

Reliability Modifications for the Clansman RT320

If you own a 320 it is wise to carry out a couple of modification to the power supply and synthesiser to stop the power supply being damaged at a later date. The power supply requires two capacitors, C6 & C8 to be changed that can go leaky and damage the PSU. The power supply is unit No. 5 shown in the picture.

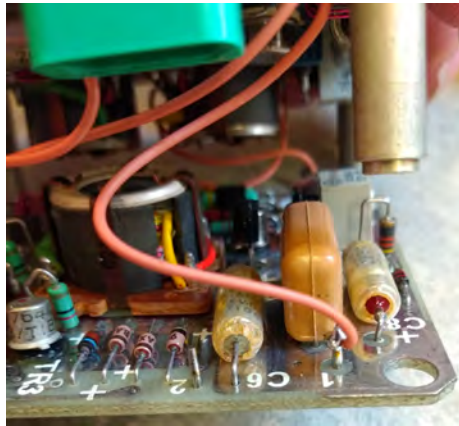


The power supply can be removed by removing the 2 screws in the cover and carefully removing the cover. Removing the plug using the nylon cord and then removing the the 2 countersunk screws. The power supply can now be removed from the set.

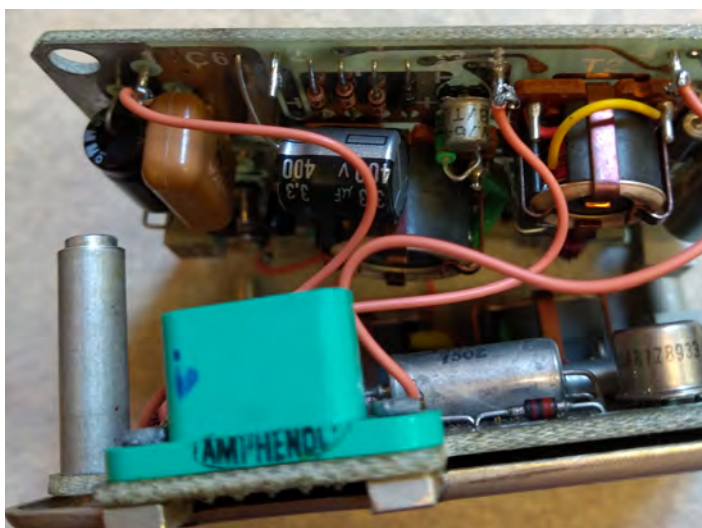


Remove the 2 circlips and you can now separate the two boards.

C8 is the easiest capacitor to replace, and I have found an off the shelf 2.2 μ F 200 volt works fine. Albeit the VCO is a little bit slower to lock. I replace C6 with a 3.3 μ F, but I can only find radial capacitors in this value.



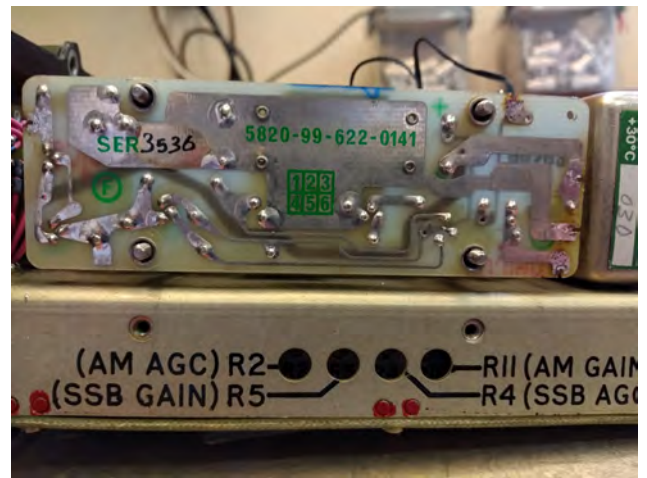
Make sure you insert the capacitors into the correct holes as there are a number of unused holes on the PCB. The 3.3 μ F has to be folded



