FREQUENCY CENTRAL

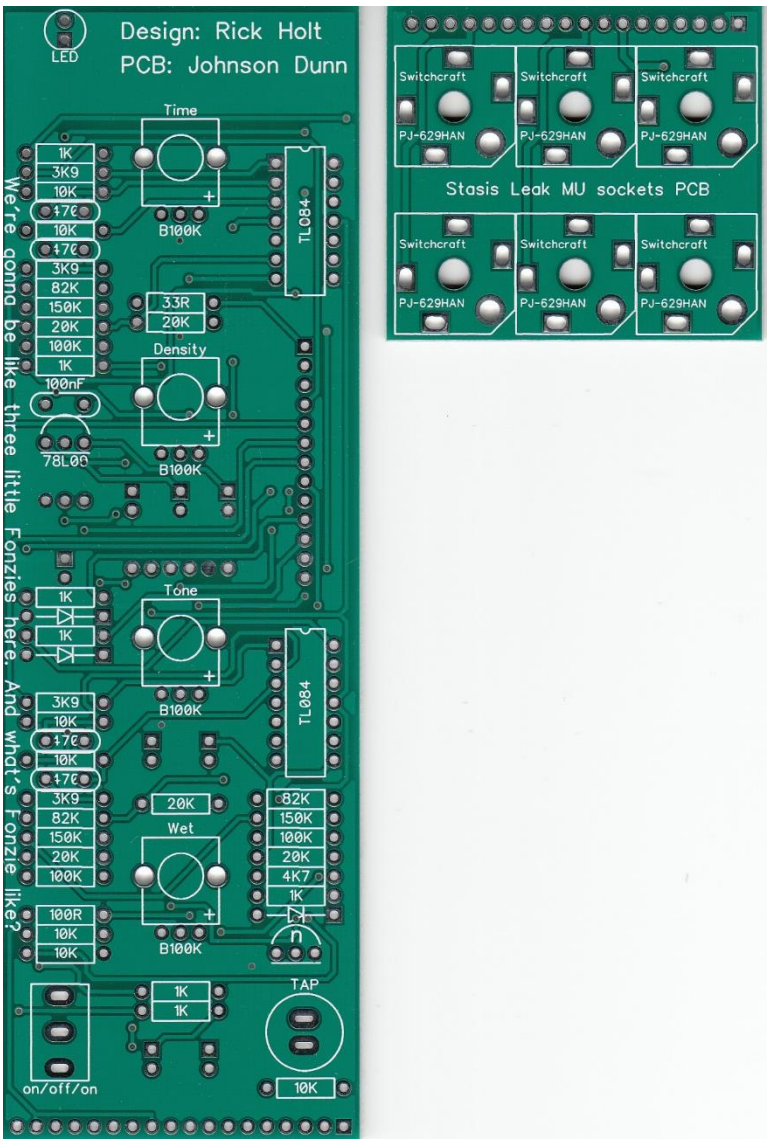
Build documentation for:

STASIS LEAK

CHORUS/TAP DELAY/PLATE REVERB

Stasis Leak is a 48kHz DSP effects module, providing a choice of stereo chorus, stereo plate reverb and tap tempo delay. Stasis Leak is based around a Belton ABE-FX sub board, which in turn is based around a Coolaudio V1000 chip.

Main PCB **Sockets PCB**



Stasis Leak features 3 PCBs:

- Main PCB
- Sockets PCB
- Belton ABE-FX, a fully populated SMD PCB which plugs into the Pots 'n' sockets PCB

Key to PCB screen print:

n: This signifies NPN BC547 transistor. Note the correct pinout as shown by the half circles. The PCB shows the correct orientation for BC547. Other transistor types can be used (eg 2N3904), but please observe the correct pinout.

Please observe correct polarity of the electrolytic caps, voltage regulators, transistor, ICs etc!

Bill of Materials

33R x 1 100R x 1 1K x 7 3K9 x 4 4K7 x 1 10K x 4 20K x 5 82K x 3 100K x 3 150K x 3 All resistors ¼ watt metal film.	470pF x 4 100nF x 1 10uF x 5 47uF x 3	Belton ABE-FX* TL084 x 2 BC547 x 1 78L09 x 1 9 volt regulator 1N4148 x 3 5mm red LED x 1	B100K x 4 SPDT toggle x 1 on/off/on Push Button 100K multi turn trimmer 6.3mm socket x 7 Male 40 pin header x 1 Female 40 pin header x 1 DOTCOM 6 pin header
* You can buy this from me, or some other place. ** I prefer the Song Heui tall trimmers because they have a longer shaft and a white notch.			

