Checking your Acom A1011 amplifier for factory modification

V1.0 Written by H.P. Vermeulen – PA3HHO.

Disclaimer:
*Please note that I have written this document only to help out fellow hams. I have no relation to Acom in Bulgary whatsoever (except for that fact that I like their product very much! Be aware that tube amplifiers are running LETHAL VOLTAGES. What doesn't kill you makes you stronger they say? Sure, except for tube power amps. Take it from me, they do not make you stronger, they will however **KILL YOU** if you're not careful! If you don't know what you're doing, STAY AWAY! I'm not a professional technician, just a very average ham radio amateur. I think the information in this document is correct, but I do not warrant its completeness or accuracy. If you feel the info is incorrect, please let me know and I will update the document so make sure you have the most recent verion (check http://pa3hho.wordpress.com for latest version). No rights can be derived from the information in this document. I cannot be held responsible for any consequences arising from the use of the information in this document. In other words; all actions are your own risk, BE CAREFULL!*

The Acom A1011 linear amplifier is very similar to the Acom 1010. The main difference is power tube configuration; the A1010 has a single 4CX800A (GU74B) power tube, the A1011 has two 4CX250B (7203) power tubes in parallel.

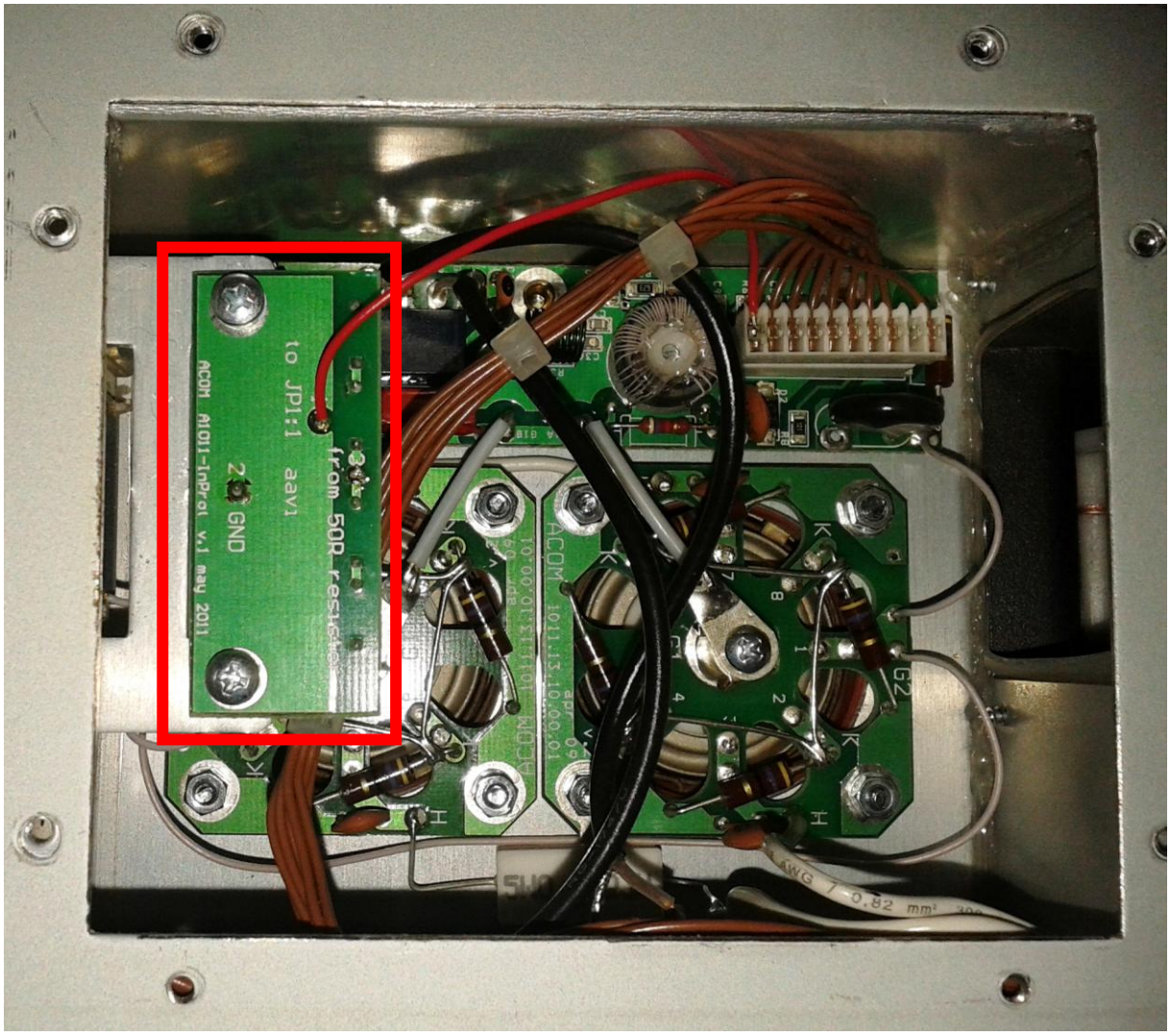
The First batch of Acom A1011 amplifiers suffered from problems; users where claiming the amplifier was eating tubes alive or, as somebody wrote on internet, they were burning power tubes like candles. I don't want to go into the discussion about this being true or false let alone whose fault it is (user or Acom). Fact is that since 2011, Acom installed a factory modification in the A1011. This modification involves *installation of* an *additional PCB* **and** *replacement of two resistors* on the main board. Earlier version, could be modified by Acom dealers. I assume this was done under warranty but I have heard people claiming they had to pay for the modification because it was considered an optional "upgrade" of their outdated model. Not sure, maybe the amp ran out of warranty or the due date for free installation was passed, not sure. From what I read on the internet, Acom has A+ after sales and customer service, so I find it hard to believe.

