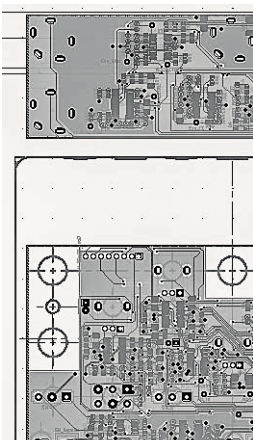
All Animation
pocket companion

Pedal Markt
Berlin, 2022

OVERVIEW

All Animation is a crossfader, a signal router and an envelope follower. Use it to build your own dynamic effects and feedback machines: mixers, gates, auto-swell and tremolo effects. Control it using CV or Expression, or use it to control other CV-enabled devices.

The FADE section lets you combine signals coming from two effect chains and control the mix using knobs, footswitches and voltages.

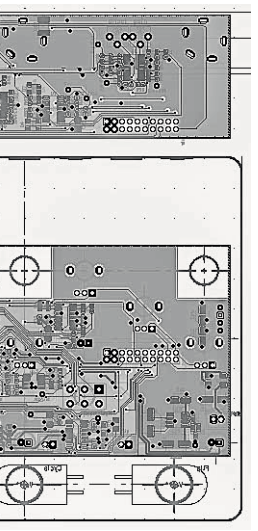


The route toggle lets you choose between running effects in parallel or in series.

The TRACE section is an envelope follower that outputs the loudness of a signal as a voltage. You can use that voltage to control other parts of All Animation or external gear. Trace the pedal input, one of the returns or an external signal.

FADE

FADE lets you gradually crossfade between A RETURN and B RETURN signals. Use the range knob by itself or in combination with an expression pedal or a CV source to control the position of the crossfade.



The range knob acts as an attenuverter: the range of the fade curve is going to be zero when the knob is at noon. In that position, both A RETURN and B RETURN signals will be at 100% independently of the CV or Expression going into the FADE input jack. In the fully counter-clockwise position, CV values 0V to 5V would fade from 100% A RETURN to 100% B RETURN. When the range is full clockwise, the direction of the fade is reversed.

You don't have to use the FADE input jack to do the crossfading. With nothing inserted, the pedal would go between full A RETURN with the range knob counter-clockwise to full B RETURN with the knob turned clockwise.

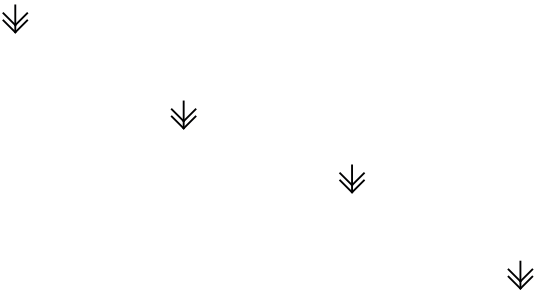
FADE WITH EXPRESSION PEDAL

Expr. DIP-Switch

By default the FADE input jack is set up to take CV only, not expression. That way you can use normal TS (mono) patch cables for that input. If you'd like to use it with an expression pedal, flick the expression dip-switch on the inside of the pedal to the ON position. In that case you can use the input with both CV and expression, but you would have to use TRS (stereo) patch cables for the FADE input.

Smooth DIP-Switch

The FADE input jack is sensitive, sometimes too sensitive. If you hear unpleasant scratchy noises when using an expression pedal, flick the smooth DIP-switch on the inside of the pedal to the ON position.