Affixing the Belton ABE-FX

The Belton plugs in to the **Main** PCB. We recommend using a header to mount the Belton (see photo on last page of this build doc). This makes the module a little deeper than directly soldering the Belton without a header. But it saves you from the grief of de-soldering it if you make an error. Make sure you mount it the correct way around (see photo on the last page of this build doc).

Main PCB:

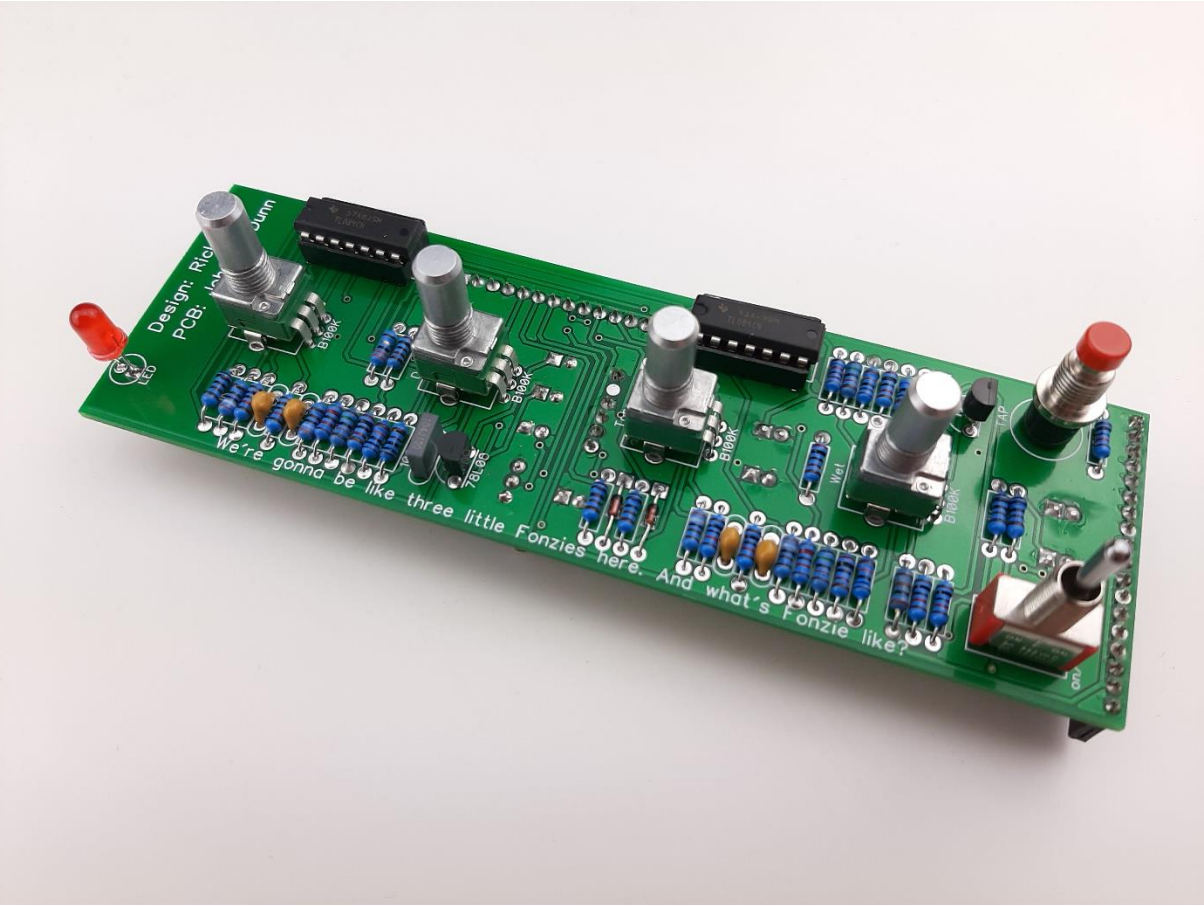
Populate the Main PCB front first, as shown on the silkscreen, starting with the lowest profile components, so:

- Resistors, diodes
- IC sockets
- Non-electrolytic capacitors, transistor and voltage regulator
- Panel mount components (pots, switches, LED) – it can be useful to use the panel to make sue of nice fit.

Now populate the rear of the Main PCB:

- Header for Belton (cut to size)
- Header for Sockets PCB (cut to size)
- Power header
- Electrolytic capacitors, trimmer

Mount the PCB to the panel with the various washers and nuts.



