

KNOBI

macro controller



KNOBI is a multi-tool able to mix, attenuate, invert, display and multiply any kind of signal.



why

- To combine distinct cv sources into one and attenuate / invert the resulting signal.
- To display the value of any voltage within your modular system.
- To output a fixed and thermally stable 5-volt reference.
- To combine all the functions above for the ultimate CV and audio mangler.

with

- Sequences – alter them into the oblivion.
- Drums – use the dedicated 5-volt manual gate as a trigger.
- Audio and CV simultaneously – use the range switch to stretch complex waveforms and sweeps.
- Unknown signals – read the built in 3 digits meter to interpret their value and act accordingly.

how

Knobi can serve a wide range of purposes – *not only to pass butter* - and this is true thanks to its internal signal path that makes use of some of the most useful building blocks of analog synthesis: a 4-channel mixer, a three-range offset, an attenuverter, a fixed manual gate and lastly a cascading multiple derived from the output stage of Agogô.

a, **b**, **c** and **d** are *Knobi's* inputs while **r** is a fixed 5v reference output. The toggle switch next to **d** sets the range of the offset – the big knob below the meter. Connect a signal into one of the inputs to visualize its voltage value in the three digits meter. Keep in mind that this reading happens post offset and attenuverter – the smaller knob with (-) and (+) indications.

The pushbutton next to **x4** adds a gate of 5v to the mix: with no input connected it will act as a manual gate output. Autopatch the **r** reference output into one of the inputs to use *Knobi* as a macro controller thanks the offset knob and switch to set the range and the attenuverter.

x1, **x2**, **x3** and **x4** are all cascading copies of the final signal path. Plugging a cable will break the normalization and the multiplication will reset starting from the next output. Four cables plugged in will output a copy at the same factor **x1** - unity gain – making *Knobi* a versatile buffered multiple.

features

- Thermally compensated 5v voltage source with dedicated output.
- Four channel mixer with four buffered output.
- Built in 3 digits voltage meter post mix / attenuation / inversion.
- Offset with a dedicated three positions range toggle.
- Manual gate button tied to the mix.
- 4 cascading outputs in an open design configuration.
- Unique signal path: mix – attenuate – invert – add – visualize – multiply.
- “Whatever” power connector a.k.a. don't mind the polarity.

specs

- dimensions ⇒ width 6HP, depth 25mm.
- current draw ⇒ +12V 50ma, -12V 30ma

Demos and build documentation at jolin.tech/knobi