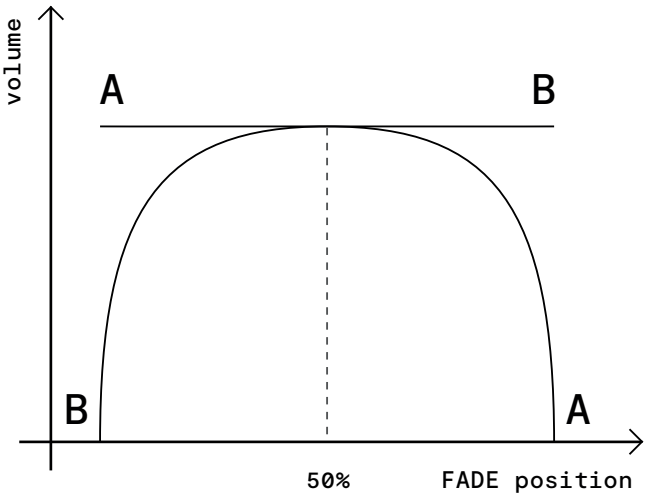


Fig. 1: FADE curve

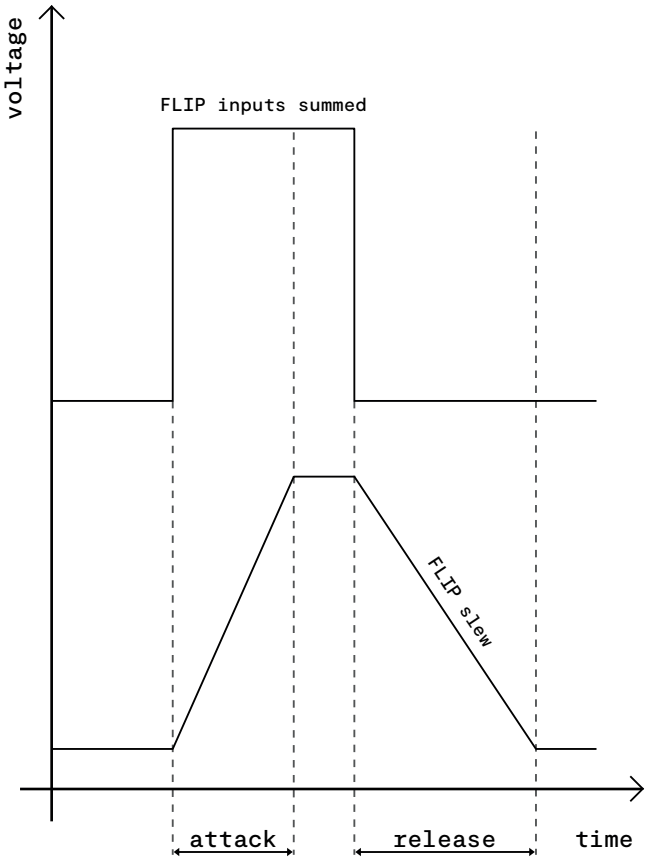


Fig. 2: FLIP curve

FLIP

FLIP lets you smoothly reverse the position on the FADE curve. 20–80 fade becomes 80–20, 45–55 becomes 55–45 and so on. The attack knob controls how fast the FLIP happens. The release knob – the time it takes to settle back into the original position on the FADE curve once the FLIP is disengaged.

FLIP can be triggered via the footswitch or via a 5V gate input.

→ *Tip 1:* plug in a gate sequencer into FLIP to move between effect chains in time with the main beat of the song.

→ *Tip 2:* plug in the TRACE output into FLIP to create dynamic effects: compressors, expanders, auto-swells. Plug in an external signal into TRACE input for a sidechain effect.

CYCLE

It is possible to CYCLE the FLIP. That way the pedal would move back and forth on the fade curve with the speed controlled by the attack and release knobs, the depth controlled by the original position on the FADE curve.

TRACE

TRACE is an envelope follower. Use it to turn the dynamics of your IN, A RETURN, B RETURN or external signal into control voltage. Patch that control voltage back into All Animation to create gate, compressor and swell-type effects or send it into external gear.

The sens knob controls the sensitivity of the envelope follower. The form toggle controls the shape of the TRACE output. The options are gate, continuous or trigger.

→ *Tip:* Patching an external signal into TRACE IN gives you a sidechain: a way to control the FADE or FLIP section using the dynamics of that external signal.

