GATS – Build guide

Introduction:

Gats is a 12hp reverb and filter with sample and hold control. With nothing plugged into the sample and hold input the circuit uses the audio signal as its source. Plugging something into sample and hold input overrides this. There is also a sample and hold output which you can use regardless of what source is being used. This unit is thus possible to use as a stand a lone sample and hold circuit without using the filter or the reverb. The signal first hits the reverb and there is a switch for the reverb to be fully wet or 50-50 dry/wet. The filter is positioned after the reverb and the CV knob controls how much of the sample and hold which will affect the filter. The filter has both a frequency control and q control and is a bastardized version of the bandpass found in the legendary WASP filter. The sample and hold has an onboard clock wich can be overridden by plugging in a clock into the Gate input. The feedback switch lets you chose between 2 different feedbacks, pre and post filter which both has their own flavor. The one post filter is influenced by the filter modulation and filter knobs. Lastly there is an offset knob which when set 12 o'clock presents no offset at all, going anti clockwise it presents more and more negative offset and going clockwise it presents more and more positive offset.

Build instructions:

It is a straight forward build I usually place the power header and solder it in first. Then I place all the jacks and solder in the ground pin (the one sticking out from the jack) from above. Place the 500k (RV4 on the pcb) then the other pots (all 100k), the led (short leg through the square pad), the switches and put the panel on and make sure everything looks good from the front. Solder everything in. I suggest not using a super bright LED for this build but rather a standard led. Th 500k pot can be played with, I tried a 1M which makes the clock run much slower but renders about 50% of the pots travel useless. 100k is way to fast for me but might tickle your fancy. 250k-500k seems to be the sweet spot and I've used 500k for that reason.

BOM

Part	Designator	QTY	INFO	Product link
Thonkiconns	J1-J5	5		thonk, tayda, aliexpress: https:// www.thonk.co.uk/shop/thonkiconn/
Alpha 9mm potentiometer T18 10K Lin	RV1	1	Pots	https://www.thonk.co.uk/shop/alpha-9mm-pots-vertical-t18/
Alpha 9mm potentiometer T18 100k Lin	RV2, RV3, RV5, RV6, RV7	5	Pot	https://www.thonk.co.uk/shop/alpha-9mm-pots-vertical-t18/
Alpha 9mm potentiometer T18 500k Lin	RV4	1	Pot	https://www.thonk.co.uk/shop/alpha-9mm-pots-vertical-t18/
LED white 3mm (not bright or ultra bright)	D4	1		https://www.taydaelectronics.com/warm-white-led-3mm-water-clear-lens-3mm.html
SPDT ON-ON	SW1, SW2	2	Switch	https://www.taydaelectronics.com/mini-toggle-switch-spdt-on-on.html
Eurack power pins 2x5	SV1	1		https://www.taydaelectronics.com/2x40-pin-2-54-mm-double-row-pin-header-strip.html
Micro knob T18 black		7		https://www.thonk.co.uk/shop/micro-knobs/