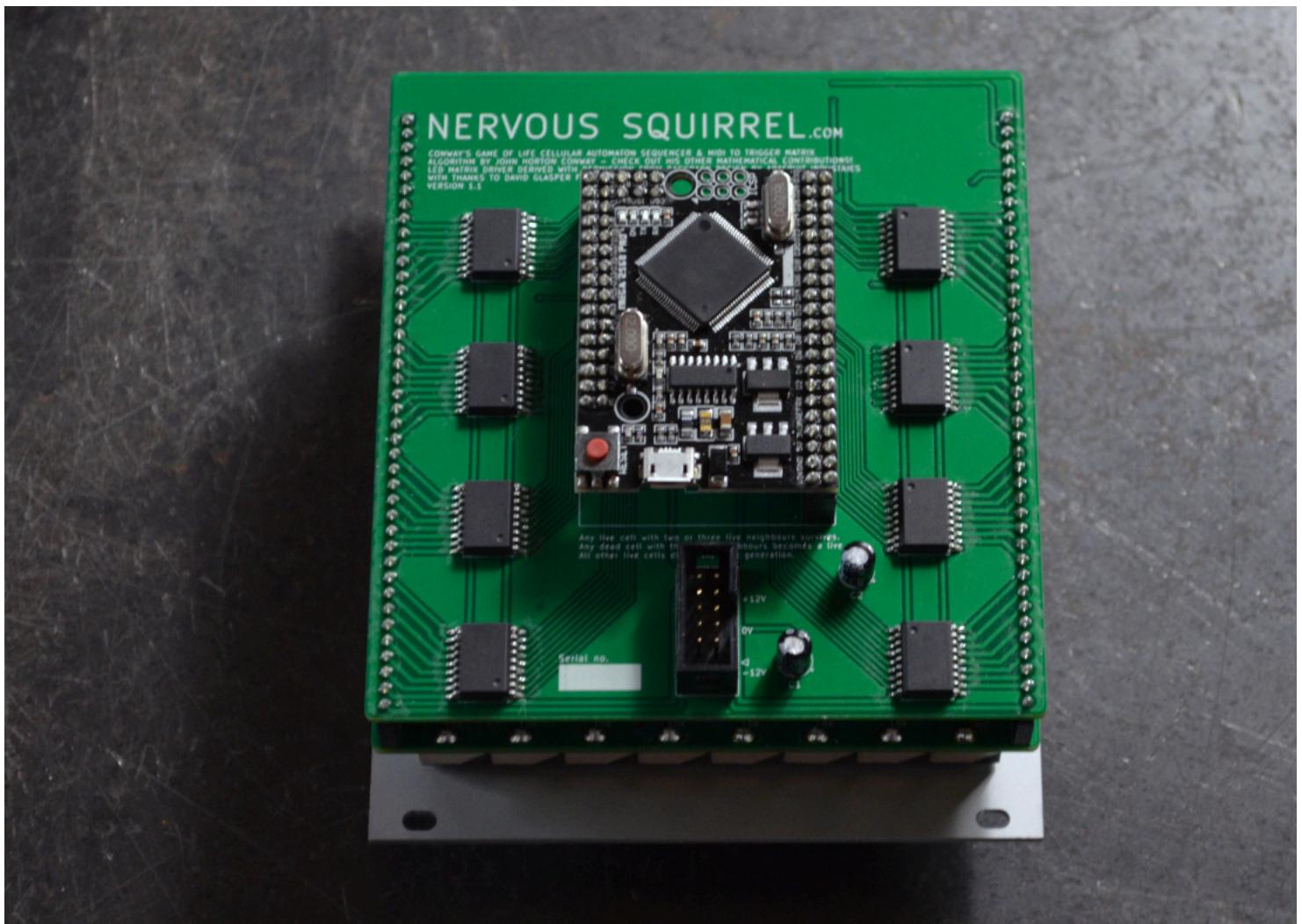
The MIDI input can also be used to control 64 separate trigger outputs.