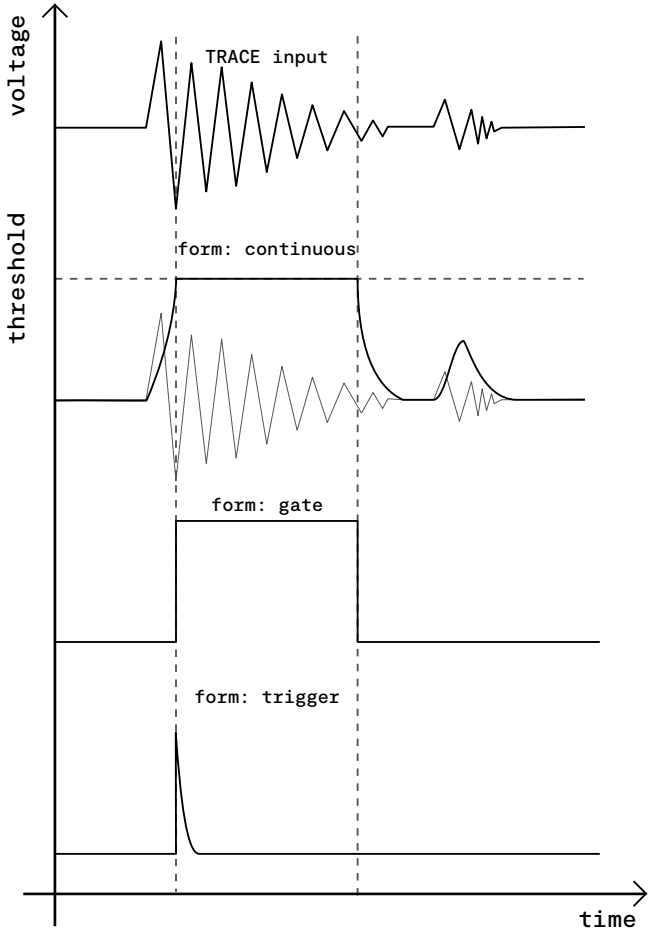


Fig. 3: Tracing a signal

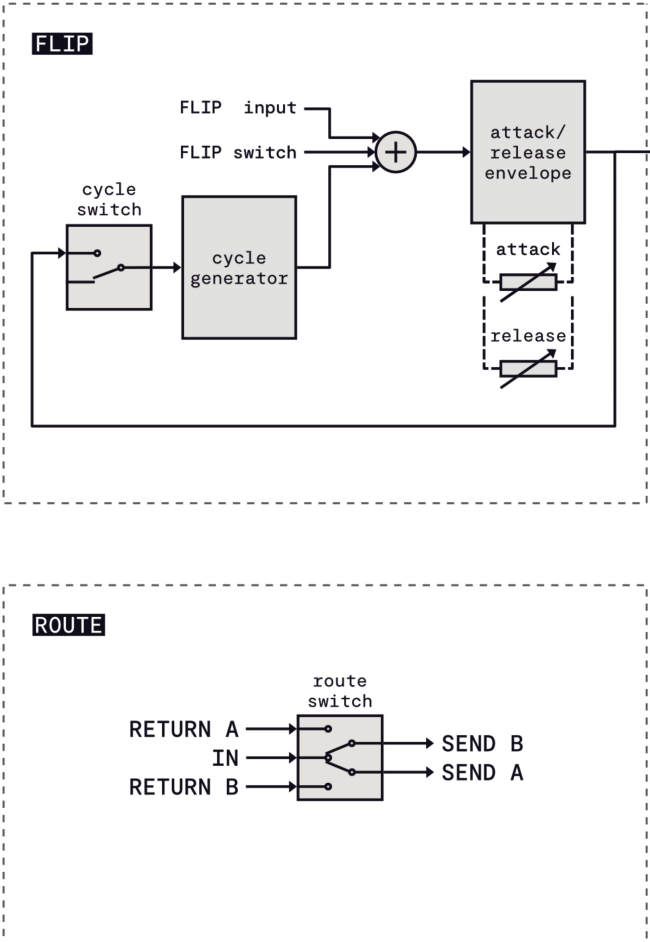
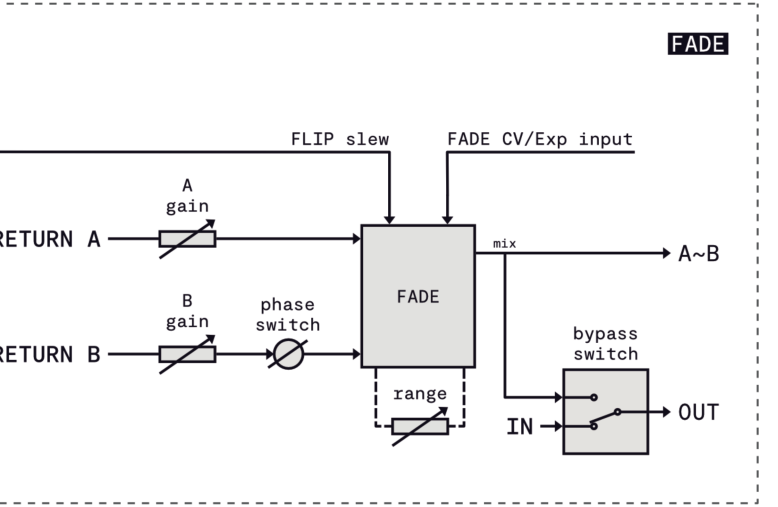
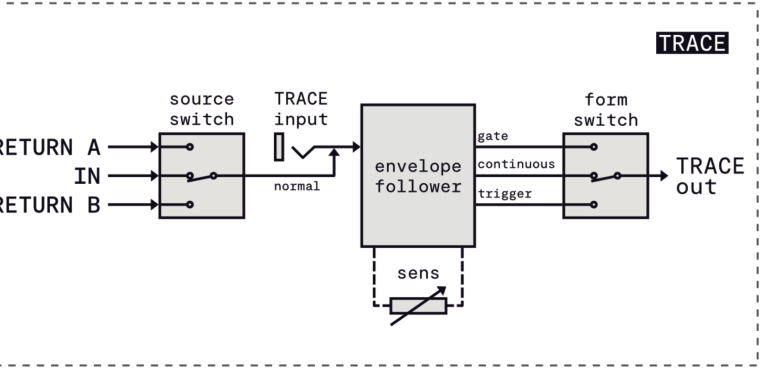


