Fan mod, how it should be done for IC-7000

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As many of you IC-7000 owners know, the rig can become fairly hot, especially at the top left side, where the control unit (and DSP) is located.

That the rig gets hot, is not a big deal. The temperatures are well below safety limits, although it is a bit unpleasant if you touch it. In fact, the fact the rig gets hot at the outside, is a good sign that the heat house holding is well working.

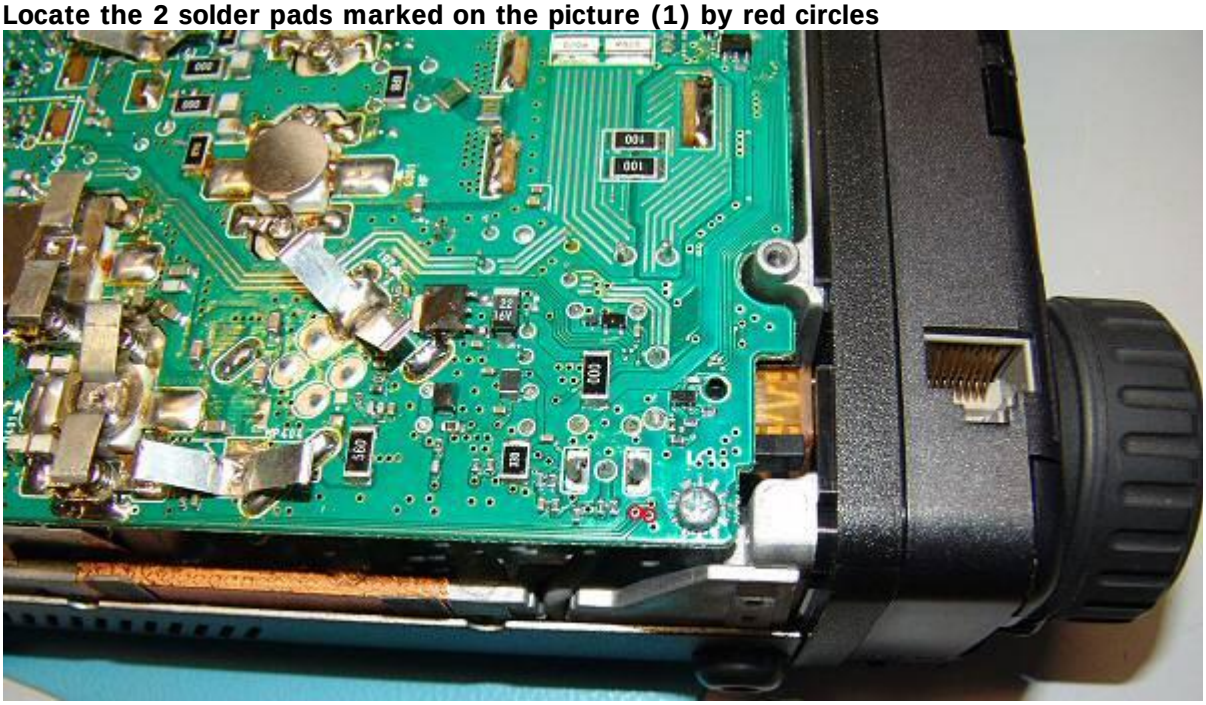
Having that said, i noticed that a lot of IC-7000's are modified by just a 100 ohm resistor to the 13.8v line to enable a continues running fan.

This modification has some disadvantages, and the most important one is the fact of collecting dust in the rig.

