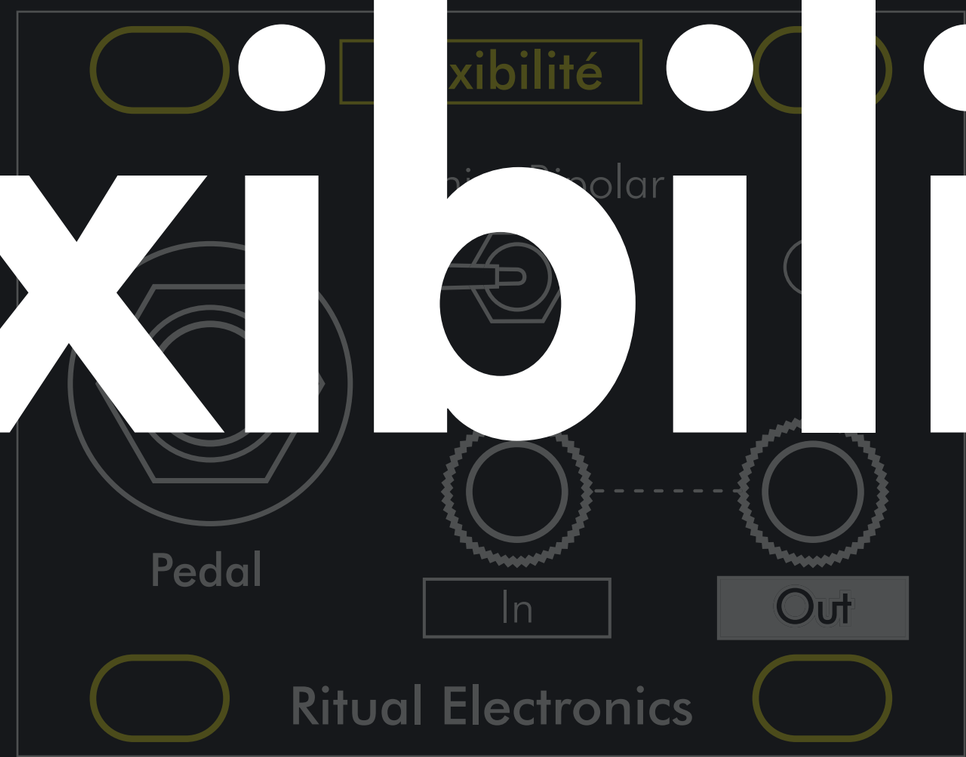
Flexibilité

Ritual Electronics



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Flexibilité

n.f. *fle.xi.bi.li.te*\

“The enforcement of regulations resulted in a lack of flexibility.”

Flexibilité

Thank you for purchasing Ritual Electronics Flexibilité.

Your module has been assembled with care in our studio in Marseille, France.

You can find your module on Modulargrid:
https://www.modulargrid.net/e/ritual-electronics-flexibilite

For any remarks and informations, contact us at:
contact@ritualelectronics.com

For video demos and patch ideas check:
https://www.youtube.com/ritualelectronics
https://www.instagram.com/ritualelectronics

Limited warranty

Ritual Electronics warrants this product to be free of defects in materials or construction for a period of one year from the date of purchase.

Malfunction resulting from wrong power supply voltages, backwards or reversed eurorack bus board cable connection, abuse of the product or any other causes determined by Ritual Electronics to be the fault of the user are not covered by this warranty, and normal service rates will apply.

During the warranty period, any defective products will be repaired or replaced, at the option of Ritual Electronics, on a return-to-Ritual Electronics basis with the customer paying the transit cost to Ritual Electronics. The return of your module is on us.

Ritual Electronics implies and accepts no responsibility for harm to person or apparatus caused through operation of this product.

Installation

Always turn your eurorack case off before plugging or unplugging a module.

Do not touch any electrical terminals when attaching any Eurorack bus board cable.

As the 1U series does not have a shrouded header, so remember:
RED STRIPE DOWN

Ritual Electronics Flexibilité requires:
10mA on +12V
7mA on -12V
0mA on +5V

You will need 10HP of free space in your Eurorack case to install Flexibilité. The module is 35mm deep.

Flexibilité is a 1U module, you will need a 1U rack space, either Intellijel format or Pulplogic format.

