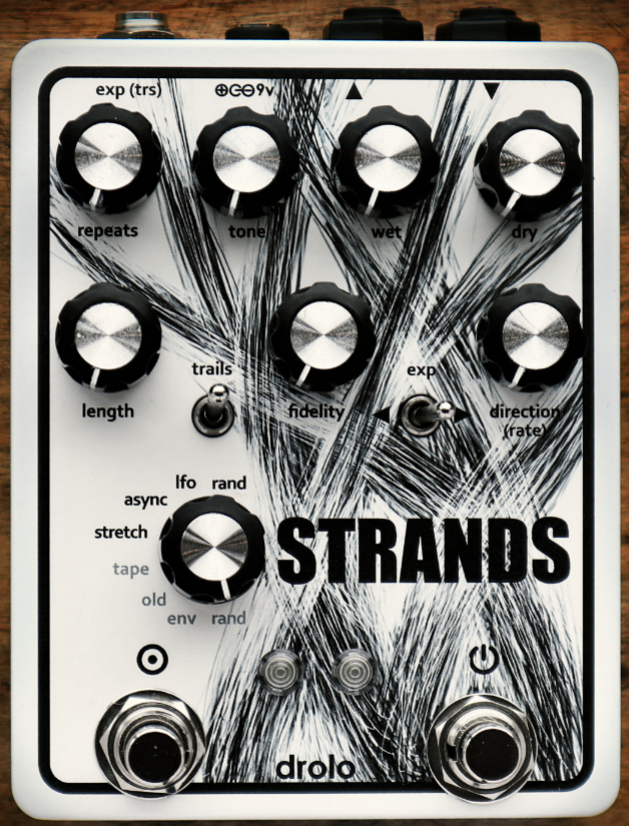
Strands

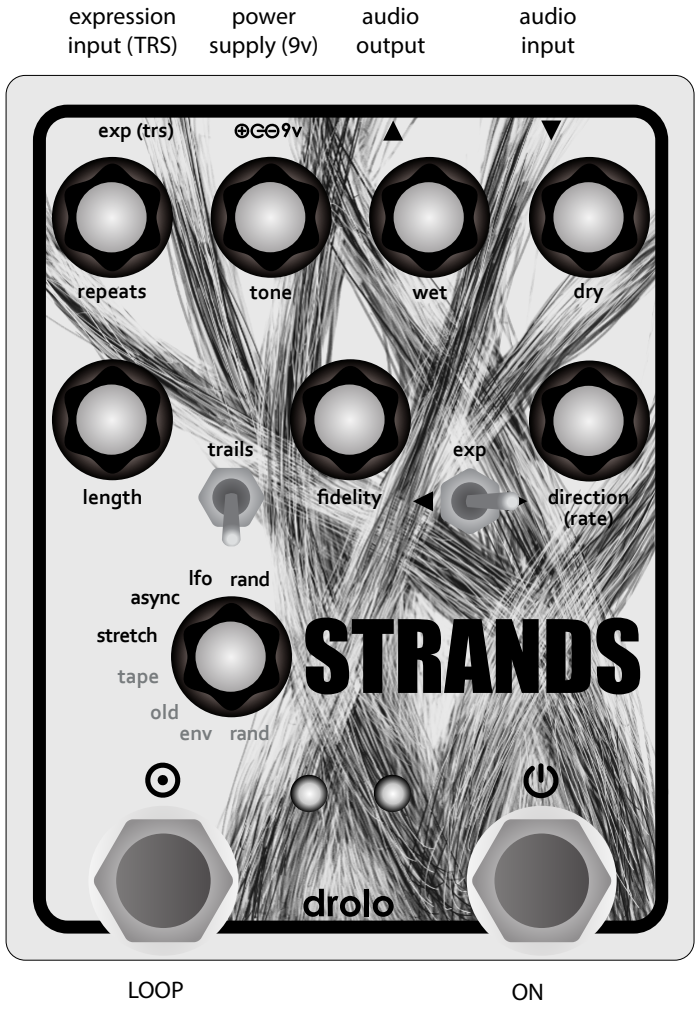


Strands is a delay/micro looper with two main operation modes, time stretch and tape looper, that come in 4 variations each.
It can be used like a delay pedal, loop short audio bits, create evolving rhythmic or melodic patterns...

The overall memory size, delay and looping time, can be adjusted with the fidelity knob. Turning it up will increase the audio quality, but reduce the memory size, and vice versa. The audio memory varies between a bit less than a second to a bit over 3 seconds. The fidelity knob will also have an effect on other aspects of sound processing, like filter ranges, response of time based elements like LFO's, envelope detectors etc.

The left footswitch allows you to loop the current content of the buffer. As the looped audio is recirculating through the buffer, eventually it will start to degrade, after a few minutes. This too is dependent on the fidelity setting.

