Grind Customs FX

Machette

R1	1M	C1	10nF	D1	1N5817
R2	470R	C2	100nF	D2	1N914
R3	100K	C3	100µF	D3	1N914
R4	56K	C4	2µ2	IC1	LM386
R5	1K	C5	100nF	IC2	ICM7555
R6	470K	C6	100nF	IC3	TL062
R7	470K	C7	10nF	Level	A100K
R8	220K	C8	100µF	Frequency	B220K
R9	220K	C9	22µF	Sensitivity	B1K*
(R10	100R			Threshold	B10K
R11	CLR	SW1	DPDT ON/ON	Rate	C100K
R12	CLR	SW2	SPDT ON/OFF/ON	Trimmer	B2K

*C1K or a reversed A1K will work better. B1K only really works past 12 o'clock

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Overview

The Machette is Tim Escabedo's Ugly Face fuzz with the addition of Mick Bailey's LFO and mods. For the first time brought together on one PCB layout. It is a weapon of sonic terror and awesomeness.

Setting the trimmer

The recommended vactrol for this build is a VTL5C3. However it'll work with most things. A roll-your-own 5mm red LED and Tayda LDR works just fine.

The trim pot essentially tunes the LFO to whatever vactrol you use. If you use a VTL5C3 it could even be replaced with a 1K resistor. However, the trim pot allows you to set it to taste.

When you switch the LFO on, the sensitivity pot becomes the depth pot. How I set it up is as follows: LFO on, threshold all the way up. Set the frequency as low as it'll go, put the sensitivity in the middle, ramp switch down and rate at about every half second. Then I set the trimmer so that you get a very percussive thumping at about this setting.

Once there, if you turn the frequency up, it should get very high but still audible and not quite into dog bothering levels. Dime the sensitivity/depth and it should be more of the same.

It does mean that most settings before 12 o'clock on the sensitivity/depth pot don't do anything when the LFO is on. But it does seem to give the nicest range of options after it. Suck it and see, that's just where I like it.

Threshold

The threshold control is sort of a reverse gate. All the way down and your guitar will trigger the effect. All the way up and the effect can behave like a signal generator.

A down side to this is that if you leave the threshold up and turn the effect off, you'll get significant bleed through on the signal (turn it down and it's silent). As the effect can generate it's own signal just grounding the input is not enough. When bypassed, it's a good idea to ground the output also, which will cut this down significantly.

The diagram below should help cut this down. Alternatively, don't leave the threshold turned up.
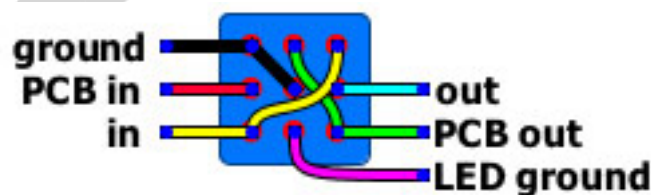
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Build Notes

The layout has been designed so it'll fit in a 1590B or a 1590BB. It'll be tight in a 1590B so you'll want to plan that, but it will go. It should be no problem in a 125B.
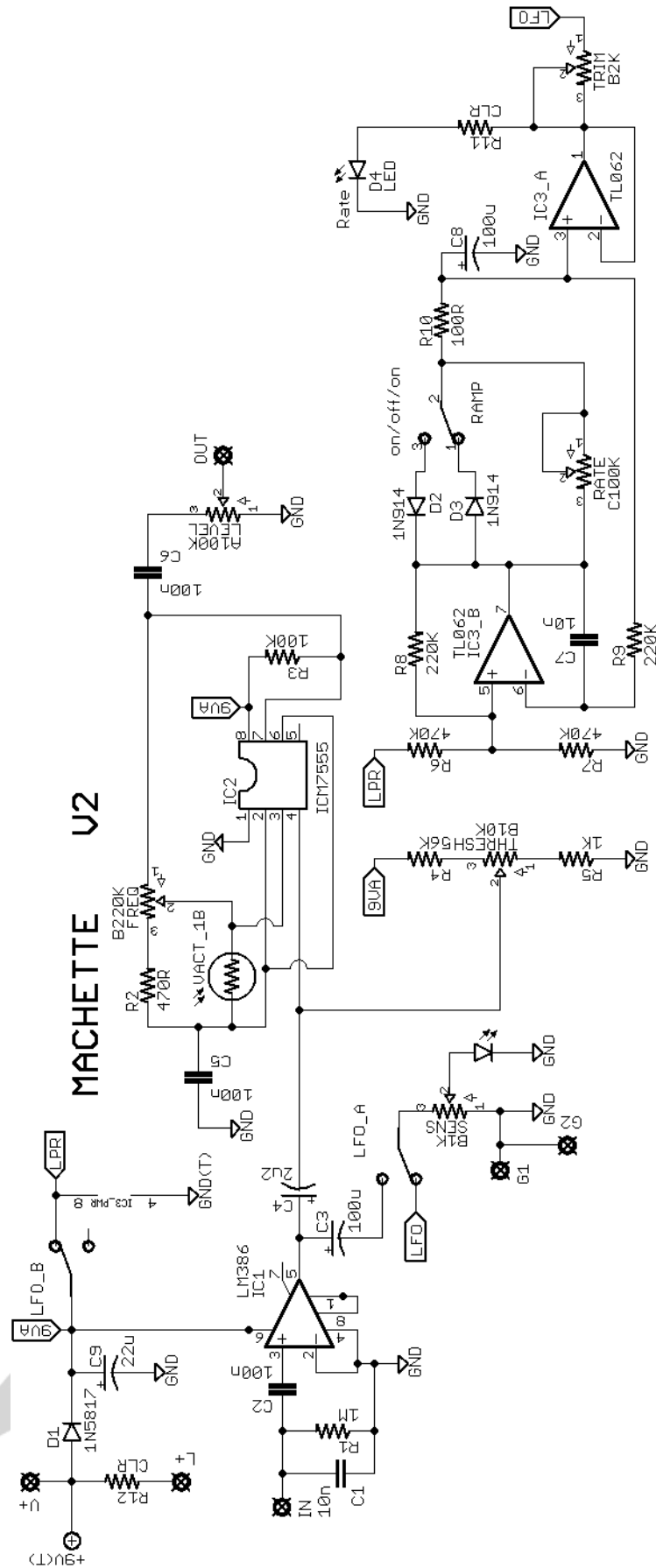
In a 1590BB it goes in sideways and it can be worthwhile to make the LFO switch a second stomp. You don't need an LED for it as that's already on-board, so you can get away with a DPDT stomp.

