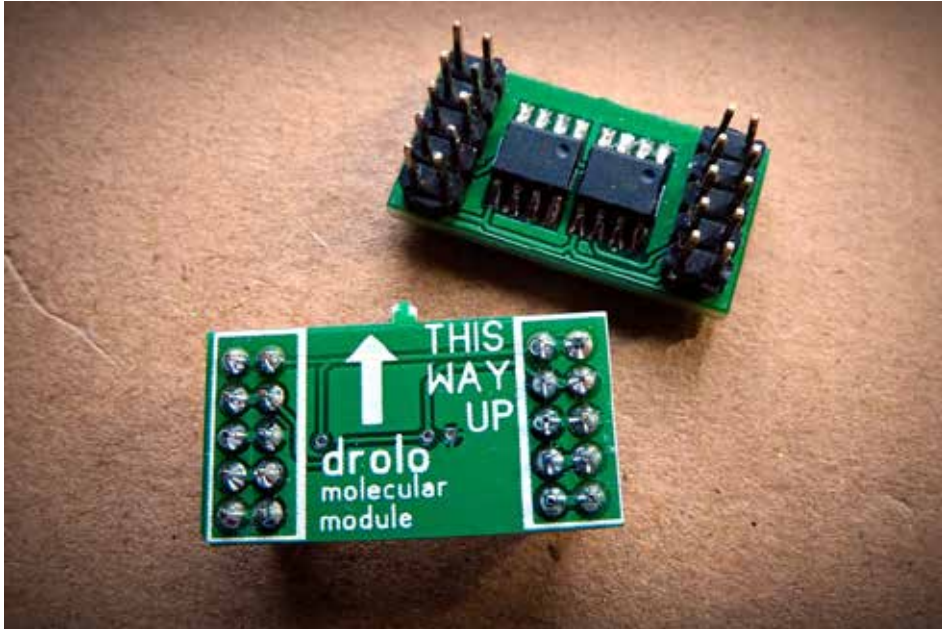


# MOLECULAR DISRUPTOR V3.3



drolo

The Molecular Disruptor is a DSP based multi-effect pedal that can be loaded with 16 effects of your choice from the molecular patches list, which is regularly being updated with new patches. These patches are loaded on swappable “Molecular Modules”:



Essentially, this “à la carte” system allows you to have a pedal that has up to 16 effects tailored to your needs and you can always order a new module if you would like to have different effects.

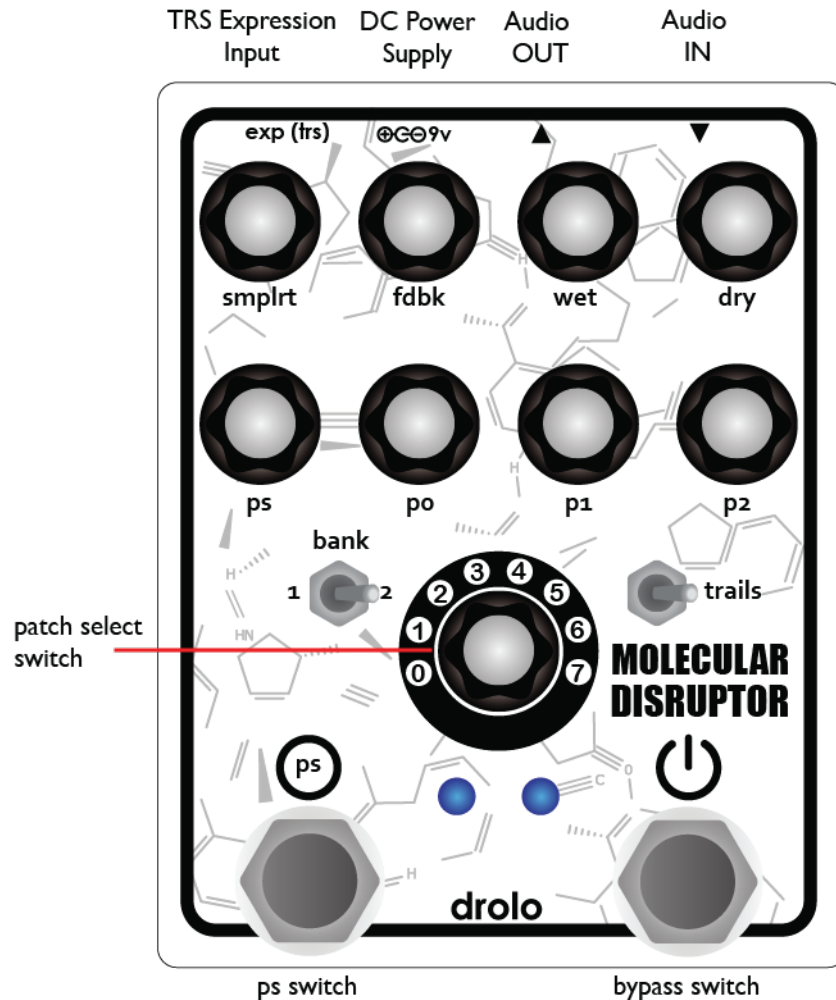
## Power Supply:

