Ghost Effects Lunar Incantation PCB Guide.

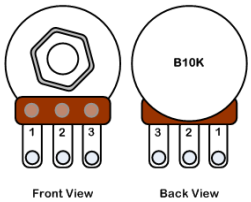
Thank you for buying a Ghost Effects Lunar Incantation PCB, the circuit is a version of the Mosrite Fuzzrite circuit with the addition of the 'Tone' control from the Rosac Nu-Fuzz.

This Project should be undertaken by someone with some experience of soldering to a PCB and general effects pedal construction and troubleshooting, I cannot be held responsible for injury or damage through use of this PCB.

I'm happy to answer general questions, but cannot guarantee that I will be able to help out if you get everything wired up and the circuit doesn't work, but I will try my best.

If you have any questions and would like to get in touch my email is **info@ghosteffects.co.uk**

Potientometers
See below for the numbering scheme for all pots in this project.



Component List

All component numbers match up with the numbers on the PCB.

Resistors - 1/4 watt carbon or metal film are fine. If you want to use carbon composition be aware that this may make the circuit a little more noisy.

R1 680k
R2 470k
R3 1.2m
R4 680k
R5 56k
R6 150k
RLED 1k

Capacitors

C1 0.047uf
C2 0.1uf
C3 0.47uf
C4 1000pf
C5 2200pf

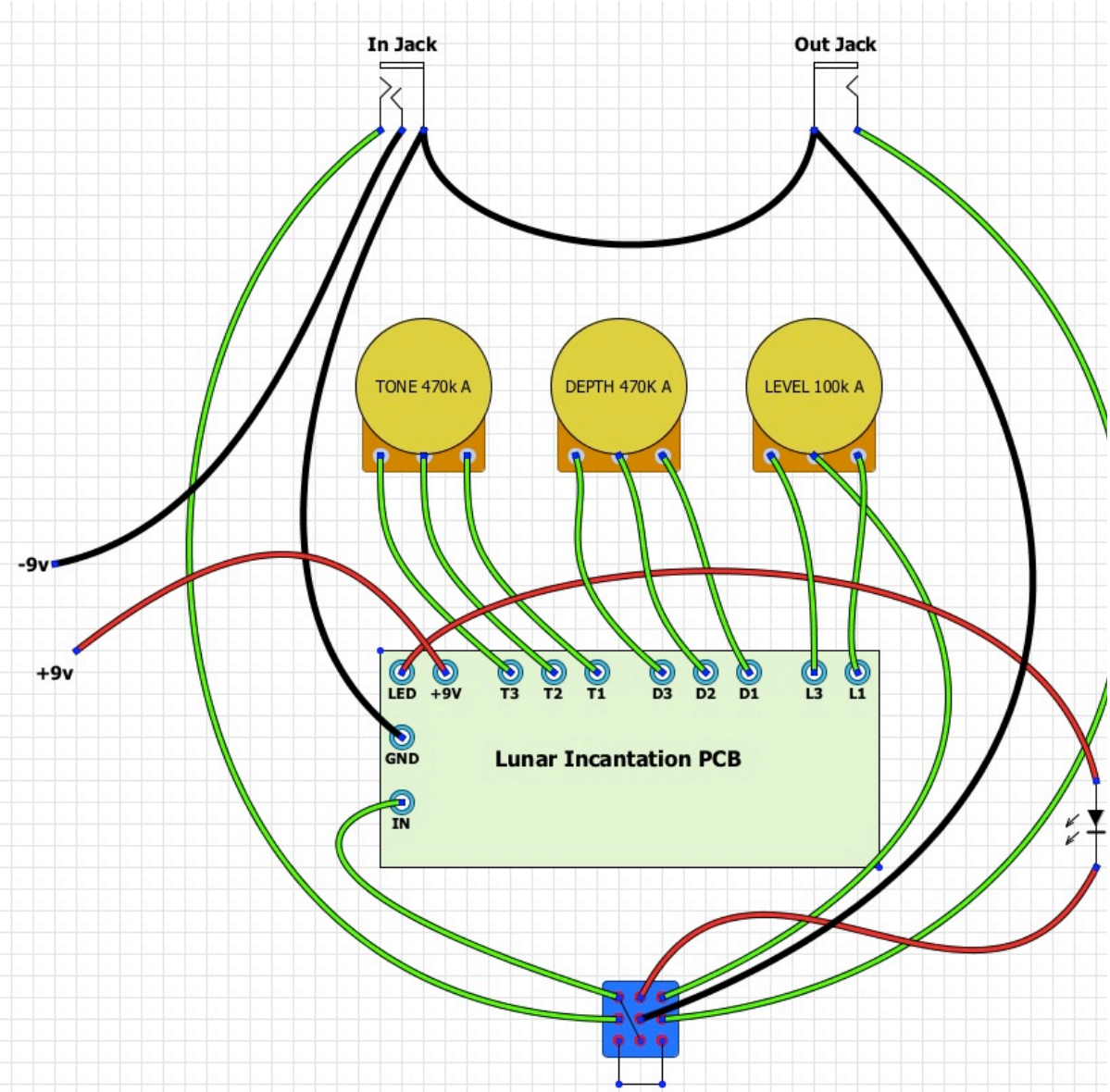
Pots

Tone = 470k
Depth = 470k
Level = 100k

Q1 + Q2 = BC108 npn (any common npn transistor will work)

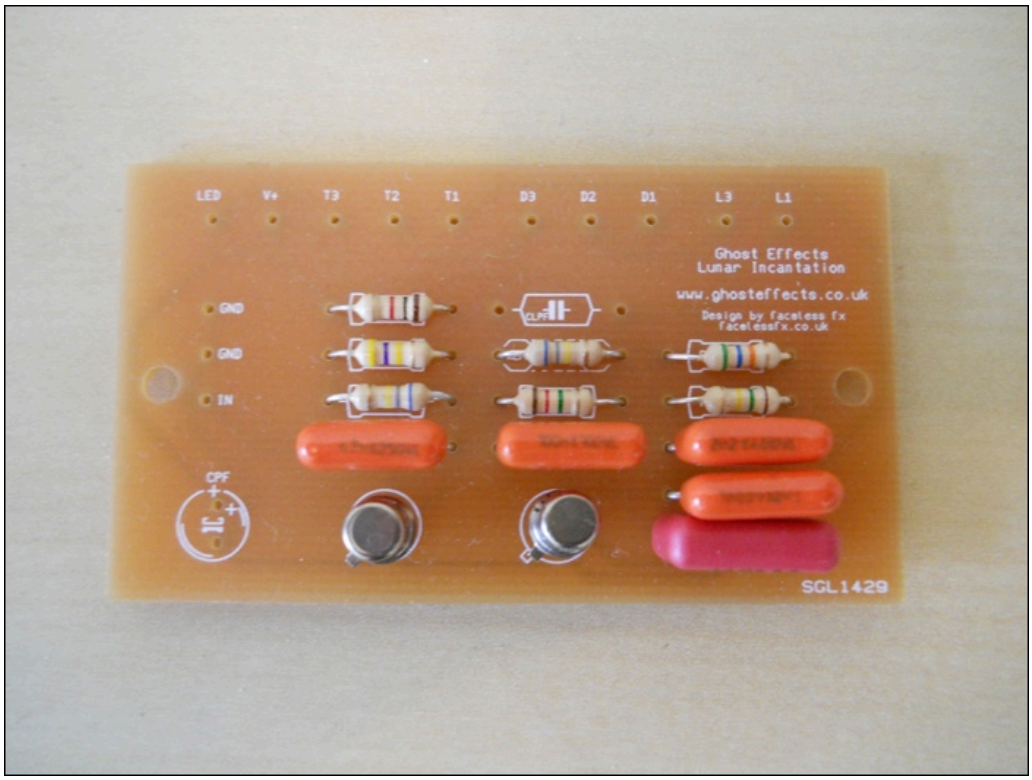
In terms of gains I aim for the 150-300 hfe range for each one, Q2 being the highest gain.

Here is a wiring diagram for the Lunar Incantation (Just an example, there are other ways to do the switch etc, but this way definitely works if you are unsure).

