IFR ATC-600 Repair notes

ATC-600

Unit came in with an unnoticed fault. In the 3 XPNDR settings ( ALT, CODE, A) unit was showing 100% replies on the XPNDR meter, the ALT and F2 lights were on. With no load on ANT port, unit was seeing a reflected interrogation as a valid reply thus sending out another interrogation resulting in 100% on the XPNDR meter. The pulses coming out of the detector cct on Pin 9 was 2.5 Vpp.

Putting a 50 Ω load on the ANT port chopped the Pin 9 pulses to 1.5 Vpp and the unit quit seeing the reflected interrogation pulses as replies.

Fault traced to Diode switch assembly. Centre pin to ground would sometimes read 0.4 Ω, sometimes 100 Ω and points in between. The grounding of L804, CR804, L806, R815 is dependent on the component lead end being squished by the two block halves of the assembly. On teardown of the Diode assembly the L806 lead end was insufficiently compressed resulting in a nonexistent ground. The component ends were tinned with a small blob of solder and unit was reassembled, unit tested okay. Pulses on Pin 9 were approx 250 mVpp.

A spare defective diode switch assembly was also taken apart and it was found that the end of CR804 did not show any sign of compression. There is a small milled out cavity on one half of the diode assembly with the lead cut a little on the short side there was no/intermittent grounding on CR804. The lead ends were all tinned with a blob of solder, block reassembled and tested okay.