Sockets PCB

- Place all sockets on the PCB, then place the panel over them. This will assure that the sockets are correctly positioned. Flip the whole lot over and solder the sockets into place.
- Cut the male header to size and place the long end into the female header of the Main PCB
- Present the populated sockets PCB to the panel, making sure the male header passes through the PCB pads.
- Make sure everything fit's nice and snug and solder the header into place.

…..you're done! Next page for calibration…..

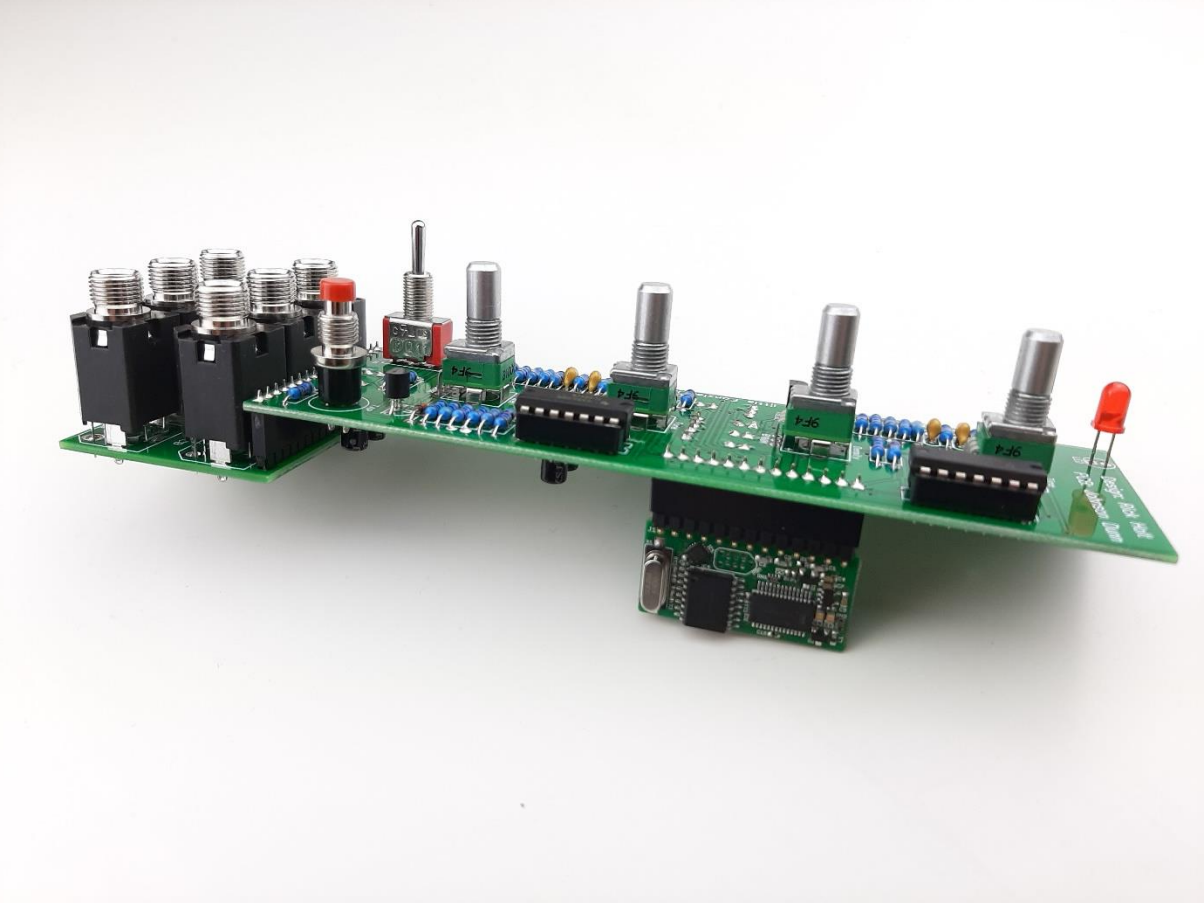
Calibration procedure

The trimmer adjusts the voltage offset of both Left and Right outputs. We want the offset to be as close to 0V as possible.

With Stasis Leak powered up, take a patch lead from the Left output. Using crocodile clips, hook up the tip to the red probe of your DMM, and the sleeve to the black probe of your DMM. Adjust the trimmer until the voltage measurement is 0V or thereabouts. It can take a little time for the voltage to settle – be patient.

Now repeat the process, but this time using the Right output, which should already be close to 0V.

Double check back to the Left output. Then you're good to go go go go go go go go go



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