



## Most Common Service Questions for the Icom IC-4KL

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**Symptom:** Unit immediately goes into the protect mode when RF is applied. Only happens on specific bands. Other bands are OK.

**Probable Cause:** Defective filter-switching relay in the low-pass filter.

**Cure:** Locate and replace the bad relay.

**Remarks:** Generally, when the relays fail, the armature winding shorts. This sometimes causes damage to the relay driver IC9 on the main unit, align with the associated chokes for that band. IC8 may also be damaged.

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**Symptom:** Automatic antenna tuner has one or more of the following symptoms: 1) Tuner drifts out of tune unless a carrier is present. 2) Tuner goes through retuning sequence each time PTT button is depressed, even after match had already been found. 3) Tuner slows, but never settles on a 1:1 match.

**Probable Causes:** 1) Tuner needs alignment. 2) Tuner requires installation of factory update.

**Cure:** Try adjusting R19 and R25 in the main unit as per the alignment procedure on page 5-10 of the service manual. If this doesn't help, contact Technical Support regarding updates to the DET and Main units.

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**Symptom:** Unit will not turn on. No lights, no fan noise. A relay click can be heard from linear when power switch in control head is pressed.

**Probable Causes:** 1) The circuit breaker is tripped. 2) A cable is not connected. 3) No +8 volts is being sent from exciter. 4) Power supply is blown.

**Cure:** Check to make sure circuit breaker has not been tripped by turning it off, then on again. Check again to make sure all cables are connected. If they are, look for +8 volts DC at pin 1 of the DIN cable that plugs into the 4KL. (The IC-781 had an internal fuse on this line). If the +8 volts is present inside the 4KL, remove the cover to the reg. unit and look for obviously blown parts. If evidence of damage is present, the reg. unit should be sent to one of our factory service centers for repair, as we have very scant service information on this sub-assembly.

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**Symptom:** Unit immediately goes into protect mode when switched to the 24 MHz band and above, even in receive.

**Probable Cause:** Unit has not been out-of-banded.

**Cure:** Call the Icom Technical Support department for OOB info.

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**Symptom:** Unit puts out normal power but does not pass receive signal to tranceiver.

**Probable Cause:** Bad switching relay. Possible bad relays are RL15 on filter unit, RL5 & RL6 in tuner unit, and RL1 on the SPLTR unit.

**Cure:** Locate and replace bad relay.

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**Symptom:** Unit produces noise or "birdies" in the receiver on 40 meters and below. This noise occurs as a "swishing" sound that moves up or down the band.

**Probable Cause:** Noise generated by the internal switching power supply.

**Cure:** There is no definite cure for this problem. The factory has been unable to help us. However, a modification can be installed in the SPLTR unit in early production units to help minimize the noise. Please contact Technical Support for a copy of this modification. Also, we have found that wrapping the power cord through a large ferrite toroid has alleviated the problem in some units.

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**Symptom:** IC meter reading is high while power output is low in some bands. Protector meter reading is OK. No components are overheating on the COMBINR unit.

**Probable Cause:** Unit incorrectly senses an over-current condition and is cutting back power.

<b>Cure:</b>	Tighten loose screws at wire-wound resistor R11 on PA unit. If this does not help, try performing the IC meter and IC ALC meter alignment in page 5-8 of the service manual.
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<b>Symptom:</b>	Low output power with a high IC reading. Unit burns components on COMBINR unit.
<b>Probable Cause:</b>	Output power from PA units are not equal. Possibly, there is a faulty pair of final transistors.
<b>Cure:</b>	Replace burned components on the COMBINR unit. Disconnect and measure power output from each PA unit individually. Locate and replace defective components.
<b>Remarks:</b>	Make a level check to be sure that the four outputs from the SPLTR unit is the same for each of the four PA sections.
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