RoeTest – Computer Tube Tester / Tube Measuring System

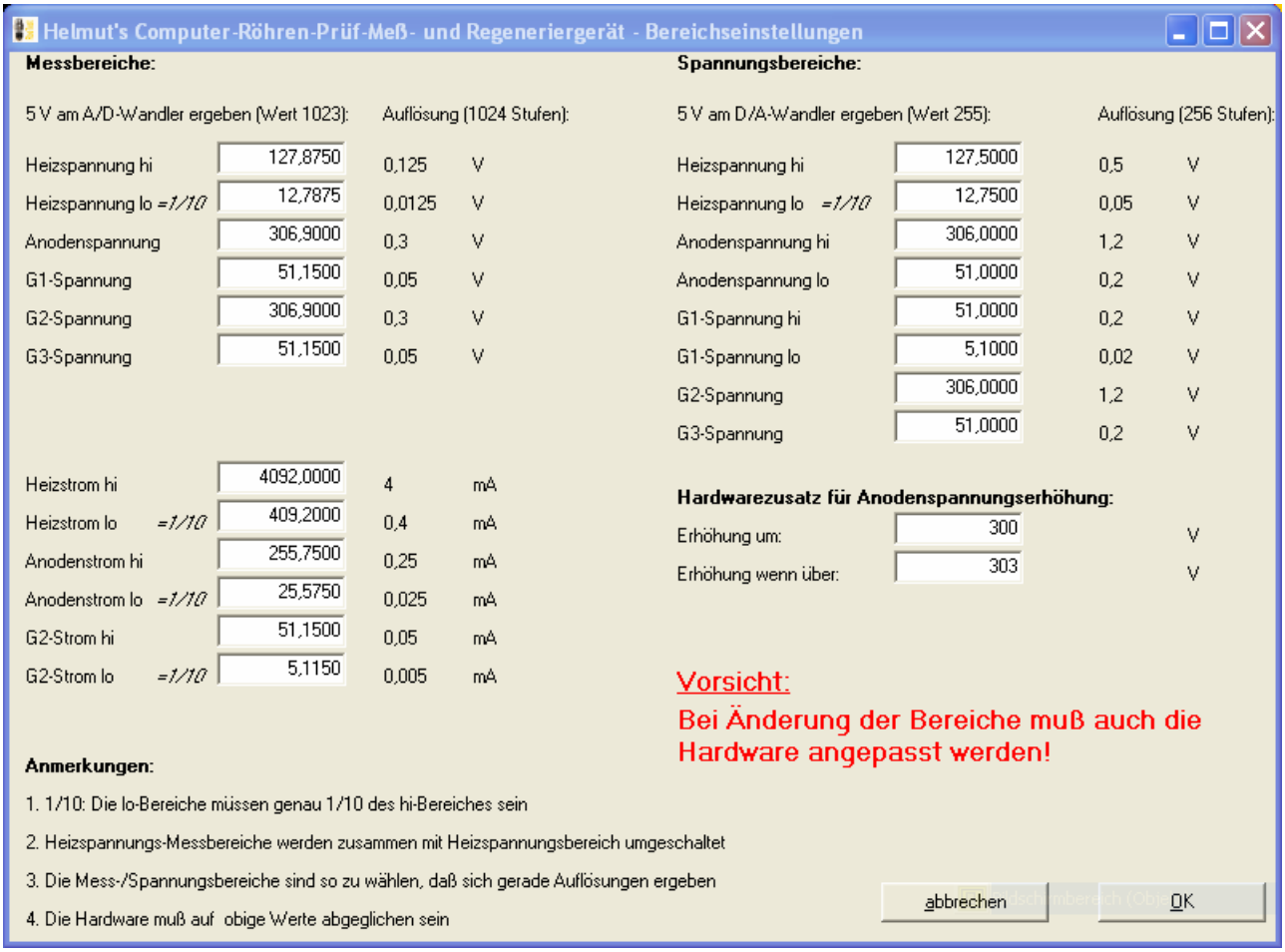
(c) - Helmut Weigl www.roehrentest.de

Options – Range adjustments:

