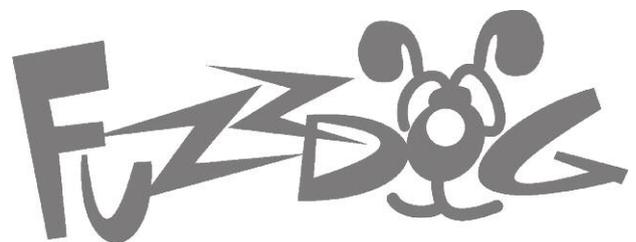


Ultra Tester

All-In-One stomp circuit
testing solution



IMPORTANT STUFF

Go no further until you've read this page.

VOLTAGE SELECTION

This is the one aspect of the tester which could damage your circuit under test if not used correctly.

ALWAYS check your voltage settings are correct for the circuit being tested BEFORE connecting it to the tester.

You have two switches on the left hand side - CHARGE PUMP and SUPPLY SOURCE.

With the SUPPLY SOURCE switch in the down position, your circuit is supplied directly from your DC power source connected to DC1. With it in the up position, your connected circuit is supplied from the CHARGE PUMP. In this case, ensure your CHARGE PUMP switch is in the correct position.

CHARGE PUMP switch down will give you 18V, switch up will give -9V.

To test positive-ground circuits simply connect your circuit GND to the tester GND, and your circuit -9V to the tester V. Select CHARGE PUMP > -9V, and set your SUPPLY SOURCE to PUMP.

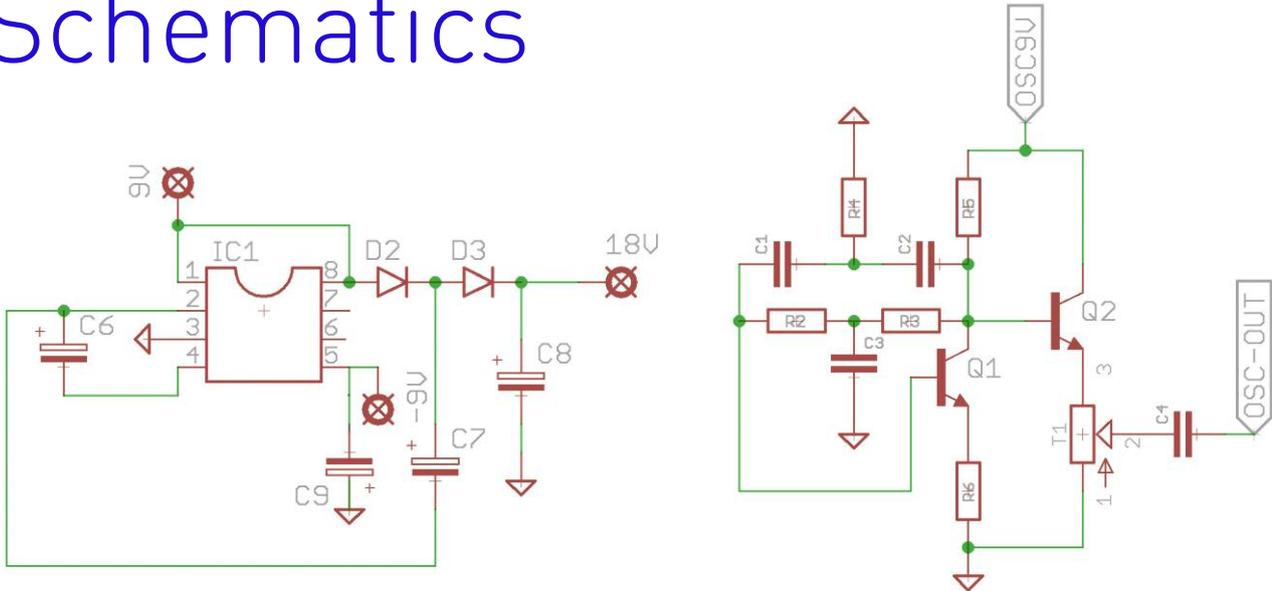
IMPORTANT HACK ALERT

IF YOU HAVE A BLUE PCB IGNORE THIS

The schematic on the next page shows -9V coming from pin 5 of IC1. On the PCB that connection is actually on pin 6 - yes, we all make mistakes now and again. See page 4 for the necessary hack information. It's easy.