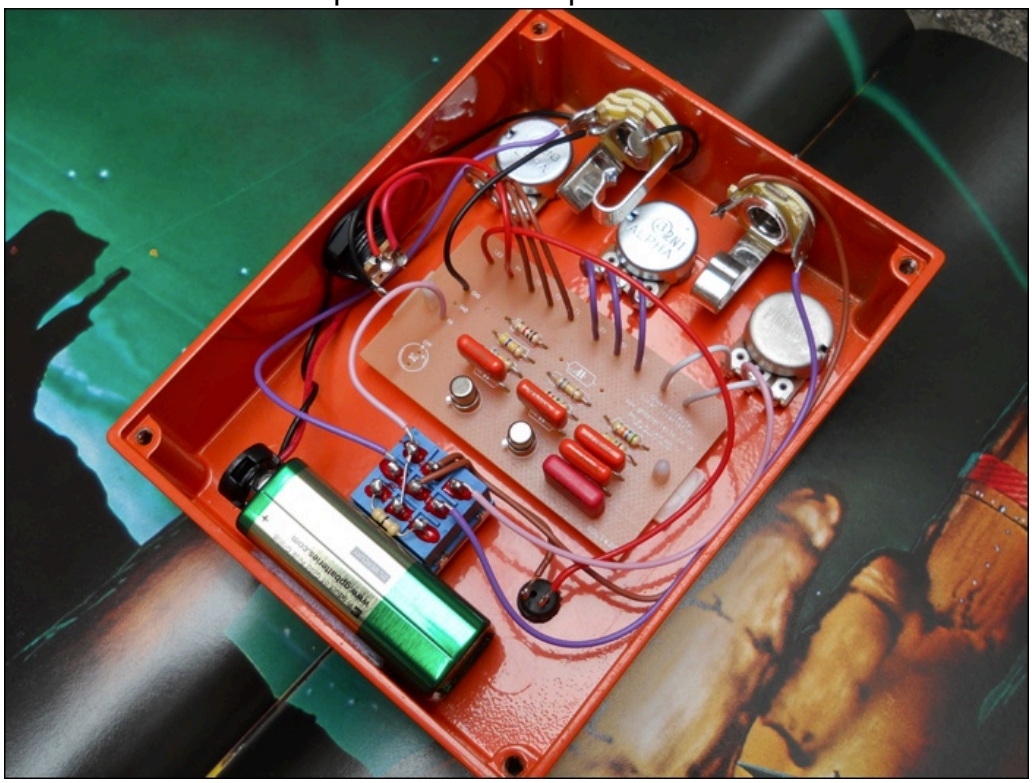


Lunar Incantation wiring example

Here is an example of what a board could look like built up. Note that CLPF and CPF are not used, and RLPF is not used in conjunction with R4; These parts are for building the Germanium Fuzzrite on this board and for the addition of optional power filtering. R4 lays flat connected to the furthest 2 holes for the Lunar Incantation.



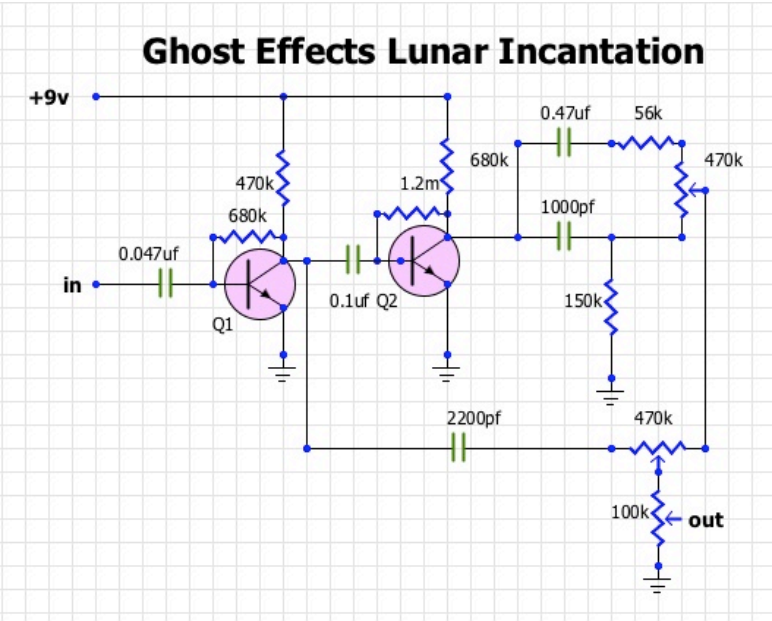
See below for an example of a finished pedal.