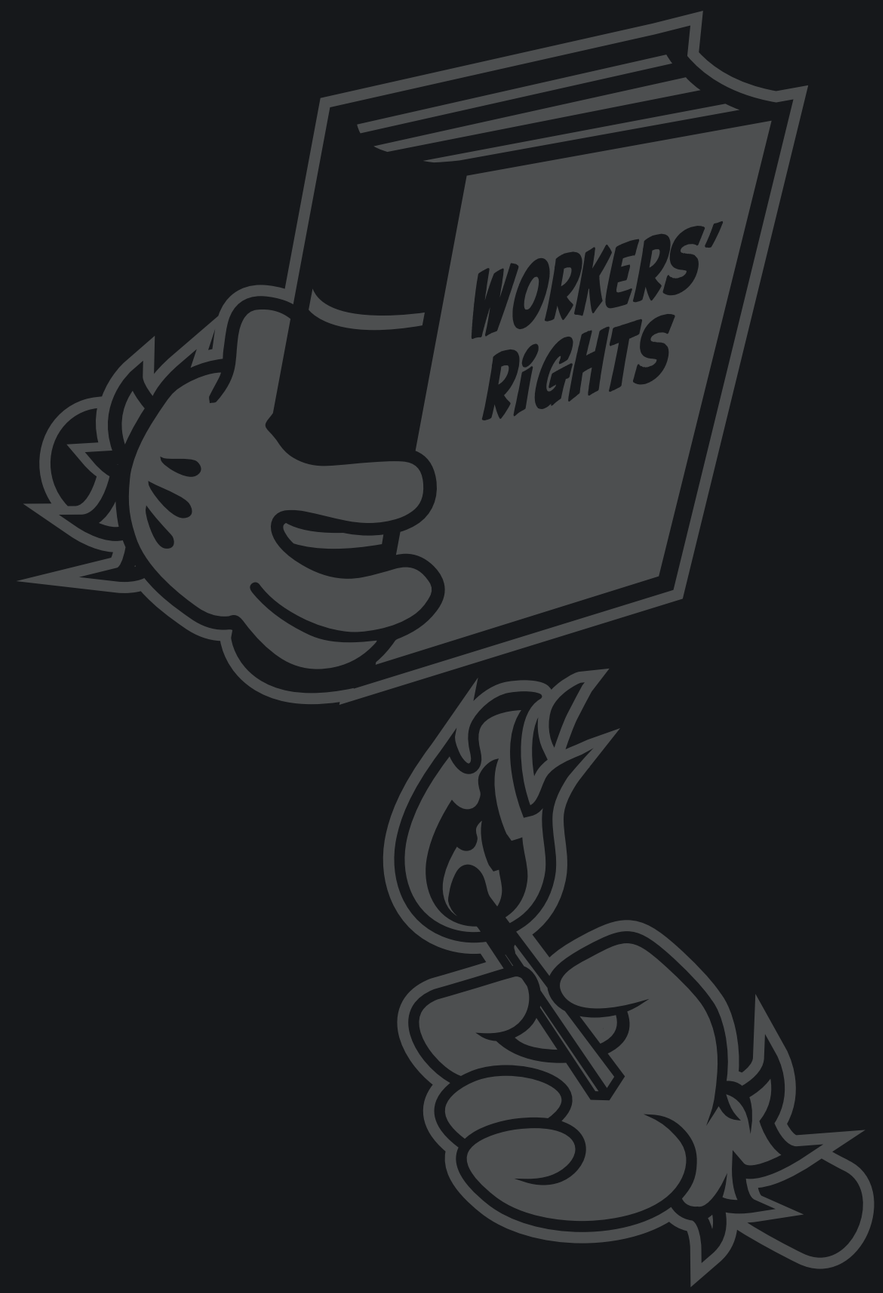
Overview

Flexibilite is a fairly simple and useful module. Plug an expression pedal into it and use your foot to control your system.