That's about it. Carry on...

Schematics



BOM

R1	CLR (2K2)*
R2	27K
R3	27K
R4	4K7
R5	4K7
R6	22R
T1	100K
C1	10n
C2	10n
C3	22n
C4	100n
C5	100n**
C6	10u elec
C7	10u elec
C8	10u elec
C9	10u elec
Q1-2	2N3904
D2-3	1N4148
IC1	7660S***

There are lots of complex connections going on in here, to do with switching the various sections of the tester in and out of the signal path. The only sections with components are shown above, being the charge pump and the tone generator.

*R1 is the current limiter for the indicator LED, and can be anything from 1K-4K7.

**C5 is a filter cap placed just before the audio probe pads, not shown on either schematic above.

***Ensure your charge pump has the 'S' suffix otherwise it may operate on an audible frequency, causing audible whine.

Striped leg (cathode) of diodes go into the square pads. Long leg (anode) of electrolytic capacitors go into square pads.

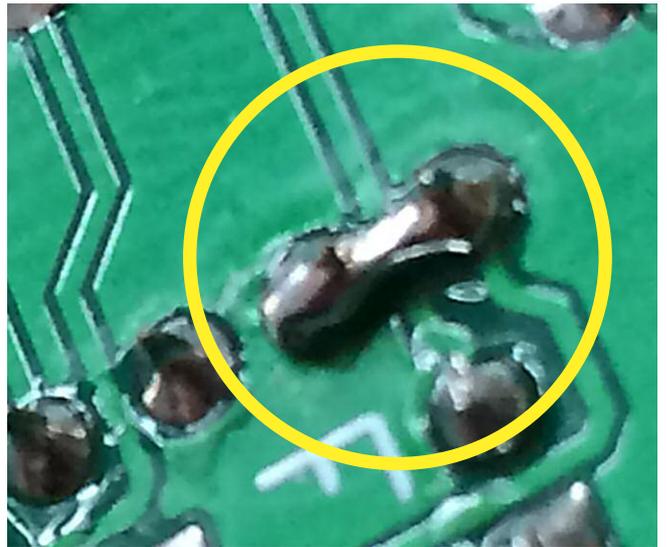
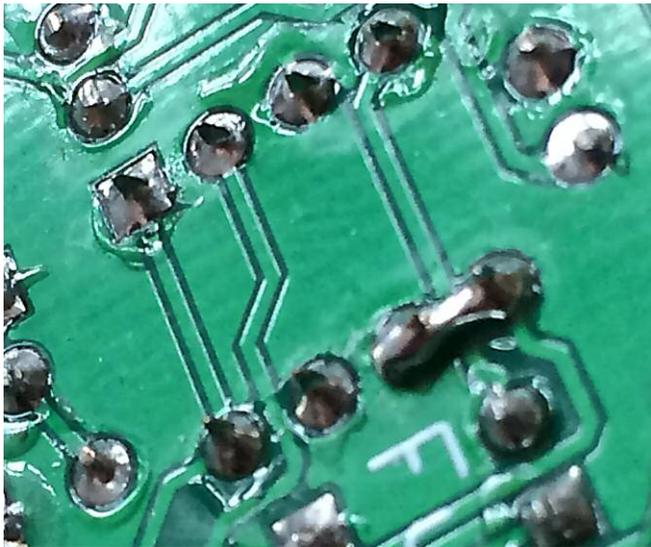
Long leg of LED goes into the round pad.

The tiny hack....

