

The illuminated "Dragon Eye" displays the currently selected algorithm.

- RED** - LFO1 and LFO2 are mixed together
- GREEN** - LFO1 modulates the amplitude of LFO2
- CYAN** - LFO1 modulates the frequency of LFO2
- YELLOW** - LFO1 is summed with LFO2 and subjected to wave folding
- PURPLE** - LFO1 distorts the phase of LFO2
- BLUE** - LFO1 is XORed with LFO2
- WHITE** - LFO1 is sampled and held each time LFO2 starts a new cycle.

**ALG** - Turning the ALG knob selects one of seven algorithms that are used to modulate LFO 2. The colour of the "Dragon Eye" above the knob indicates the selected algorithm. Pressing the ALG knob selects one of three frequency ranges.

- Regular** - 0.05 hz to 410 hz "Dragon Eye" lit continuously
- Slow** - 0.00001 hz to 2 hz "Dragon Eye" flashes slowly
- Fast** - 0.1 hz to 1.28 khz "Dragon Eye" flashes rapidly

**FREQ 1** - Selects the frequency of LFO 1.

**FREQ 2** - Selects the frequency of LFO 1.

**SHAPE 1** - Selects one of eight waveforms for use by LFO 1.

1. Sine
2. Triangle
3. Ramp Up
4. Ramp Down
5. Inverted Exp
6. Staircase
7. 50% Pulse
8. Noise

**SHAPE 2** - Selects one of eight waveforms for use by LFO 2.

**SYNC** - When enabled will "lock" the frequency of LFO 2 to a subdivision or multiple of LFO 1 frequency.

**PARAM** - Used to modify/adjust a parameter of the selected algorithm.

**MOD** - Selects the amount of modulation applied to LFO 2 output by the selected algorithm.

**RESET** - Reset input for LFO 2

**FREQ** - CV Input for frequency of LFO 2

**RESET** - Reset input for LFO 1

**SHAPE** - CV Input for SHAPE setting of LFO 2

**FREQ** - CV Input for frequency of LFO 1

**SHAPE** - CV Input for SHAPE setting of LFO 1

**OUT 2** - LFO 2 Output.  
-8 .. +8v (16VPP)