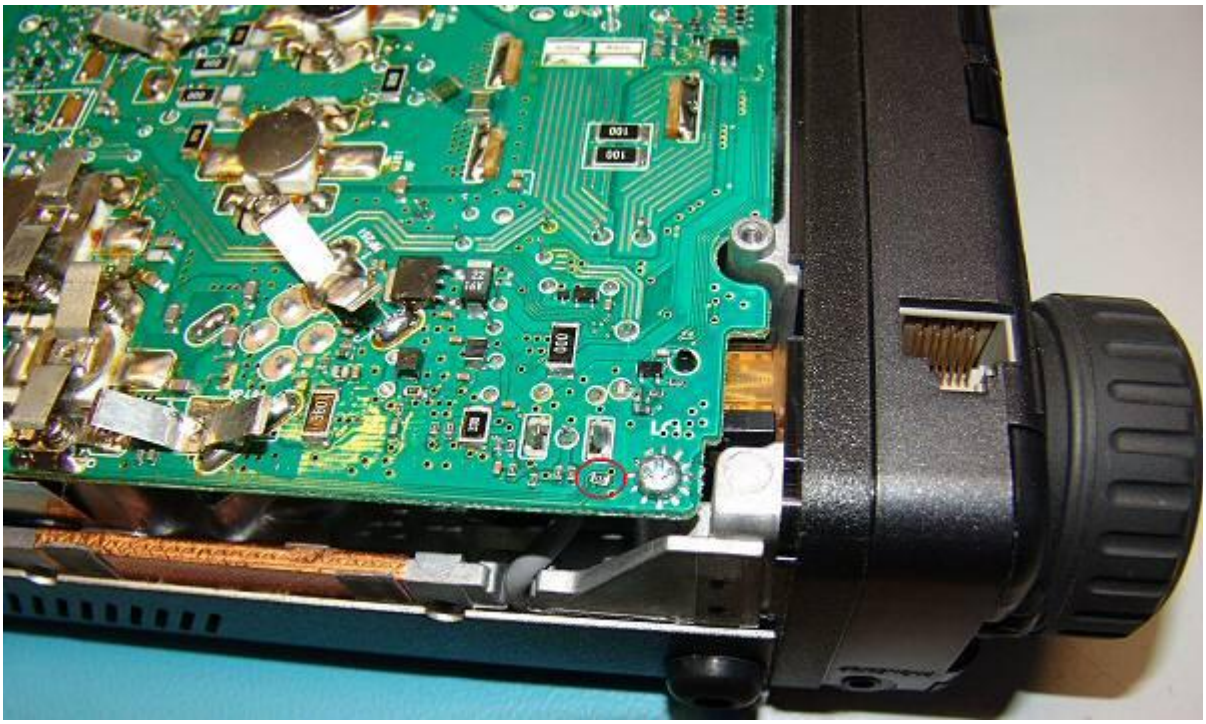
Better to let the fan run slowly only when it is necessary due to an increased temperature of the heatsink.
Icom provided 2 NTC's keeping track of the PCB temperature near the RF-Power transistors. The NTC's are telling the CPU how hot it is, and the CPU controls the fan. IMHO fooling the CPU is a much better approach than hot wire the fan directly, and here how it is done:

Get yourself a 33k Ohm resistor. Preferably a small SMD type, but regulars will do the job also, and a blob of thermal paste.

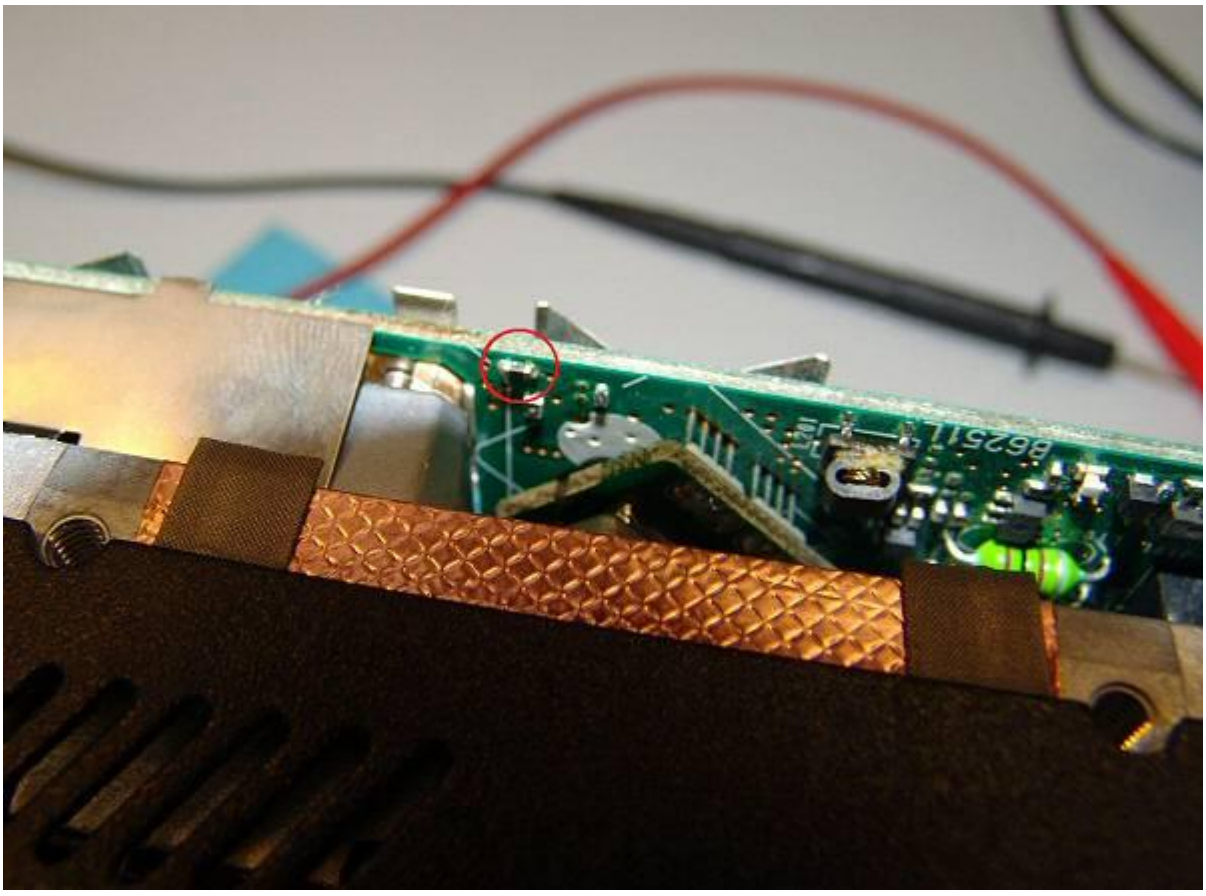
1. **Remove the bottom of the cabinet**
2. **Locate the 2 solder pads marked on the picture (1) by red circles**