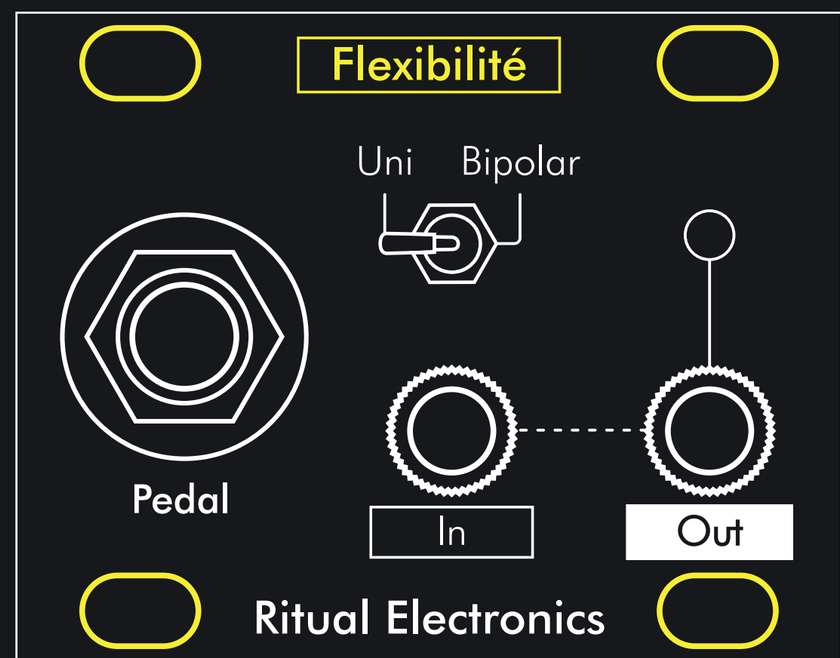
By default it generates a 0-5V signal (unipolar) or a -5/+5V signal (bipolar), attenuated by the foot pedal.

Flexibilité has an input for external signals, so it can be used as a volume pedal on audio or attenuator/attenuverter on CV signals.

For when you need this extra hand!



Flexibilité controls



Pedal
Plug your expression pedal (TRS jack)
See next page

Uni / Bipolar switch
Chose between unipolar or bipolar behavior. *See page 8*

Input
When no jack is plugged in the pedal will rely on internal voltage.
When a signal is present it will be either attenuated or attenuverted

Output
Outputs the attenuated signal

Pedal

What is an expression pedal?

Expression pedals are used to control variable parameters on electronic music equipment such as digital amplifiers, rack effects, stomp boxes, MIDI controllers, and keyboards. The pedals do not contribute to the sound themselves, but remotely control aspects of the device they are connected to. It might help to think of an expression pedal as a remote knob that can be controlled with your foot.

Inside the pedal there's a potentiometer that moves proportionally to the pedal. The potentiometer is connected to an output jack or output cable that attaches to the expression pedal input of the device you are controlling. Unlike an in line volume pedal, there is no 'input' on an expression pedal as it does not connect to the instruments signal chain. There is just the single output that connects to the dedicated expression pedal input on the effect device. The device sends out a control voltage on one conductor of the cable which passes through the potentiometer and then is received back by the device on another conductor. As the pedal is moved up and down, the resistance within the potentiometer changes allowing more or less of the input control voltage to be returned.

Expression pedals are typically passive devices that require no power of their own, with the control voltage being generated by the equipment they are connected to.

If you want to learn more about expression pedals, we recommend this great article by Mission Engineering:
https://missionengineering.com/understanding-expression-pedals/

Polarity

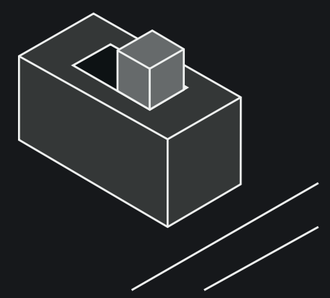
Flexibilité act as the interface

The module sends either +5v or your input signal to the pedal's potentiometer and reads how much of the original signal comes back. To do this you need an expression pedal that use a TRS ("Tip/Ring/Sleeve" or "Stereo") cable. Depending on the model of pedal you're using, the wiring of the inside potentiometer to the cable end might differ.

We decided to provide a polarity switch on the back of the module. As there's no standard in the industry the switch has no label. Most expression pedal already have a polarity switch on them but if it Flexibilité does not seem to be working properly try changing the module's polarity with this little button.

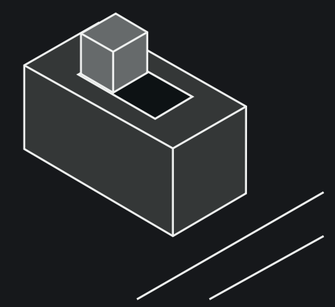
Sadly some pedals use a TS ("Tip/Sleeve" or "Mono") cable and Flexibilité will not work with those.

For an almost exhaustive list of all expression pedals and their respective specs and polarity head over there:
http://expressionpedals.com/list-of-expression-pedals



Polarity A

Bespeco *VM18LU*
Behringer *FCV-100*
Korg *EXP-2*
Zoom *FP02M*



Polarity B

Boss *EV-30*
Boss *FV-50H 2*
Dunlop *DVP3*
EHX Dual *Expression*
M-Audio *EX-P*
Mission engineering *EP-1*

Compatible pedals suggestion.

