

## Thanks for purchasing SWITCH from Plum Audio!

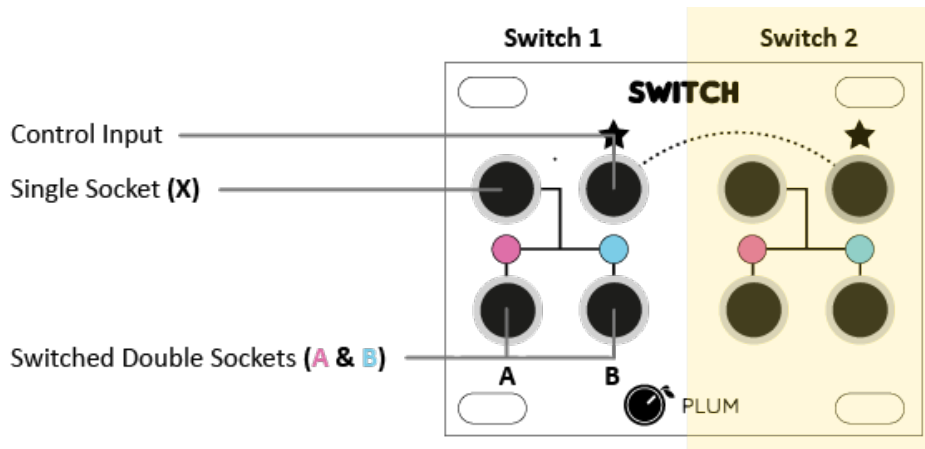
**SWITCH** is a pair of bidirectional Voltage Controlled Switches with selectable threshold in 1U format.

**SWITCH** includes two identical switches; each switch has 4 sockets:

**Control Input** – Connect any voltage source to this input; Gate, CV, LFO or Audio.

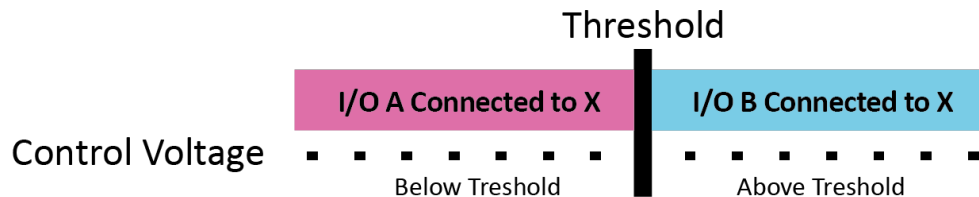
**Top Single Socket (X)** – This is the common Input or Output.

**Bottom Switched Double Sockets (A & B)** – These are the switchable Inputs or Outputs.



### How does SWITCH work:

- Each switch is bidirectional, both the single I/O (X) and the double I/Os (A & B) can be inputs or outputs. Signal can flow in both directions depending on your patch.
- If the voltage that reaches the control input is **LOWER** than the threshold – I/O A will connect to the **Single I/O (X)** and a pink LED above **Socket A** will turn on.
- If the voltage that reaches the control input is **HIGHER** than the threshold – I/O B will connect to the **Single I/O (X)** and a light blue LED above **Socket B** will turn on.
- Control Input of Switch 2 (right section) is daisy chained (normalized) to the Control Input of Switch 1. If nothing is connected to this input - Control Input 1 will control both switches.



### Selecting The Switching Threshold:

On the back of the module there are 2 jumpers for choosing the threshold for each switch. The upper jumper is for Switch 1 (left section) and the bottom jumper is for Switch 2 (right section).

When the jumper cap is set to the top position (on each of the jumpers) - the threshold is set to around **2.5v** to support CV control by unipolar signals (e.g., gate signals or CV sequencers).

When the jumper cap is set to the bottom position (on each of the jumpers) the threshold is set to **0v** to support CV control by bipolar signals (e.g., LFOs or Oscillators).

\*\* From version 1.1 there are 2 small trimmers on the back of SWITCH they are used for precise setting of 0v threshold.

You can set different thresholds for each switch (i.e., Right Switch at 0v and Left switch at 2.5v etc.)



# PLUM AUDIO

## Usage:

**SWITCH** handles very fast switching speeds and can work with control signals above audio rate (up to 30kHz!) therefore it can be used for a wide range of functions ranging from controlled mute, routing sound sources to or from different modules, choosing between different modulation sources / sequences or using it as a modulator at audio rate frequencies.

## Patch Ideas:

### Slow Unipolar Switching (2.5v Threshold):

- 1. Controllable Mute:** Connect the signal you wish to mute to **Socket B**, leave **Socket A** unpatched and connect a gate from your sequencer to the **Control** Input. When the Gate is Low the signal is muted, when the Gate is High the signal is unmuted. You can replace the Gate control with an LFO (with 0v threshold) to get a tremolo effect.
- 2. Filter Switching:** Connect your oscillator to **Socket X** and connect **Sockets A + B** to two different filter modules. Use a CV sequencer or a random source to the **Control** Input to control which of the filters will receive the signal from the oscillator.
- 3. Melody Switching:** Connect two different melodies from your sequencer to **Socket A + B** and connect **Socket X** to the V/OCT input of your oscillator. Connect a Gate signal to the **Control** Input to choose which of the melodies the oscillator will play.

### Fast Bipolar Switching (0v Threshold):

- 4. Audio Modulator:** Use 3 oscillators and connect them to **Sockets A, B** and **Control**. On **Socket X** you will get a combination of the 3 oscillators. Play with the frequencies of the oscillators to get different flavors.
- 5. Tom's Stereo Enhancer:** The idea in this patch is to switch the signal between left and right in each wave cycle of the oscillator. In order to do this you will need an oscillator with a sub output (like RO'VED aux output in square sub oscillator mode, like the Core output of Joranalogue Generate 3 or the SUB output of the bottom section of Instruo CSL). Connect the signal from your oscillator to **Socket X** of one of the switches, connect the SUB output of the oscillator to the **Control** input, connect **Socket A** to the left input of your stereo mixer and **Socket B** to the right input of your mixer.  
(\* Thanks to Tom Barami for this idea).

**Power supply requirements:**

- **SWITCH** requires a **-12V/+12V** power supply (2x5 pin connector).
- **SWITCH** draws **5mA** from the **-12V** rail and **2mA** from the **+12V** rail.

**Installation instructions:**

- **SWITCH** is made according to the **Intellijel 1U standard** and should only be installed in cases that support the **Intellijel 1U standard**.
- Before connecting **SWITCH**, make sure to **turn off your case's power supply**.
- Connect one side of the supplied ribbon cable to the power header of **SWITCH** and the other side to your case's power bus board.  
The red stripe of the ribbon cable (-12V side) must be oriented to the same side as the "Red stripe" marking on the header.
- Use the 4 supplied screws to mount **SWITCH** to a free 10HP space in the 1U row of your Eurorack case.