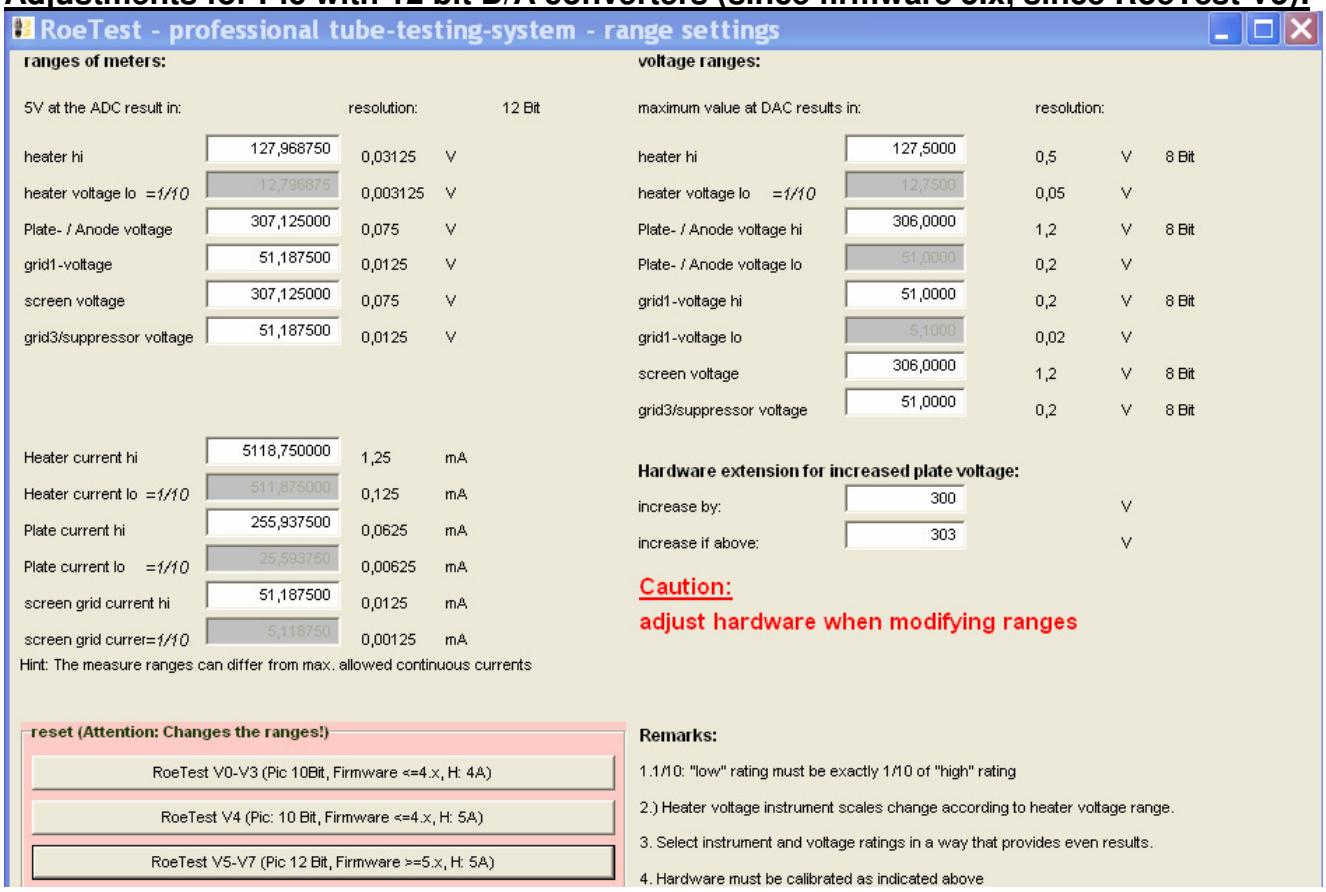
The adjustments have to be adapted to your hardware otherwise wrong voltage and current values will be displayed. This depends both on the used Pic (10 bit resolution up to firmware 4.x or 12 bit resolution since firmware 5.x) and the measuring- / voltage ranges.

Adjustments for Pic with 10 bit D/A converters (up to firmware 4.x – up to RoeTest V4):

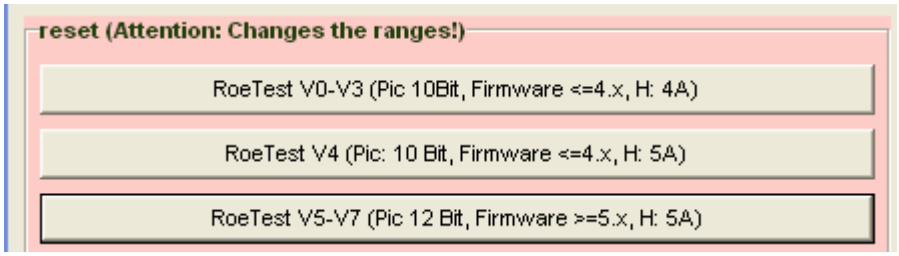
The picture shows the values for the **RoeTest3 with 4A heater current range.**
The **RoeTest4 is capable of supplying up to 5A** so you have to enter 5115 mA at "Heizstrom hi" (4 mA per step x 1023).



Adjustments for Pic with 12 bit D/A converters (since firmware 5.x, since RoeTest V5):



For easier adjustment of the ranges some presets have been defined starting with software version 7.5.0.0:



Caution: Do not change anything here if you do not change your hardware!
An adjustment for the correct hardware is only needed once.

I have chosen the designed measure and voltage ranges very carefully so that as much as possible (receiver -) tube types can be tested with still passable complexity. The hardware I designed is adapted to these measure and voltage ranges.

Again and again I get inquiries for other ranges. Some wishes are very extreme (anode currents up to 2A,... higher heating currents up to 10 A, … higher anode voltages up to 1000V …). By using the range adjustments the software is now capable to also support hardware with other ranges (untested and not guaranteed).

If you want to build the RoeTest using other ranges please consider the following:

- It is not sufficient to just use semiconductors capable of higher voltages of currents, all components have to be adapted (even relays, pcb tracks, wiring …).
- Consider the power dissipation and the generated heat
- Eventually a completely different circuit has to be built
- The hardware must be compatible with the Pic (voltage ranges are controlled by D/A converters in the range from 0-5 V; the A/D converters for the measuring ranges also accept 0-5 V; the number of the voltage and measuring ranges cannot be changed
- When using larger ranges the resolution will degrade
- Costs will rise more then proportional the more extreme the wishes are
- I cannot give you any support for other builds!

Think over carefully if it is not possible to get along with my suggested ranges. Nearly every tube can also be tested using lower voltages. And if there is eventually a tube with a high heater current: Build an adapter. The tube can also be heated using an external power supply (potential-free) connected directly to the tube's heater pins. The connections to the internal heater supply are just left unconnected in this case.