Controls



repeats
Sets the amount of repeats/feedback

tone
A tilt EQ ranging from low pass on the left to hi pass on the right. Neutral at noon.

wet/dry
Control the level of the wet and dry signals, with unity gain near the noon position.

length
Overall length of the samples. The exact function of this control varies depending on the mode you're in. (You can check the modes list for details.)

fidelity
Higher settings offer a higher audio quality but a shorter buffer size, and vice versa. At lower settings, you might hear some added noise.

direction/rate
The exact function of this control varies depending on the mode you're in. (You can check the modes list for details.)

trails
When engaged, allows the repeats to fade out naturally when the pedal is bypassed. Be aware that any noise generated by the effect will remain present too when bypassed.

exp
Switch between expression input control over the fidelity or the direction parameter.

mode selector
Switch between the Strand's eight modes. When you select a new mode, the buffer will be purged, and the loop footswitch will reset to the 'off' position.

On footswitch
Engage the pedal.

Loop footswitch
Loop the current content of the buffer.

Both footswitches can work in momentary or latching mode:
A short tap (< 0.3 seconds) will make the switch act in latching mode.
A longer tap will make it act in momentary mode – reverting to its previous state after you release the footswitch.

The time stretch modes

stretch
Audio can be time stretched, with the direction knob altering the amount of stretching and direction of playback. Maximum amount of stretching is at noon. From noon to right, samples will be played forwards, and from noon to left, backwards. The length knob sets the size of the grains that overlap with each other.

async
Same as stretch but the two buffers that are used to overlap each other when stretching time, have slightly different sizes, causing the content of both buffers to slowly drift out of sync. The length knob sets the size of the grains that overlap each other.

lfo
Same as stretch but the amount and direction of stretching varies continuously over its whole range, from backwards to forwards and back, at a rate set by the direction knob. The length knob sets the size of the grains that overlap each other.

random
Same as stretch but the amount and direction of stretching varies randomly over its whole range, at a rate set by the direction knob. The length knob sets the size of the grains that overlap each other.

Recap of the controls for each mode:

	length	**direction**
stretch	sample size	stretch amount/direction
async	sample size	stretch amount/direction
lfo	sample size	rate of the lfo
random	sample size	rate of sample and hold
tape	sample size	playback speed/direction
old	degradation	playback speed/direction
env	envelope sensitivity	playback speed/direction
random	sample size	rate of sample and hold

The tape modes

tape
Records short loops that are played back at a speed and direction set by the direction knob.

From left to right, the settings are:
Reversed – double speed, an octave above
Reversed – a fifth above
Reversed – normal speed, unison
Reversed – half speed, an octave below
Forward – half speed, an octave below
Forward – normal speed, unison
Forward – a fifth above
Forward – double speed, an octave above

The length knob sets the size of the samples.

old
The direction knob sets the direction and speed of the playback, from reverse on the left to forward on the right. At noon the playback stops.

The length knob defines to amount of degradation of the playback that will get increasingly muffled and wobbly as you turn it up.

env
The direction knob sets the direction and speed of the playback, from reverse on the left to forward on the right. At noon the playback stops.

The playback speed will be influenced by the strength of the incoming audio signal. If the signal is below the threshold set by the length knob, the playback will come to a halt. If the signal is strong enough, playback will reach it's normal speed.

random
The direction and speed of the playback will randomly jump to different settings, at a rate set by the direction knob.

The length knob sets the size of the samples.

EXP input:

An expression pedal or control voltage (CV) source can be used to alter either the direction or the fidelity parameter.

When an external expression source is connected to the pedal, the direction or fidelity knob sets the maximum range of the expression input. Most commercially available expression pedals that use a standard TRS plug should work with Strands. However, for optimum results it's best to use one with a resistance value of 10k or higher.

DO NOT USE A TS (MONO) PLUG OR CABLE. This will short out the voltage regulators in the pedal, and may cause permanent damage. You must use a **1/4-inch TRS (stereo)** cable.

The standard TRS connections are:

- tip: controlling pin
- ring: 3.3V supply voltage
- sleeve : ground

You can use a control voltage for expression instead of a resistance-based controller, if you're confident with electronics. However, make sure to consider the required connections, and don't exceed 3.3V.

If you have any questions about connecting something to the expression input, please send me an email and I'll be able to help.

Power Supply:

Strands requires a 9V DC, 100mA center-negative power supply. This is the most commonly used type of guitar pedal power supply, but it's still important to make sure the voltage (9V DC) and polarity (center-negative) are correct, to avoid damaging the pedal.

NOTE: DO NOT RUN THE PEDAL AT HIGHER VOLTAGES.

Because this pedal uses a digital processor that operates at high frequencies, you may hear additional noise if you use it on the same power supply as other pedals (daisy chained). This can happen even when the pedal is bypassed, as the noise may bleed through the power supply into other pedals.

Noise like this is common for pedals with digital processors, and the best way to avoid it is by using an isolated power supply.

Specs:

Input Impedance: 1MΩ
Output Impedance : <1kΩ
Current : 100mA
Dimensions : 127mm x 95mm x 56mm

Thanks, and enjoy!

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