Finally a B250K should be ok as a frequency pot. Not sure whether that'll make it go subsonic or start attracting the local canine population. It'll be fun to find out either way.

MACHETTE V2
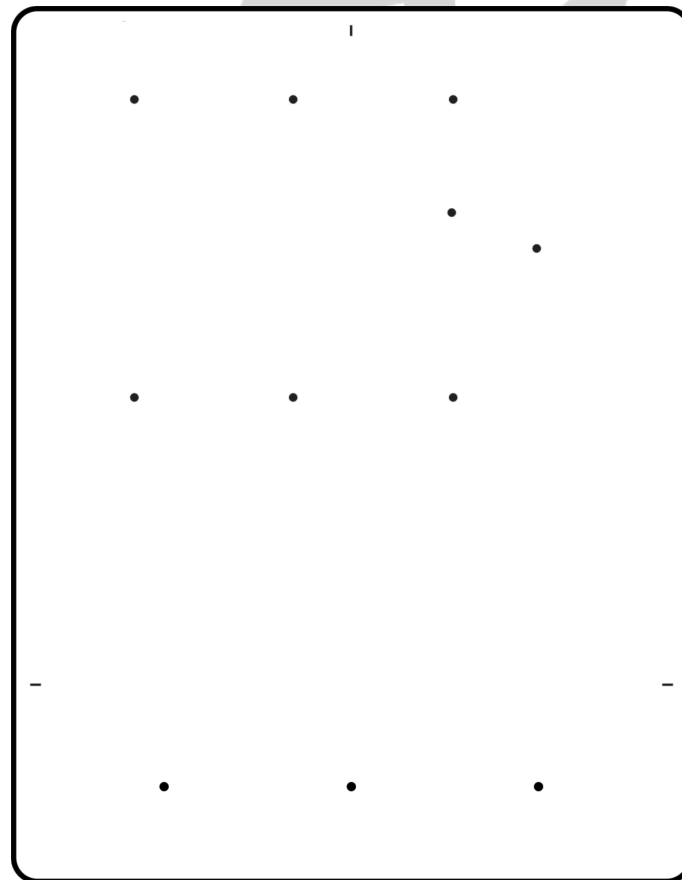
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1590BB Drilling Template

This is a universal template for if you want to build the Machette with one stomp in the middle and two toggle switches, or with two stomps at the sides and one toggle switch.
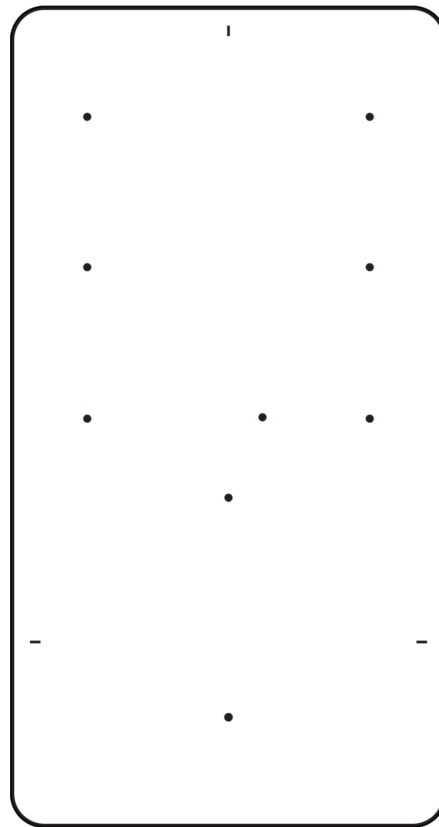
If you wish put the LFO on/off on a toggle just run the pads instead to a latching DPDT stomp (or a 3PDT but only using two of the banks).

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1590B Drilling Template

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125B Drilling Template

This is a universal template for if you want to build the Machette with one stomp in the middle and two toggle switches, or with two stomps at the sides and one toggle switch.

If you wish put the LFO on/off on a toggle just run the pads instead to a latching DPDT stomp (or a 3PDT but only using two of the banks).