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Power Supply Type 8540B Serial Nos B0100 - B0109 & B0116 Power On Problems.

Symptom

When energising a transceiver from the power supply with the transceiver power switch already turned ON, the power ON relay in the transceiver makes successive attempts to close unsuccessfully. This causes the relay to make a buzzing sound, which is unpleasant but not harmful.

When the mains are switched ON, a low current is fed from the power supply to the external load to test whether a short circuit is present or not. If a short circuit is not present, the relays in the power supply operate and connect the supply. The supply current is sufficient to operate the power ON relay in the transceiver but insufficient for the relay to hold in after the contacts have closed. The relay then releases and the process repeats until, in about 10 seconds, full power is available from the power supply.

To rectify the above, the test current needs to be reduced and the threshold level of the short-circuit detector adjusted. The first change is mandatory, the second change is optional.

Remedy

Referring to the Circuit and Assembly Drawings in the AC power supply 8540B Handbook (Order Code 3016, Issue A, November 1991), remove the screws securing the top cover of the power supply and take off the cover.

- 1 On the Control & RFI Filter PCB (08-04814-001), remove R51 (150 Ohm 10% 5W) and replace with 330 Ohm 10% 5W Codan Part No 40-23300-700. This resistor is readily accessible and can be changed without removing the PCB from the unit.

This modification **must** be made. It reduces the test current during power up resulting in the power ON relay in the transceiver operating satisfactorily.

- 2 On the Control & RFI Filter PCB (08-04814-001), remove R47 (68 Ohm 5% 0.33W) and replace with 33 Ohm 5% 0.33W, Codan Part No 40-13300-020.

This is an *optional* modification to bring the power supply to the same build standard as all other production units and requires partial disassembly to gain access to the resistor. The change in resistor value enables the power supply to energise a resistive load similar to that in the pre-modification condition by reducing the reference voltage for the short-circuit detector. This optional modification allows for future equipment design and is not required for any current product.

Once completed, the top cover and securing screws should be refitted prior to energising the power supply.