**OUT 1** - LFO 1 Output.  
-8 .. +8v (16VPP)

**MOD** - CV Input for MOD setting

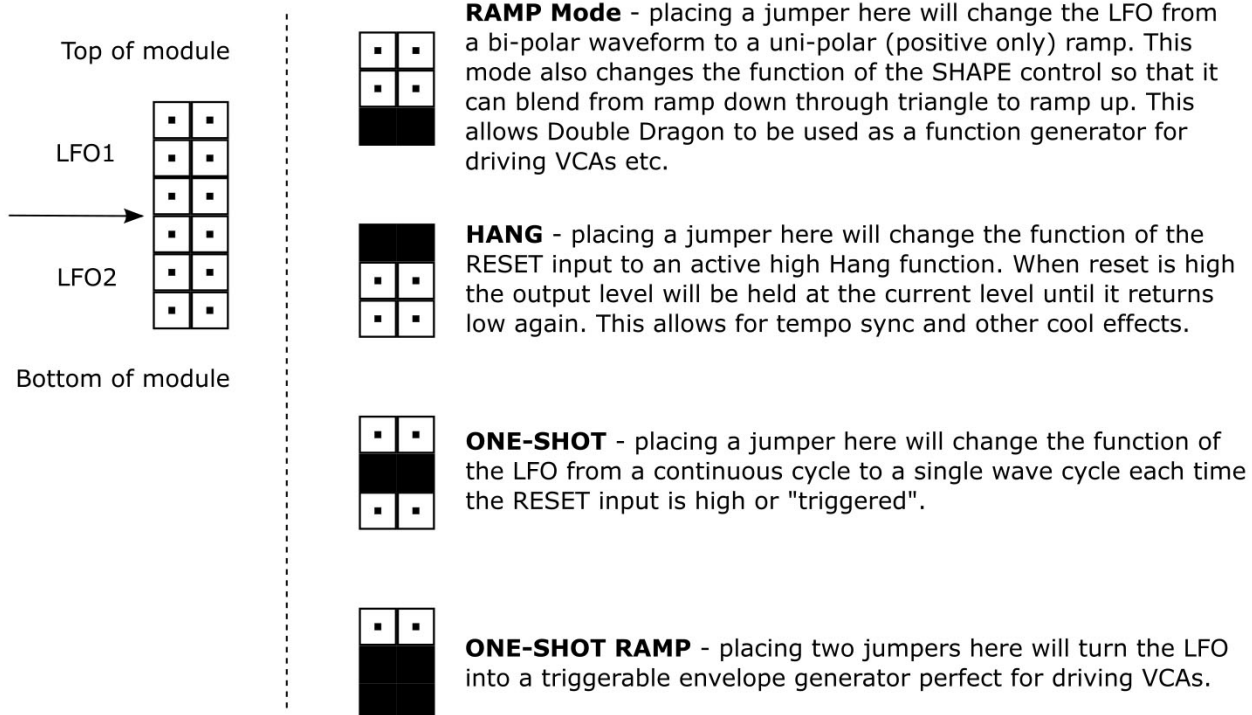
**PARAM** - CV Input for PARAM setting



Colour	Algorithm	MOD	PARAM
RED	Mixer	Selects the mix between LFO1 and LFO2. Fully counter clockwise is 100% LFO2 and fully clockwise is 100% LFO1.	Applies 0x - 2x gain and clipping on LFO2 after mixing occurs.
GREEN	Amplitude Modulation	Selects the amount that LFO1 modulates the amplitude of LFO2.	Applies 0x - 2x gain and clipping on LFO2 after AM occurs.
CYAN	Frequency Modulation	Selects the amount that LFO1 modulates the frequency of LFO2.	Applies 0x - 2x gain and clipping on LFO2 after FM occurs.
YELLOW	Wave Folder	Selects the amount of LFO1 that is added to LFO2 before wavefolding.	Applies a 0x - 2 x gain on LFO2 which is then subjected to wavefolding to prevent clipping.
PURPLE	Phase Distortion	Selects the amount that LFO1 distorts the phase of LFO2.	Applies 0x - 2x gain and clipping on LFO2 after PD occurs.
BLUE	XOR	Selects the mix between the LFO2 and LFO2 XOR'd with LFO1.	Selects one of sixteen different bit masks that are used during XORing, each producing different results.
WHITE	Sample & Hold	Selects the mix between LFO2 and the S&H value.	Each time LFO2 crosses from negative to positive, the potential for a sample and hold of LFO 2 exists. Param controls the probability of this taking place from 0% through to 100%.

### Jumper Settings

On the back of the module is a block of six jumpers that configure alternative behaviors. The first three jumpers are for LFO1 and the last three are for LFO2. Both sets of Three jumpers configure LFO1 and LFO2 in the same manner.

