Poly Switch 1 to 8

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This module switches a poly input signal to one of eight poly output jacks.
Selection is done either by ***GATE*** signals or a ***CV*** voltage.
A ***trig out*** pulse occurs when a valid selection changes.
Hold function can be enabled by a ***hold in*** signal or a ***HOLD*** toggle button.

With disabled HOLD function a selected output delivers same voltage as is received at ***signal in*** jack, as long as selection is active. When selection gets inactive, all outputs deliver no (zero) voltage.

When HOLD function is enabled, an output voltage stays at last selected out jack with that value, that was in the moment, when selection became inactive.
So **Switch 1 to 8** can be used as sample & hold device.

Poly input jack for any signal voltage.

If ***ENABLE*** is toggled on, output selection is done by ***cv in***, else by ***gate*** inputs.

Two small knobs are used to set minimal and maximal CV. For selection of a distinct channel, maximum should be set a little higher than highest voltage in order to safely exceed threshold for that channel.

default knob values:

cv Min	0.0 V
cv Max	4.0 V

Example for default setting:

CV < 0.5 V	no output selected*)
0.5 V <= CV < 1.0 V	output 1 selected
1.0 V <= CV < 1.5 V	output 2 selected
:	
4.0 V <= CV	output 8 selected

An ON voltage (>2.5 V) selects corresponding ***out n***.

If more than one gate jacks get an ON voltage, only the output with the highest number will be selected.

LED indicates output selection.

a) Equals ***signal in*** voltages when active, otherwise 0 V.

b) When HOLD is active: static ***signal in*** voltage, that was sent to the input jack, before output selection changed.

Toggled button enables hold function.

An ON voltage (>2.5 V) enables hold function.

Sends a 1 msec pulse (5.0 V) when an output selection changes. There will be no pulse, when no output gets selected.

*) With activated HOLD function and falling CV, output #1 will stay selected even at much lower CV voltage than ***cv Min***.

Internally step voltage for a selection from one channel to next is calculated as:

Vdiff = (cvMax – cvMin) / 8

For default knob values *Vdiff* will be

Vdiff = (4 – 0) / 8 = 0.5 V

Channel #1 will be selected when

Vdiff < CV < 2 x Vdiff