Fig. 4: Block diagram





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ROUTE & PHASE

There are several options for routing using All Animation:

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IN → A SEND & A RETURN → B SEND
IN → A SEND & IN       → B SEND
IN → B SEND & B RETURN → A SEND
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On the default setting, with the route switch in the center position, the IN signal is split and sent into A SEND and B SEND. This setting is for running effects in parallel.

The other two settings send the output of one chain into the other chain. Use them for running effects in series.

All Animation also has a second always active output (marked A~B). It has the exact same signal as OUT, except it is not affected by the BYPASS switch. Use it for making feedback patches.

Some effects will invert the phase of the input signal, and that will affect the mix when running them in parallel. Use the phase switch to invert the phase of B RETURN.

PATCH IDEAS: DIRT BODY – CLEAN TAIL

A good occasion to run effects in parallel is when you want a sound with an aggressive / compressed attack and gentle tails. Here the input signal runs through both dirt section and time-based effects. You get the best of both as a result.

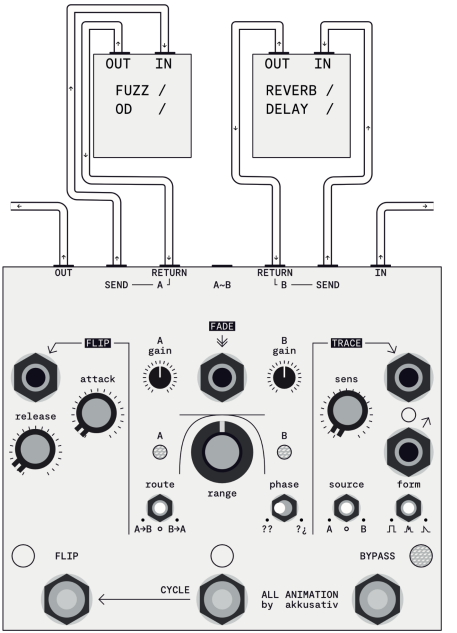


Fig. 5: Dirt body - clean tail patch

PATCH IDEAS: GATED REVERB

Use this patch when you want an intense effect to be present only when you play and fade out when you stop.

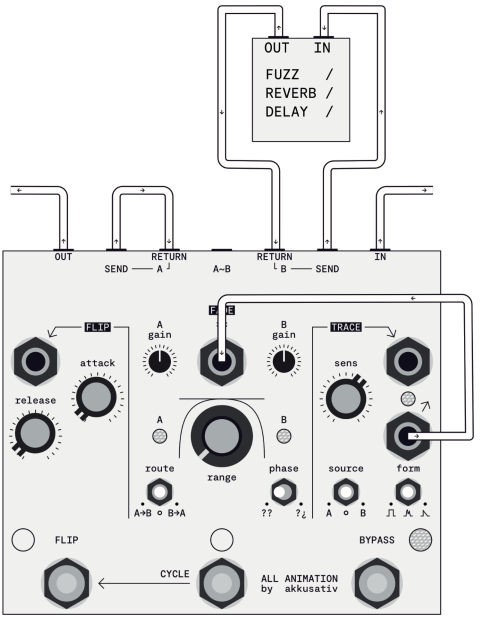


Fig. 6: Gate patch variation 1

Change the TRACE output switch to the gate option and run TRACE out into FLIP in for more control over onset and completion of the transition.