Output
The output of the circuit comes from Level pot lug 2, and would normally go to the circuit output lug on the pedal footswitch (see above wiring diagram).

Power
The circuit is negative ground and can be powered with a 9v battery or a 9v DC adaptor with a negative tip.
With a battery snap Red lead goes to power on the board, Black lead goes to ground (or the appropriate lug on a switched jack).

Schematic



Mosrite Silicon Fuzzrite
It is possible to build a stock Silicon Fuzzrite on the Lunar Incantation board by changing and omitting some components.

Component List
All component numbers match up with the numbers on the PCB.
Note that CLPF and CPF are not used, and RLPF is not used in conjunction with R4.

Resistors

R1 470k
R2 470k
R3 470k
R4 470k
R5 Not used
R6 Not used
RLED 1k

Capacitors

C1 0.047uf
C2 0.047uf
C3 Not used
C4 2200pf
C5 2200pf

Pots

Depth = 500k/470k
Level = 50k/47k

IMPORTANT - You will need to solder a wire Jumper from T1 to T2 instead of connecting a Tone pot.

Q1 + Q2 = Any common npn silicon transistor will work.

Mosrite Germanium Fuzzrite
It is possible to build a stock Germanium Fuzzrite on the Lunar Incantation board by changing some components.

Component List
All component numbers match up with the numbers on the PCB.
Note that CLPF is used, and RLPF is used in conjunction with R4 so you have 2 resistors standing instead of 1 laid flat.
IMPORTANT - The Ge version uses PNP transistors so will be positive ground. Wire the black lead on the battery snap to V+ on the board, with the red lead going to ground.

Resistors

R1 10M
R2 22k
R3 1M
R4 47k (standing)
R5 Not used
R6 22k
RLPF 100k (standing)
RLED 1k

Capacitors

C1 0.047uf
C2 0.047uf
C3 Not used
C4 2200pf

C5 2200pf
CLPF 0.047uf

Pots

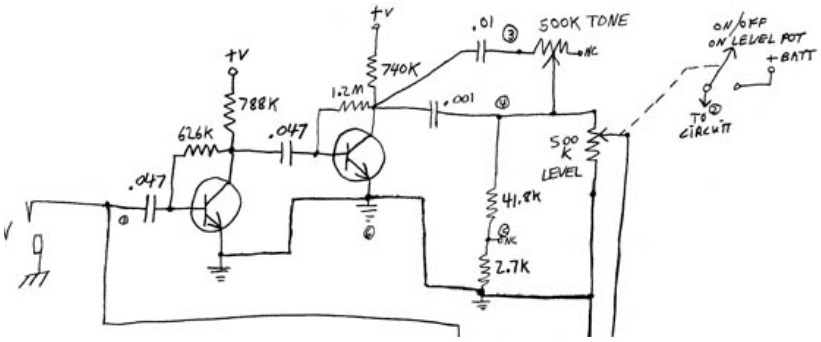
Depth = 500k/470k
Level = 500k/470k

IMPORTANT - You will need to solder a wire Jumper from T1 to T2 instead of connecting a Tone pot.

Q1 + Q2 = Any common pnp germanium transistor will work.

Modifications
It is possible to modify the component values and structure of the circuit to make your own custom fuzz, different capacitor values will alter the tone, different resistor values can alter the gain and fuzziness, higher gain transistors give a fizzier tone.

Theoretically it is possible to make a Rosac Nu-Fuzz which has a Tone control but no Depth control, however I have not included any info here as I am not 100% sure of the exact component values. If you want to have a go at one C5 would be omitted and a wire jumper put between D3 and D2, the rest I'll leave you to work out using all the info above and the only schematic I have below!



A power filtering Capacitor can be used at CPF on the board, 47uf to 100uf would be fine, be aware of orientating electrolytic capacitors in line with the + symbol on the board unless you are using PNP transistors and a positive ground circuit in which case do the opposite!

Ian Sherwen Ghost Effects August 2014 - November 2014