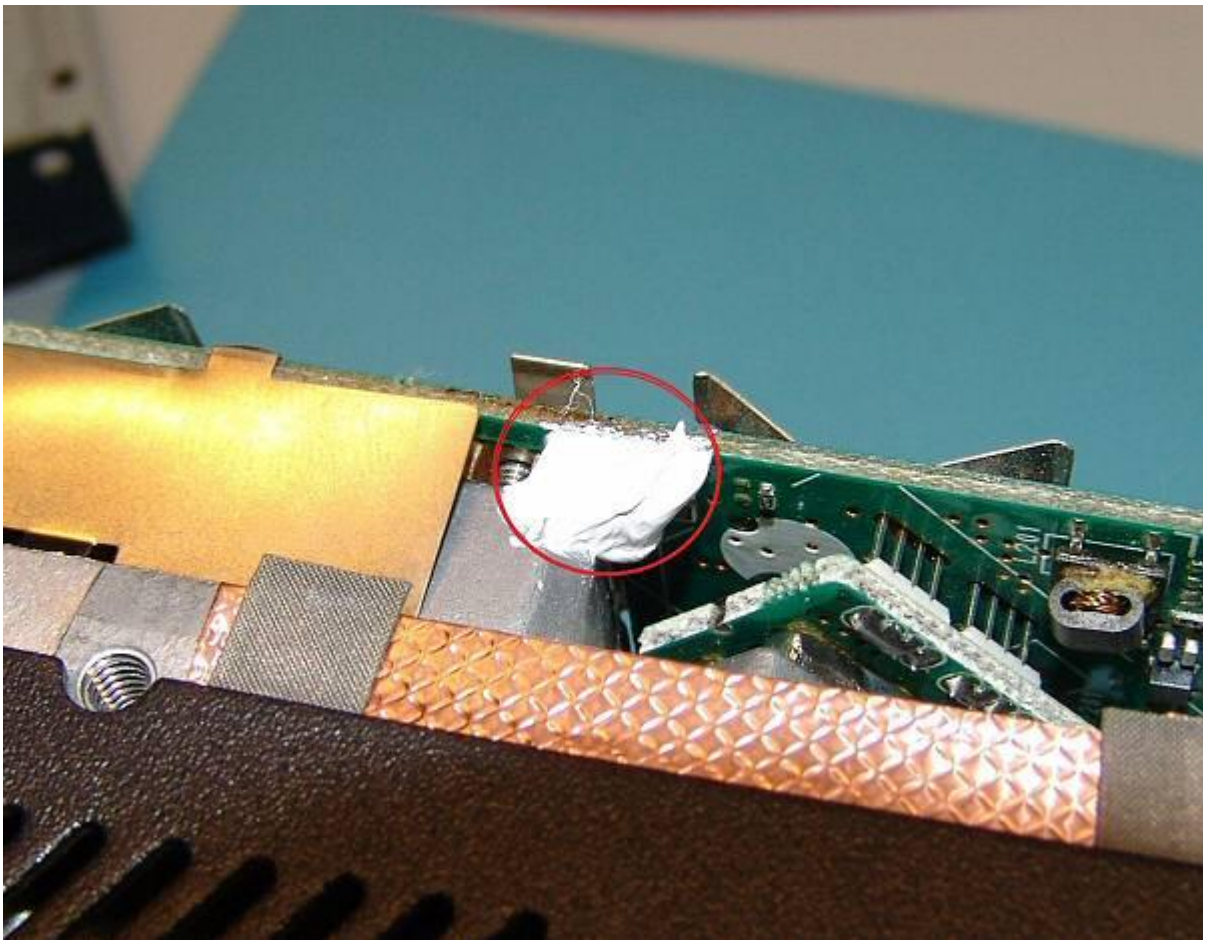
3. **Clean the pads, and pre-tin them, solder the resistor to the pads**



4. **Locate the NTC**



5. **Put a drop of thermal compound over the resistor, to thermally couple the NTC to the heatsink. Make sure you touch the aluminium heatsink and the NTC! This will make the fan much more accurately responsive to temperature changes.**



6. **This is it. Put the bottom cover back on, and fire up the rig.**

You wil notice the fan will start after a bit of time. It will highly depend on your environmental setting, and temerature.

The fan will increase in speed quickly if temperature rises, but on your desk, in RX mode, you will not notice it, and the rig stays a lot cooler. But if you put the rig in your cars glove compartment, for instance, and temperature rises, the fan wil nicely keep it cool.....

The resistor tells the CPU the heatsink temperature is about 10deg hotter. The extra thermal coupling makes it more accurately.

DISCLAIMER: Your mileage may vary, i am NOT responsible for ANY damage or faults. Modify your rig at your OWN RISK.

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