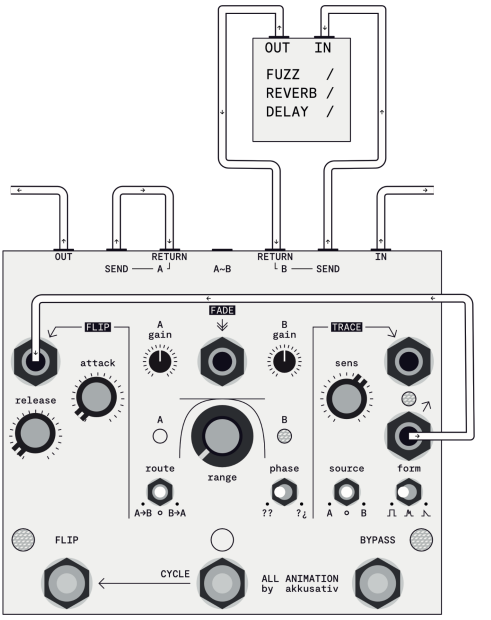


Fig. 7: Gate patch variation 2

PATCH IDEAS: FEEDBACK SYSTEM

Run any effect chain into itself with A~B output.

Use the gain controls and the FADE section to control the amount of feedback. Use the TRACE section to control that feedback loop in response to the input or other signal.

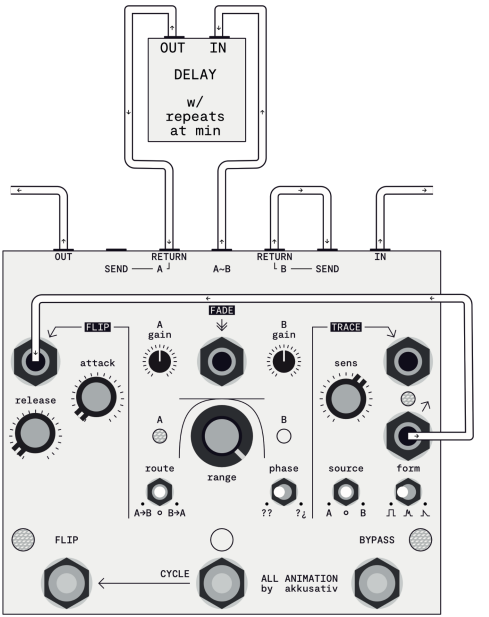


Fig. 8: Feedback system patch

TECHNICAL DETAILS

- Dimensions: 145mm x 130mm x 70mm (5.7in x 5.1in x 2.8in)
- Power requirements: 9VDC 150mA
- Impedance of audio inputs (IN, A RETURN, B RETURN, TRACE IN): 1M Ohm
- Impedance of CV inputs (FADE input, FLIP input): 100K Ohm
- Impedance of all the outputs: 1K Ohm
- Range of CV signals (FADE in & out, FLIP in): 0V–5V

REPAIR

All Animation comes with a 2-year warranty from akkusativ. That means we will repair or replace the pedal for free during 2 years from the original date or shipment.

This warranty does not cover loss or theft, damage caused by misuse, abuse, unauthorized modification, improper storage, or natural disasters. Damage caused by any of the above circumstances may result in a non-warranty repair fee.

The shipping costs to and from akkusativ are not covered by the warranty.

After the 2-year period we can repair the product for a reasonable fee.

Please send questions and repair requests to hey@akkusativ.cc

END OF LIFE

We will strive to provide spare parts and repairs for our products for as long as reasonably possible. Once the production of All Animation is discontinued, we will publish all the necessary resources under an open-source license so that people can repair and modify their devices.

ACKNOWLEDGEMENTS

All Animation would not have been possible without support and contributions of these people:

Tracy Goodsmith – for the original proposal of a mixer with a flip function and support of the early prototypes of what later became All Animation.

Kim Rosario – for all the hard work and support starting and running Pedal Markt.

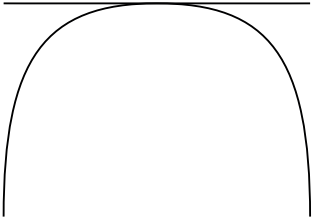
Cristina Amate – for every video of All Animation and Pedal Markt.

John Snyder from Electronic Audio Experiments – for open-sourcing some of the EAE designs, running an amazing Discord community and reviewing the All Animation schematic.

Sascha from suchahardman.com and Christian Maniewski – for inspiration, sharing knowledge and electronic components :)

Open-source hardware community has been instrumental in what we do. We owe it to the people that share their knowledge and designs online. If you are interested in electronics of music instruments, check them out:

- Berlin Modular community
- Aaron Lanterman
- Moritz Klein
- Steve Demedash
- Matthew Skala (North Coast Synthesis)
- Mutable Instruments
- Winterbloom
- Synth-DIY mailing list
- Casper Electronics
- Kristian Blåsol



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