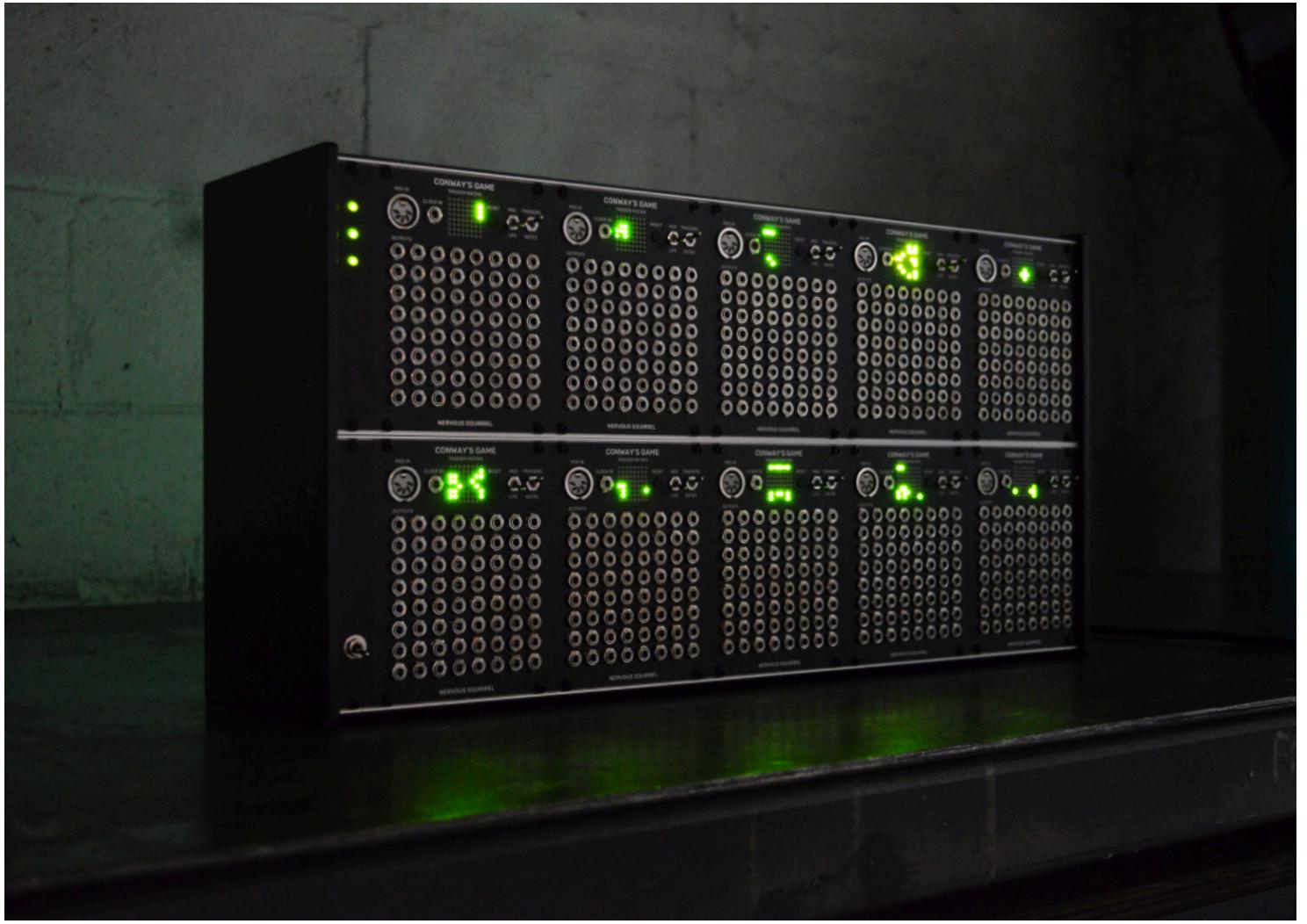












Overview

If you're not familiar with Conway's Game of Life, a brief explanation:

Imagine a grid of cells, each of which can be in two states, either alive or dead. A set of simple rules determine what happens to each cell, depending on the state of neighbouring cells.

For each step in time:

- (1) Any live cell with fewer than two live neighbours dies, as if caused by underpopulation.
- (2) Any live cell with two or three live neighbours lives on to the next generation.
- (3) Any live cell with more than three live neighbours dies, as if by overpopulation.
- (4) Any dead cell with exactly three live neighbours becomes a live cell, as if by reproduction.

The module makes use of these rules, applying them to an 8x8 grid of cells.

The generated patterns can then be used as an interesting source of triggers, which may be used to sequence drums, envelope generators, or any other modules with trigger or gate inputs.

After selecting a pseudo-random set of starting conditions for the cells, the simulation will run until the cells either die out, or end in a stable loop. If the cells die out or end in a stationary configuration, the simulation will reset with a new set of starting conditions. Loops can end up as the classic "glider" or "blinker", or more elaborate patterns.

Features and controls

MIDI IN: The module responds to notes ranging from C2 / note 36 to E7 / note 100.

CLOCK IN: By default the internal clock runs at 10Hz, but the clock input allows other sources to set the speed up to about 270Hz. After 270Hz things start getting weird, which of course is not necessarily a bad thing! Run it from any source of gates or triggers - LFO, VCO, or even audio for timing strangeness.

RESET: Clears the current loop and starts with a new set of cells. Also clears stuck MIDI notes if necessary.

MIDI / LIFE: Selects MIDI or Game of Life mode.

TRIGGERS / GATES: Sets active outputs to either trigger on every clock event, or to remain as a high gate signal as long as the cell is alive.

Technical details

Width: 20HP

Depth: 43.5mm behind 2mm thick panel

Current @ +12V: Typically up to 80mA in GoL mode. Max 215mA if all 64 LEDs lit up via MIDI.

Current @ -12V: 0mA

Gate & trigger level: 8V

Trigger length: 20 milliseconds

Purchase

Cost of one module is GBP £449 plus a flat rate of £20 shipping worldwide. No extra shipping if you buy multiple modules in the same transaction.

Shipping is fully tracked and will require a signature. Shipping will be to your registered PayPal address unless you contact me before placing the order.

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The future

The [Nervous Squirrel 5U modular](#) started back in 2008, and contains some unique module designs that are currently being converted to Eurorack. It is hoped that 5U and Buchla 4U formats will also follow.

See also: [Ore-some Volts](#), a radioactive true random CV and trigger generator.

Instagram: [@nervoussquirreldotcom](#) for work in progress.

YouTube: [@thenervoussquirrel](#) for synthesisers and engineering projects.

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Eurorack Conway's Game of Life 64 output pattern generator & MIDI to trigger, now shipping worldwide



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