The power supply needs to be 9V/100mA center negative like the common BOSS power supplies:



Make sure the polarity of your power supply is correct or it will damage the pedal. Do NOT run at higher voltages.

As the pedal uses a digital processor operating at high frequencies, you may hear some high pitched noise if you use it together on the same power supply with other pedals (daisy chained) even when it is bypassed. The noise can bleed through the power supply into the other pedal's signal. This is normal for such devices. It might not be the case in your particular setup but if you notice that, I would suggest using an isolated power supply.



**bypass switch:**

If you give it a short tap (<0.3sec) it acts in latching mode.  
 If you press it for more than 0.3sec a you are in momentary mode.

**ps switch / ps pot:**

When engaged this switch will allow the setting dialed with the ps pot to override the p0 pot. This switch also has a momentary/latching mode, like the bypass switch.

**trails:**

Defines the bypass mode. If trails are enabled, you get a buffered bypass that leaves the output of the effect passing through when the pedal is bypassed, allowing delays to trail off etc. Note that this will mean that any patch that generates noise may be audible when pedal is bypassed. Disable trails in those cases, so that the pedal uses its relay true bypass.

**bank:**

Allows you to select between 2 banks of patches if you loaded a second module. When you switch to a different bank you need to rotate the patch switch to activate the new effect.

**patch selector:**

Select one of the 8 loaded patches (Note: When you change to a different patch, any sample that was held or looped in the previous patch will be deleted).

**p0, p1, p2:**

Each of these pots controls a parameter whose function will vary depending on the selected patch.

**wet/dry:**

Controls the level of the wet and dry signals. Unity gain is around noon position. (Note: for certain patches, due to a comb filter effect when mixing dry and wet signals that are too similar, you might hear some phasing. Usually these were designed to be used without dry signal, but you can still add it if you like it.)

**fdbk:**

Usually serves as feedback (for example for delay repeats), but depending on the patch it can also be used for other functions or have no function.

**smplr:**

Controls the sample rate at which the DSP chip will run. It goes from around 8kHz to 60kHz. Increasing the sample rate will have different effects depending on the chosen patch but as a general guide, as you decrease the sample rate, the delay/sample times get bigger, the audio quality gets lower and filter ranges get lower. At both extremes of this control you might hear noise as the clock frequency gets into the audio range.

## exp input:

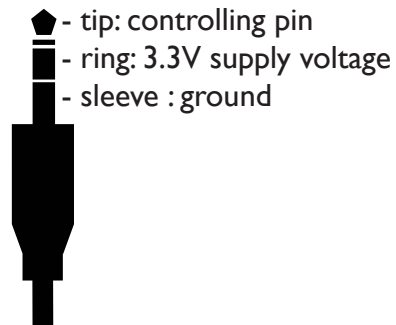
Can be used to externally control pI. When an expression pedal is connected, the pI pot can be used to define the max setting of the expression pedal.

Most commercially available expression pedals using a TRS plug should work. The value is not really critical, although I would not go lower than 10k.

Some examples are the Moog EP-2, Roland EV-5, and M-Audio EX-P.

You need to use 1/4 inch TRS (Stereo) plugs and cables. **NO MONO PLUGS OR CABLES!** These will short out the voltage regulators inside the pedal and damage it.

Here is how such a TRS plug looks like.



If you really know what you are doing you can actually use a control voltage instead of a resistance based controller. But you need to consider the connections and never exceed 3.3V. If you do you will damage the pedal. Use a TRS plug. No Mono plug. TRS, not MONO :)

If you have any doubt when deciding what to connect to the expression input please send me an email and I will verify that everything is safe.

## Replacing a set of patches:

Before you swap a module, you need to unplug the power supply from the pedal. Inside your pedal you will find the socket for the molecular module on the bottom left side of the circuit board. Insert the module, following the «this way up» orientation.

Thanks !  
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