

Dead ICOM IC7000 radio, Click Click from the relay

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One lovely sunny weekends morning I found my 6 months old ICOM IC-7000 is not turning on. Something is wrong, when I press the power button, there were only a relay clicks followed by another clicks seems the relay disengaged it self. There was no display or sound. First thing I check are the two external fuses and one internal (behind the control head) fuse and seems all are fine. I checked my combine P/S & battery voltage level, nice 13.8V. Next thing I did is remove all cables from the radio and left it untouched overnight, next day connected the radio, but again no luck.

I shoot a mail to the IC7000 yahoo group asking for help, as per many suggestions I then cleaned the contacts of the remote head, power connectors and all exposed connections with contact cleaner. Still there was no luck. Ok, time to take a decision, whether I will open the radio or ask ICOM about the warranty? I contacted ICOM America, they told me to contact ICOM dealer in Italy as I have bought the radio from Rome. Previously I thought I could claim warranty from my nearest ICOM dealer (As like the CODAN and MOTOROLA we use in workplace), but I learnt it the hardway with the IC7000. After contacting the ICOM dealer in Italy they suggested me to send it to the shop where I purchased it from.

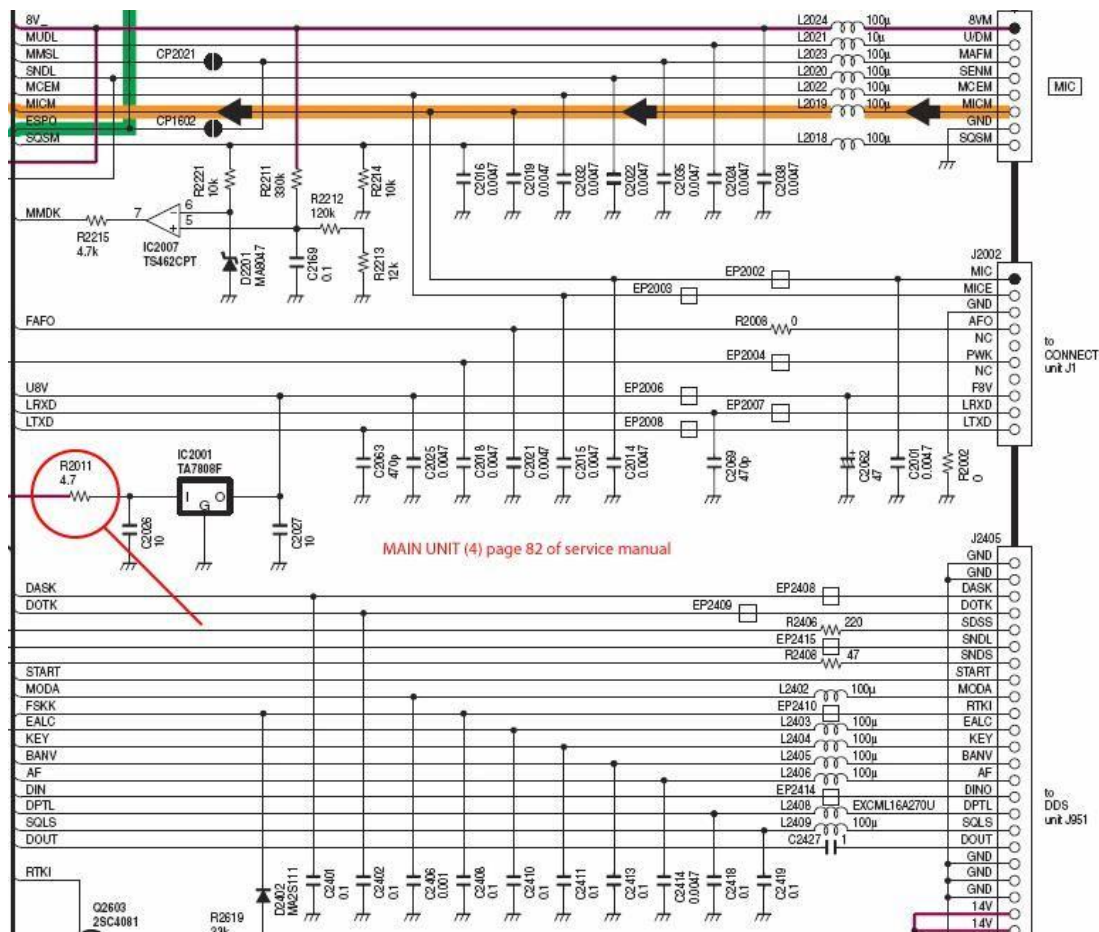


For me it was almost impossible to post it to Rome due to local regulations about import/export especially if the item is radio coms equipment. I was looking for friends who might go to Rome in near future and willing to take the radio with him. After waiting another 5 months I decided to open the

circuits and try to fix it. As the warranty period was almost at an end I had nothing to lose but try.

With the suggestion of Scott of MTS /Malcolm Technical Support, I started checking all the power regulators for the missing voltage line. As per Scott, the Microprocessor is shutting down the system within 500 milliseconds when it detects a missing 5V or 8V supply. I found the 4.7 ohms series resistor (R2011) which feeds 7808, the 8v regulator (IC2001) is burnt. Checked the 7808 (after removing it from the board) and found it ok. Replaced the resistor with a quarter watt regular 4.7 ohm resistor, turned on the radio, again the 4.7 burns.





Ok, it looks like something else is shortening the output of that 7808. Traced the line and found it supplies power to the Display module (control head). One 7805 is there, checked and found ok. After checking all the capacitors found one of the big cap C502 is faulty. It is short. Removed it, checked everything else again.

We are done, the radio is up and running.



Tips: The click click problem can be caused by many other reasons but mainly if the contacts between radio and control head is loose, or there is a lack of power in any 5V or 8V line. For my case it was a burnt resistor caused by a short capacitor. Please check the followings in your radio:

Check the 7805, 7808 and 3.3V regulators. Check the 000 ohm resistors in various power lines for an open circuit. Check the capacitors which are filtering the powers for any short circuit.

Tips: If you have this Click Click problem DO NOT try to cross check it with your friends radio, there is a possibility you will kill his radio as well (if the display unit is short like my one)

Thanks to Scott Malcolm (<http://www.angelfire.com/biz2/mts/>) for the guidance. If I had the options for sending all my other old dead radios to him I would do so happily.

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