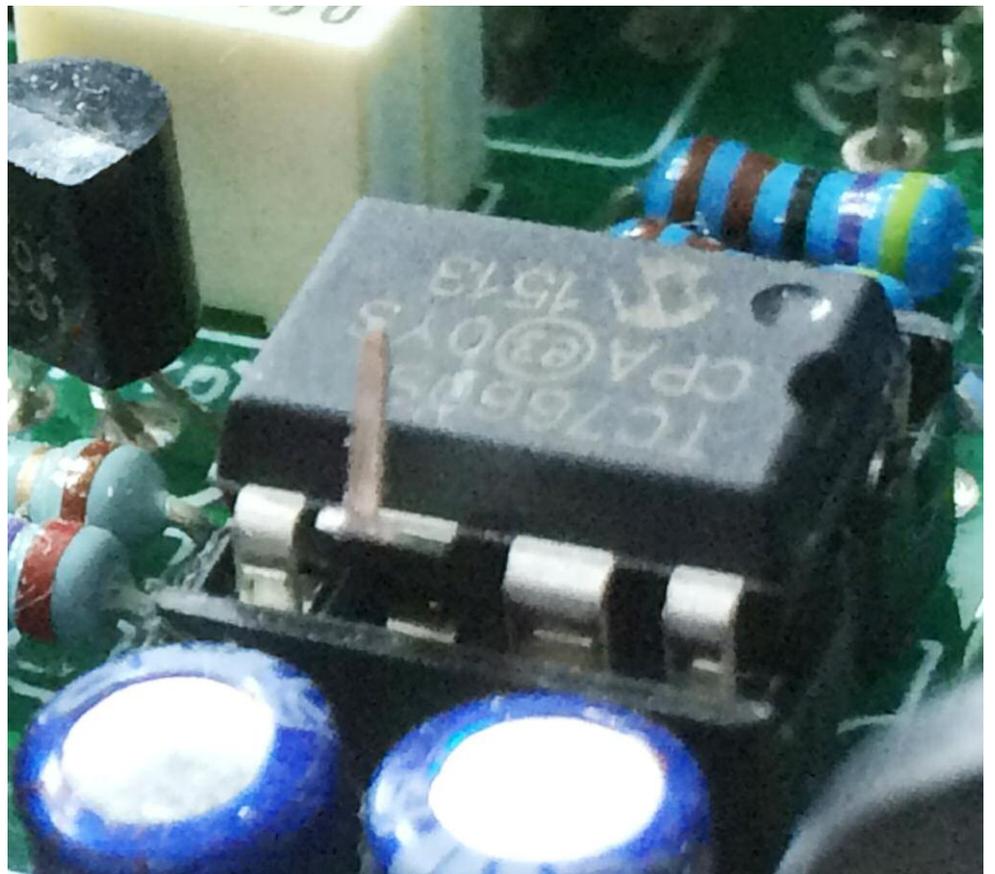
Not required on BLUE PCBs

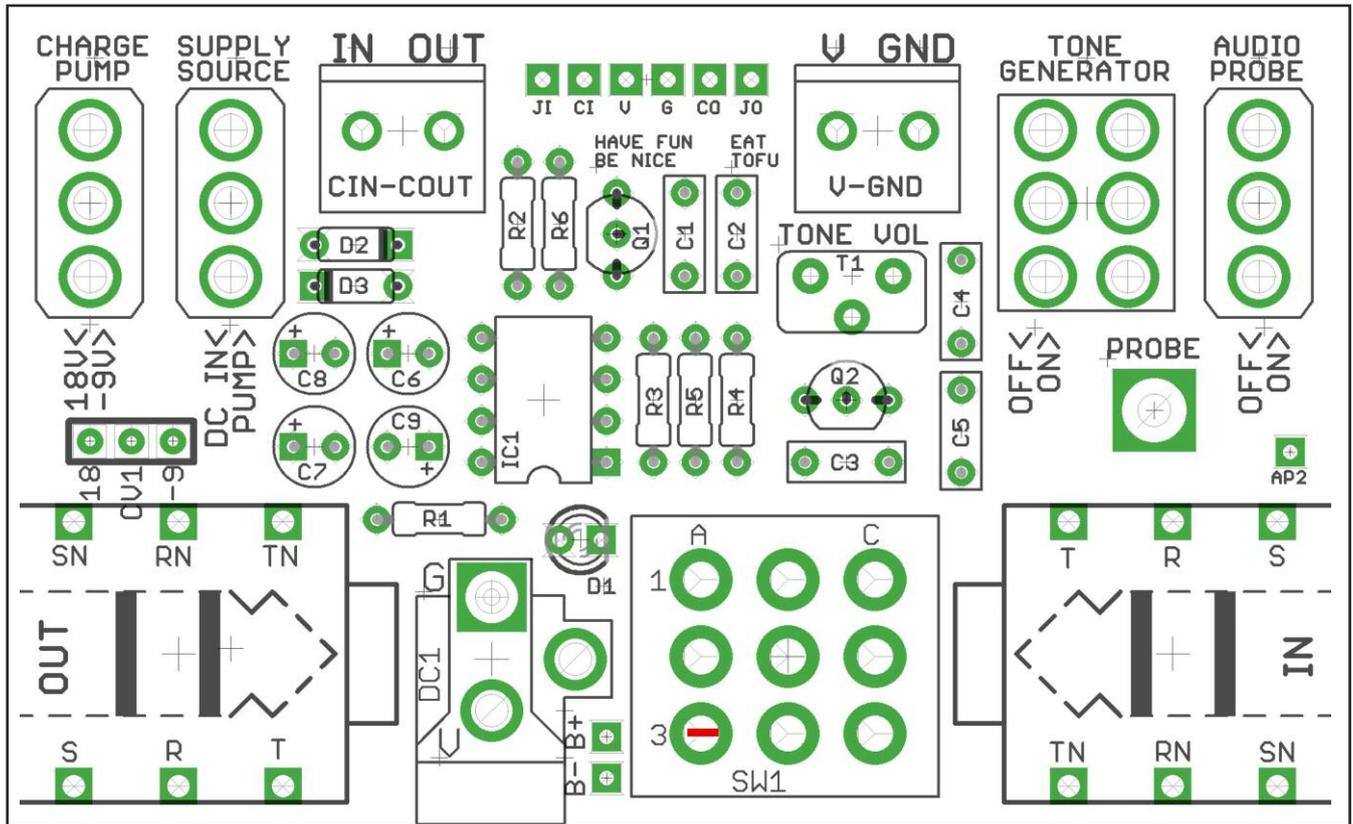
We need to fix that -9V connection. This involves taking pin 6 of the IC out of the circuit altogether, and joining the pads for pins 5 and 6 on the PCB.

Solder a jumper as shown across the pads for pins 5 and 6 on the PCB



Now, either snip pin 6 off your IC, or simply bend it up as shown before inserting it into the socket.





The tags of your footswitch or toggle switch should be oriented horizontally as shown in red above.

If you want to wire up an off-board DC socket, the V and GND pads are marked on DC1.

There are extra pads just above the output jack for your charge pump voltage selection. As this may be a less used function you can omit the toggle switch and use headers and a jumper instead. Place a 3-pin header in the three pads marked 18/CV1/-9, and place a 2-pin jumper across 18>CV1 or CV1>-9 to select either 18V or -9V supply.

AUDIO PROBE

There are two connection points for this - PROBE and AP2. PROBE is a 4mm hole which will take a banana socket, enabling you to connect a 4mm test lead. Alternatively simply solder a long wire into the AP2 pad, strip the other end and probe away.

TONE GENERATOR

Before you use the tone generator, turn T1 all the way down. This sets the volume of the tone. To set this, plug in a guitar, connect to your amp, set the footswitch to bypass and strum.

Now, turn on the tone generator and adjust T1 until the tone is around the same level as the guitar. That's it. Turn it back off - its rather annoying.

Now you can use the tone generator to test your circuit without having to play guitar. Connect your circuit, turn click the footswitch to engage the circuit rather than bypass, and turn on the tone generator. The signal is sent to the circuit input.

AUDIO PROBING

With the AUDIO PROBE engaged (switch UP) your output jack takes its signal straight from the audio probe rather than from the circuit under test. Wherever you place the probe, that's the signal you'll hear from the output jack. Be careful where you probe!

There's a filter cap on the probe to prevent anything too nasty hitting your output jack.

If you're using the tone generator to produce a signal while probing, you WILL hear it bleed through to the output jack. That's just the way it is. When you find a signal with the audio probe it will be much louder than the bleed through.

