

# Popcorn Expanders

B

CV INPUTS



GATE OUT



## POPCORN CV INPUTS EX.

Adds more CV inputs for enhanced control of the nonlinear browsing through the steps. All inputs on the expander react only to positive voltages 0-5V.

### instruction

**A**

MIN/MAJ is a gate input which inverts the Minor/Major setting of the quantizer.

**B**

TRIG A S. is a CV input to set how many steps are advanced by triggering the TRIG A input. When the TRIG A knob is set fully CCW, 0 volts corresponds to -4 and 5 volts correspond to +4.

**C**

GATE T. CV input adds to the gate time.

**D**

SLIDE T. CV input adds to the slide time.

**E**

CV on the OFFSET input immediately adds a certain offset to the ACTIVE step position. The offset is 0 to 7 steps corresponding to 0 to 5 volts.



## Alternative CV In Mode: The Bit Offset

There are two modes for the CV Expander: the normal (described above) and the alternative. The alternative mode can be activated in the boot menu. In the alternative mode the connectors B,C and D are used as offset bits. This means that you can to set the binary address of the cursor offset by sending gates to the inputs. This can be extremely useful when used with a gate sequencer because you can directly select which step is activated with the combination of the 3 gate inputs. High gate on connector B will offset the address by one step (least significant bit), high gate on connector C will offset the address by two steps and high gate on the D connector will offset the address by four steps (most significant bit). Here are all 8 possible combinations of these gates and how they corresponds to the 8 steps.

Step Offset	D	C	B
0	0	0	0
1	0	0	1
2	0	1	0
3	0	1	1
4	1	0	0
5	1	0	1
6	1	1	0
7	1	1	1

## features

- gate input for selecting minor or major setting of the quantizer
- CV input for Gate Time
- CV input for Slide Time
- CV input for how many steps are jumped by trigger A
- CV step address offset
- alternative mode in which 3 of the CV inputs acts as 3 binary gate bits to select the addressed step (instead of Gate & Slide time and trigger A steps)

## technical details

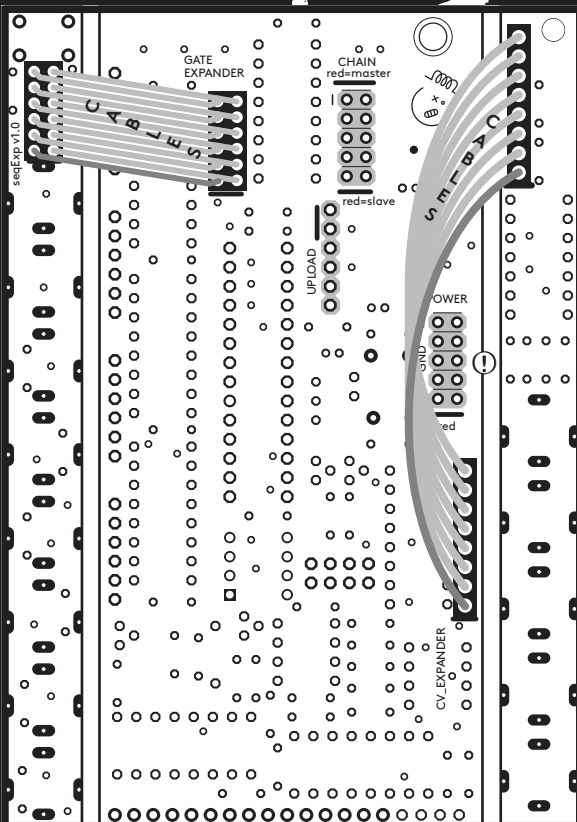
- 2HP width
- connects to the popcorn sequencer

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EX

# B

BASTL



## POPCORN GATE OUT EX.

Adds individual gate outputs for every step, plus a jump button which allows you to change steps manually.

### instruction

F

Holding the JUMP button and pressing one of the STEP buttons will make that step ACTIVE. The sequencer can change the step only after the STEP button is released again.

G

The Gate Outputs correspond to steps 1-8. The expander ALWAYS outputs the gate for the current step regardless if the gate is set to ON or OFF in GATE MODE. The gate time is the global gate time. If gate time is fully CW the gate holds HIGH while the step is active. The gates are 0-5 volts.

### features

- individual gate output for every step
- jump button – hold jump and press a step button to jump to that step

### technical details

- 2HP width
- connects to the popcorn sequencer

## connecting the expander

Follow the diagram to connect the ribbon cable to the Popcorn. Please make sure the polarity of the cable is not reversed!

