

The Spock module comprises two sets of CMOS based dual input logic gates with the following functions: AND, OR, XOR and NOT. The top and bottom half of the module are identical but can be combined together with patch cables to realise more complex logic functions. This module is ideally used with clocks, triggers and other source of square pulses. Interesting results are also achieved by feeding audiorate signals into the gate inputs and creating complex pulse based waveforms.

For more info on Logic Gates in general please visit : http://en.wikipedia.org/wiki/Logic_gate

SPOCK top section

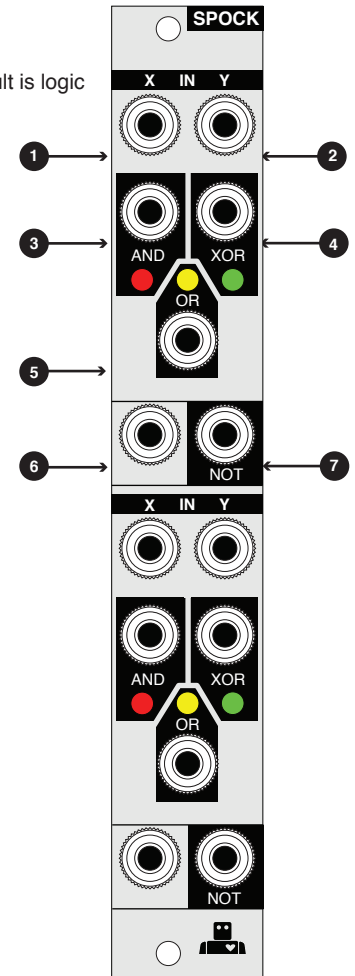
- 1 **Input X:** Input 1 of the logic gates AND, OR and XOR. Feed a square/pulse 0-5V clock signal here.
- 2 **Input Y:** Input 2 of the logic gates AND, OR and XOR. Feed a square/pulse 0-5V clock signal here.
- 3 **AND Output:** Buffered output of the AND logic gate. The state is indicated by the red led below it (when on the result is logic HIGH or binary '1').
- 4 **OR Output:** Buffered output of the OR logic gate. The state is indicated by the yellow led above it.
- 5 **XOR Output:** Buffered output of the XOR logic gate. The state is indicated by the green led below it.
- 6 **NOT Input:** This is a separate input (not connected to the X and Y inputs) for the logic inverter. By default the input is low (logic '0') when nothing is patched in so the output is high (logic '1').
- 7 **NOT Output:** Logic inverter output. When nothing is plugged in to the input you can use this output as a positive voltage source since it would have a constant logic high.

NOTE: Only the top set of inputs and outputs are described since the bottom set are exactly identical

Boolean logic table for the gates. A logic 1 represents an input signal of a positive square pulse (anything greater than 2v but ideally 5-8V) . A logic '0' is a signal of 0 volts / ground.

X	Y	AND	OR	XOR
0	0	0	0	0
0	1	0	1	1
1	0	0	1	1
1	1	1	1	0

IN	NOT
0	1
1	0



Technical Specs

INPUTS

Waveform: square or pulse waves ideally 0-5V (where 0V = logic low and 2V or greater is logic High)

max voltage: 10V

min voltage: 0V

NOTE: unpredictable results with negative voltage

OUTPUTS

0-8V buffered

Max current draw: 35mA