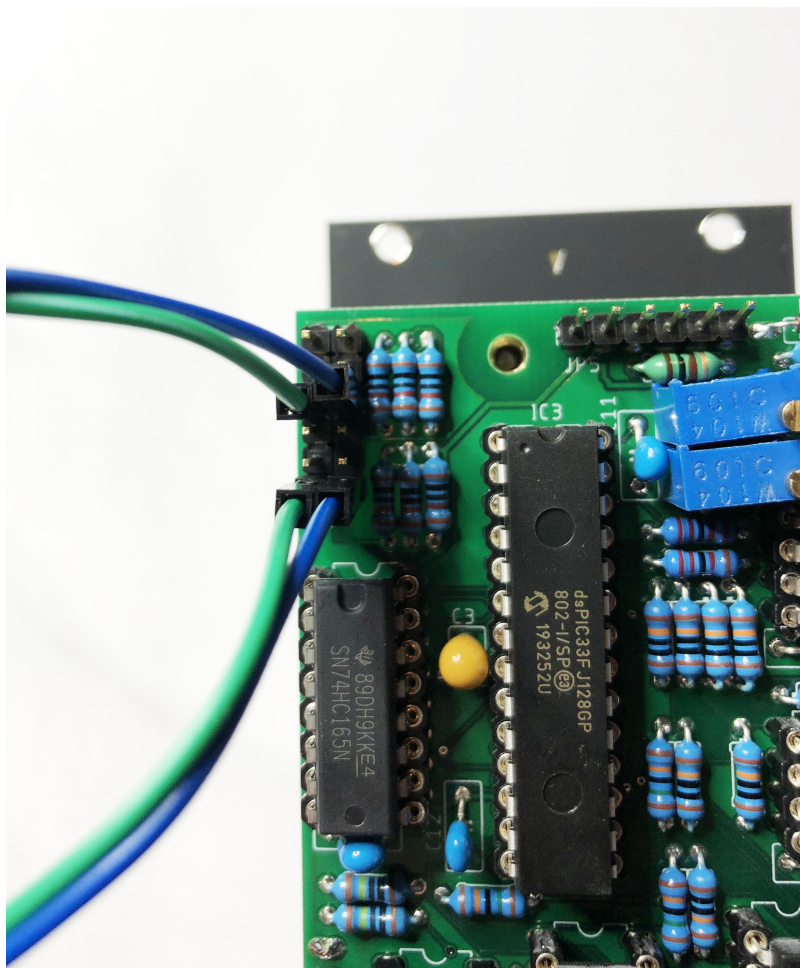
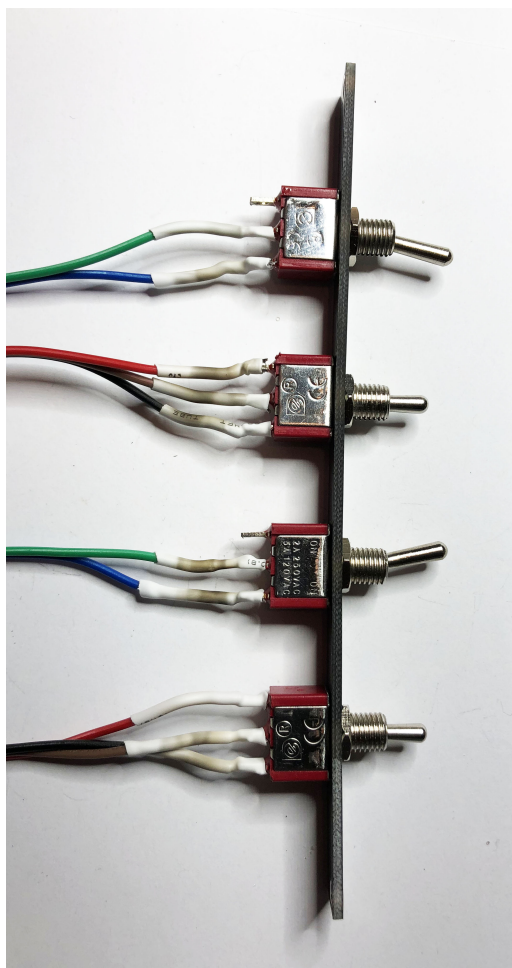


### Connection of DD Expander

The DD expander utilizes toggle switches to modify the jumpers on the back of Double Dragon without having to remove the module from the case. The jumpers are simple connections of the active wire to ground.

Connection of the LFO/RAMP is done on the bottom block of three jumpers per LFO (As per diagram above).

Refer to the diagrams below using the colour of the wires as a guide.





The connection of the 1-Shot/Cycle/Ramp switches are a little more complicated.

Use the pictures below as a guide. The center (BROWN in this case) wire is the ground and its connected to either of the two available pins on the left hand side of each block of 3.

The red and black wires are the ones that matter, pay close attention to the diagram below – the black wire from the bottom lug of the ON-OFF-ON switch is connected to the first jumper on the right hand side. The red wire on the top lug is connected to the second pin on the right hand side. Because there are two identical blocks of three jumpers for each LFO, the pattern repeats and is identical for the second block of 3 jumpers for the second LFO.