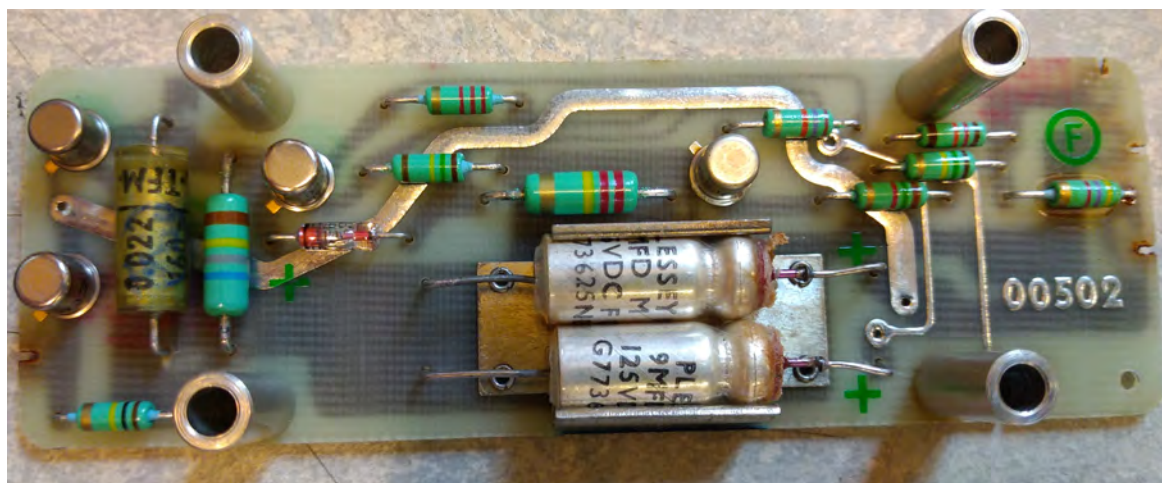
over to allow the 2 boards fit together. The power supply can now be reassembled and fitted in the set. I suggest you try the set before moving on to the synthesiser.

The synthesiser is module 9 closest to the power connector. There are two $9\mu\text{F}$ capacitors that can fail on this board. They can be replaced with $10\mu\text{F}$ off the shelf capacitors. It is far less likely for these to fail but I have had to replace these on occasions. The fault is the synthesiser loosing lock and the tone in the headset after the set has been on for a while.

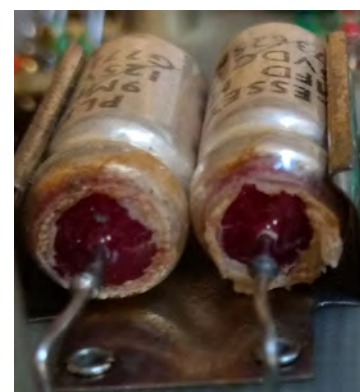
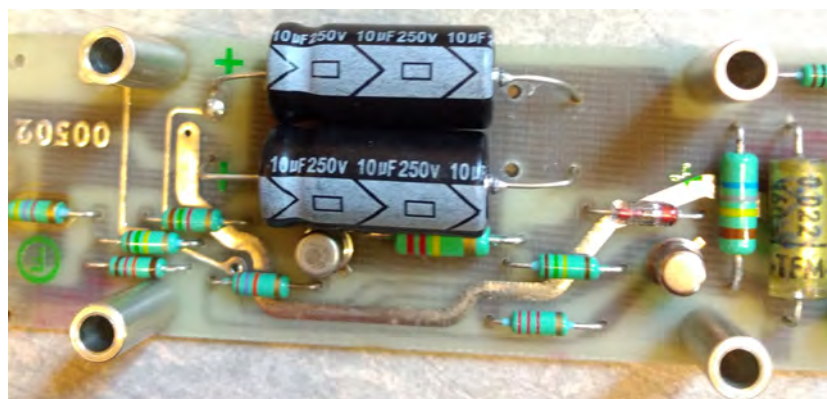
Remove the 2 screws and 4 nuts and carefully remove the cover.



De-solder the connecting leads around the board and it will lift out.



I have found that you have to carefully drill out the pop rivets and remove the spring clip to make any modern day capacitors fit. The capacitors need to be carefully positioned as not to snag on the transistors on the facing board. You can use Radial capacitor by using the holes left by the spring clips for the negative and staggering the capacitors.



The picture on the left shows the new capacitors fitted and the the right picture shows the original capacitors that have been leaking. When fitting the board back in the set take care not to leave any solder spikes on the solder pads that can short out on the screening can of the synthesiser.

Lastly, when you slide the 320 back into its case carefully move it around until it drops into place. If you put too much pressure it will bend the mountings for the "D" connectors and if you are very unlucky you will push the RF connector inside the "D" connector breaking it. Also make sure the spring on the back of the turret is pulled out as sometimes it does not mate properly and the radio will not transmit.

Good Luck!!