Unipolar | Bipolar

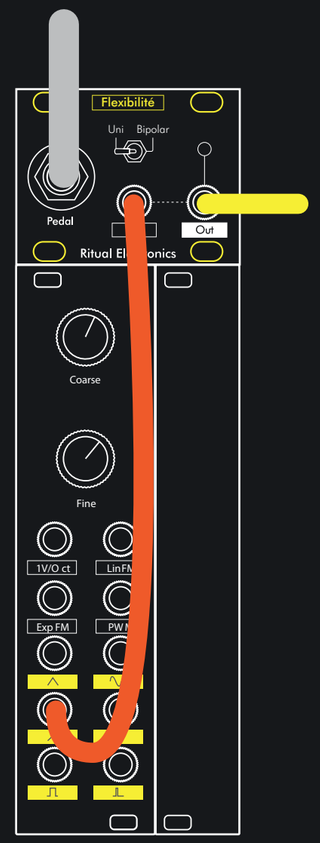
Uni(polar)

With no inputs the module outputs a voltage ranging between 0V (pedal fully closed) to 5V (pedal fully open).
When a signal is present at the input, you will go from no signal (fully closed) to signal multiplied by 1 (original signal, without attenuation)

Bipolar

With no inputs the module outputs a voltage ranging between -5V (pedal fully closed) to 5V (pedal fully open). 0V is obtainable half way through. When a signal is present at the input Flexibilité will act as an attenuverter. When the pedal is closed the signal is multiplied by -1 (signal inversion), halfway through the signal is 0 (attenuation of the inversed signal to 0, then attenuation of the original signal), when the pedal is fully open the signal is multiplied by 1 (unattenuated).

Patch ideas



Patch #1 - Violoning made easy

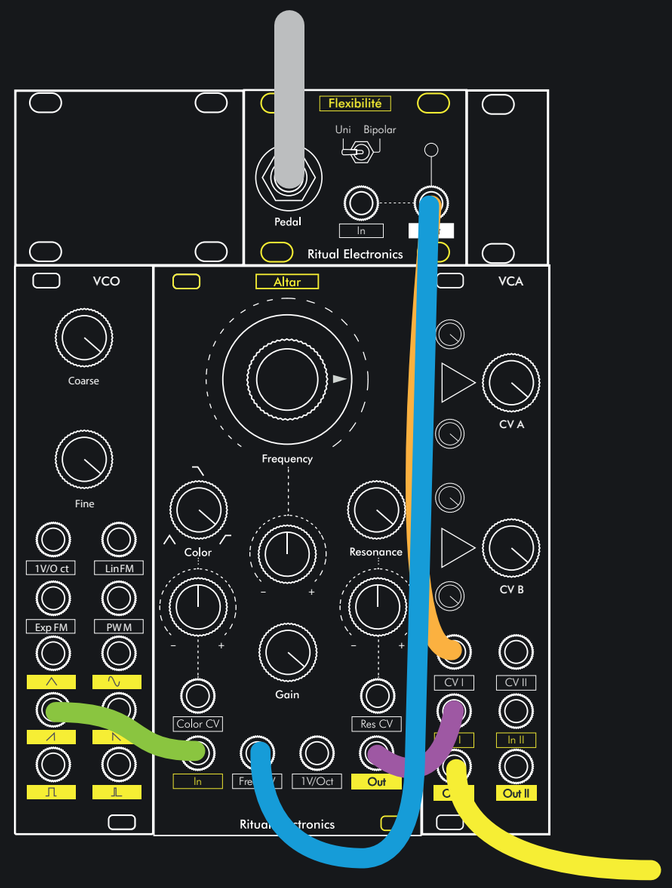
Violoning is very popular in ambient guitar playing. It uses a volume pedal as an enveloppe to cut the attack of the guitar, resulting in a bowed sound.
Save yourself a VCA and an enveloppe and use a pedal instead!