According to my local Acom dealer, the modification was factory installed for models with S/N 112xxx and up. Older models with S/N 90100 - 111xxx did not have the modification. There are people claiming thousands of QSO's with the 1011's factory installed 4CX250B's still working flawlessly. If that's the case, I guess don't need a modification. I don't know exactly what the modification is, but I reckon it will protect the power tubes from specific situations that are not applicable to all users. If anyone has any more info on this, please let me know and I will update this document.

I bought my A1011 second had from a Dutch ham who bought it in France. The serial number is 110xxx so one of the last models that did not have the modification factory installed. The seller assured me the modification actually *was* installed (he was right). Just 2 weeks after the 1 year warranty period, I started having problems, probably due to internal short circuit of a power tube. That's when I wanted to make sure the modification was done (correctly). This is how you check your A1011 for the modification.

Check for additional PCB

Turn the amp upsidedown. On the bottom, there's a small panel of about 4 x 6 inches (10 x 15 cm) with 8 little (Philips) screws. Remove the panel and check for a small PCB on the left (outlined in red):

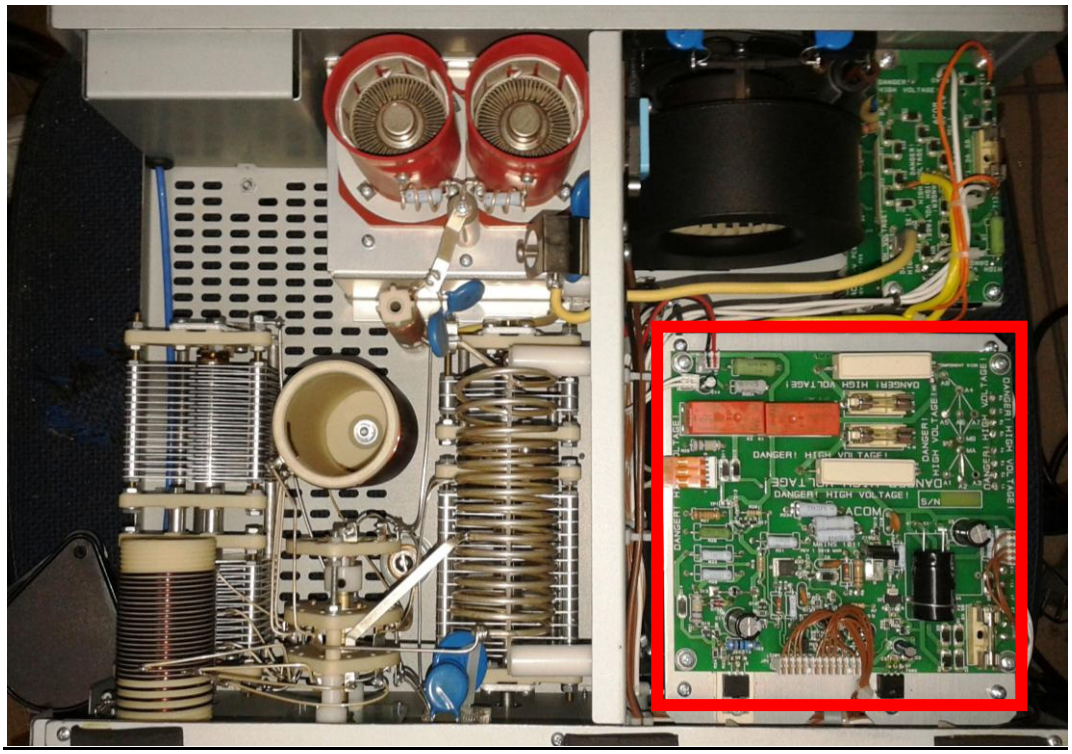


All the PCB's in my amp date back to 2009, but the little PCB on the left indicates:
"ACOM A1011 – InProt v.1 may 2011". I guess the mod was designed in 2011 and stock on 2012 amplifiers. I'm just guessing here, but it makes sense.

Check for resistor replacements

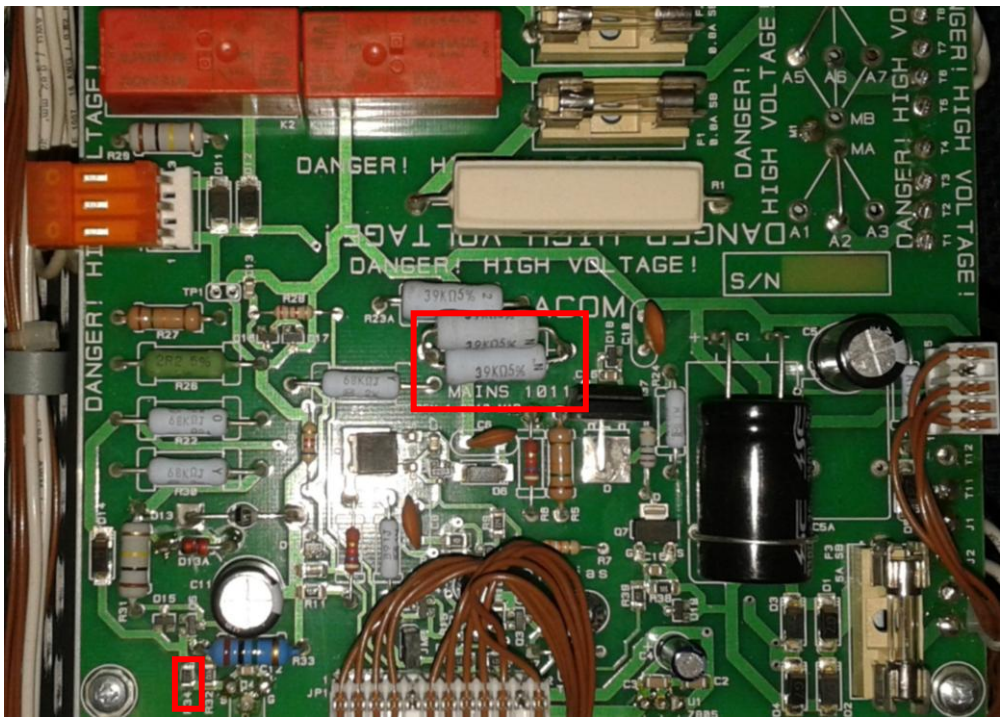
If the InProt (Inrush Protection?!) PCB is present, chances are that the modification was installed. Because I wanted to be 100% sure, I also checked the resistor replacements. Close the bottom lid. To check resistor replacements, you need to look at the main driver board that's under the main lid. To open the main lid, remove 4 (black) Philips screws on both sides and 3 on the back (total 11 screws). Gently slide the cover a few cm's back and open it op.

Here's what your amp should look like (main board highlighted in red):



- Check **R34** (smd) on the lower left of the PCB just above Voltage regulator
  The original 27 Ohm resistor should be replaced by **22 Ohm**

- Check R23 in the middle, just below the big white ceramic 7W 22K resistor
  The original resistor (value unknown) should be replace by **two 39k 3W** resistors



Both resistors replaced *and* InProt PCB installed? Your amp is modified! Congrats es 73 de PA3HHO