



SIGNAL SWITCH

Manua V1.0

The SIGNAL SWITCH module is a "MUTE" module consisting of eight identical stages. Using "vactrol" helps to avoid annoying clicks when turning your signals on/off passing through the module, and adds an interesting slight OUT fade. The MUTE of the signals is thus clean and discreet. Additional features available are explained later in this manual.

What is a "vactrol"?

More commonly known as an optocoupler, it is an electronic component made up of two elements integrated into a single box:

- a light emitting diode (LED) and
- a photoresistor (which has the particularity of having a very high resistance in the dark, and which drops when exposed to light).

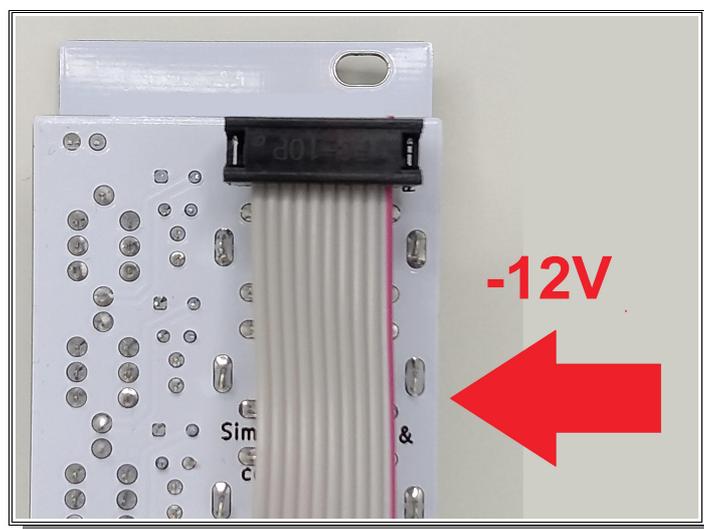
In our case, the application of a voltage to the LED (via the luminous push buttons) causes an emission of light which is captured by the photoresistor. This will therefore "open" or "close" the path taken by the signal.

The "vactrols" used here have been carefully selected not to color the sound or degrade it (no distortion or hiss).

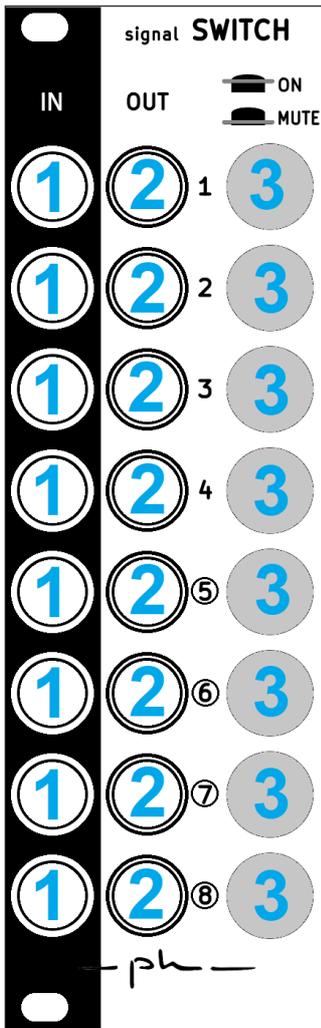
Connecting the ribbon cable

! Be careful to always respect the connection direction of the tablecloth: by convention, the colored part (usually red / pink) of the ribbon represent **-12V** !

Note : on all PCB — ph —, the -12V « red line » is screen printed near the power connector.



Presentation



1: 3.5mm jack inputs

2: Outputs on 3.5mm jack

3: Illuminated MUTE button

A jumper on the back allows the internal routing of the module to be split into two independent stages.

Explanations

A signal entering "IN" and coming out "OUT" can be muted by the activation of an illuminated push button.

ON = Button pressed, LED lit, the incoming signal is directed to the output and therefore remains audible.

MUTE = Button off, incoming signal is muted. Using "vactrol" avoids an unpleasant click and brings a slight fade OUT.

Normalization:

Internal routing is a passive multiple of input 1:

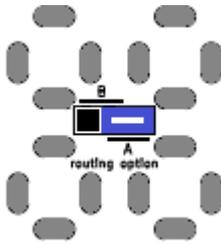
The signal entering input 1 is also routed to the other 7 outputs 2-8 (which retain their own "MUTE" function). Inserting a jack into one of the inputs (2 to 8) breaks the downstream routing. This allows different combinations for its use, depending on your needs.

This routing can be modified using a jumper on the back of the module (see below)

Using the jumper on the back:

Mode A: Internal routing is as described above (1 input to 7 outputs).

This is the standard mode of the module.



Mode B: Internal routing is split in two.

The signal entering Input 1 is also routed to Outputs 2-4 (which retain their own "MUTE" function). Inserting a jack into one of the inputs (2 to 4) breaks the downstream routing.

The signal entering Input 5 is also routed to Outputs 6-8 (which retain their own "MUTE" function). Inserting a jack into one of the inputs (6 to 8) breaks the downstream routing.

Note that the circles surrounding the numbers 5 to 8 represent this mode, symbolizing the two independent stages thus created.



Characteristics

Size 8hp (4 cm), epoxy black panel 1,6 mm.

Deep : 25mm with connector (skiff friendly).

PCB in epoxy FR4 dual layer, 1,6 mm. Surface finish HASL.

Ribbon cable, M3 and nylon nuts inc.

Consumption : ~15 mA (+12V) / ~15 mA (-12V)

Components tested and assembled by hand, in Brittany, France.

*thank you for your trust
Feel free to give me your opinion, criticism or wishes ...
Other modules are coming*

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<https://phmodular.com>