Patch notes

Whatever, audio out ——— Flexibilité, In

See next page for next level violoning

Patch ideas



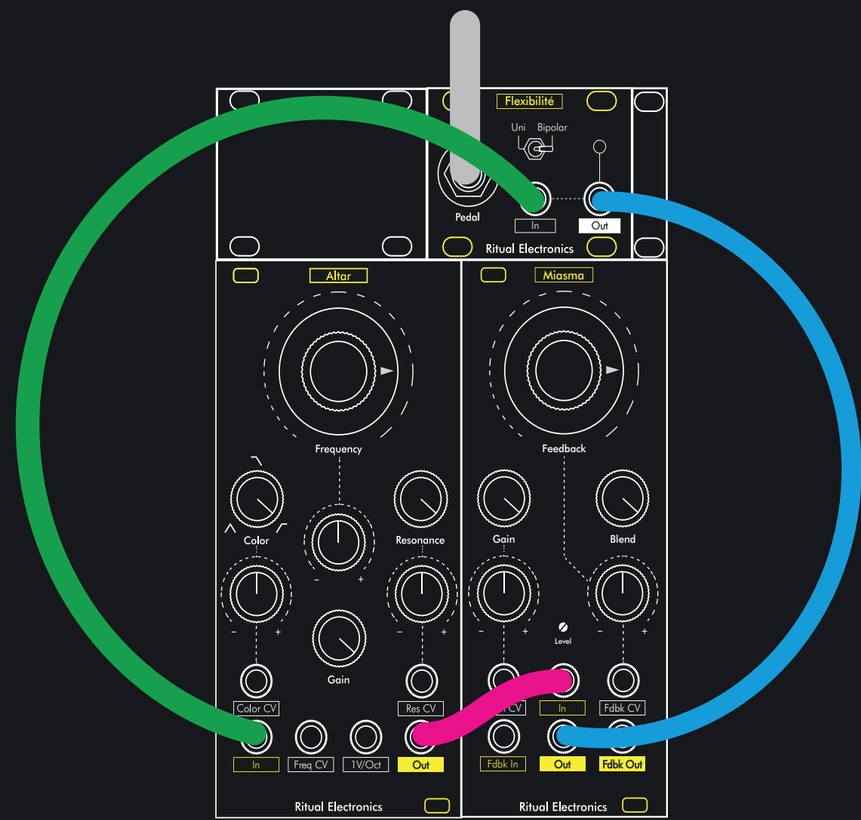
Patch #2 - Violoning LVL.2

If you have a spare VCA, and a filter in your violoning patch try this one out. It is slightly more complex but achieve great results.

Patch notes

Oscillator, Saw out ——— Filter, In
Filter, Out ——— VCA, In
Flexibilité, Out ——— VCA, CV In
Flexibilité, Out ——— Filter, CV In

Do not hesitate to mult the output of Flexibilité and send it to many patch points with different attenuations/attenuversion levels!



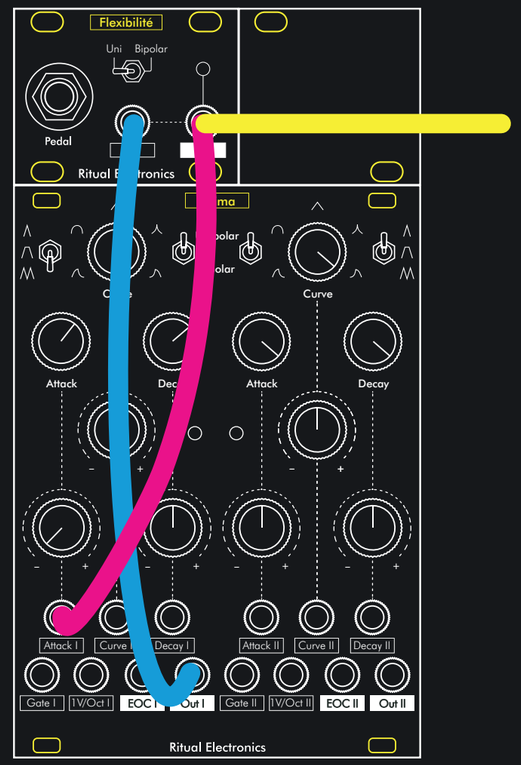
Patch #3 - Phase inversion

Inverting the polarity of a control signal is quite common.
Inverting audio phase is less used in modular. It is very handy in feedback patches where it can have drastic changes.
Use Flexibilité in attenuverter mode to control phase reversal.

Patch notes

Whatever, audio out ——— VCA In
VCA, VCA out ——— Guillotine In
VCA, VCA CV ——— LFO / Enveloppe

Of course, use two VCAs and one or more CV source for stereo gain control



Patch #4 - CV feedback

As you open Flexibilité, the input gets less attenuated.
Now if you control a parameter of the module you use as an input with the output of Flexibilité... Feedback.
Here, we have an LFO patched to Flexibilité. As you increase the intensity of the modulation, the LFO will go faster.

Patch notes

Anima, LFO out ——— Flexibilité, In
Flexibilité, Out ——— Anima, Attack/Decay CV in
Flexibilité, Out ——— Oscillator, In

This type of patch is useful when used as “mod wheel”