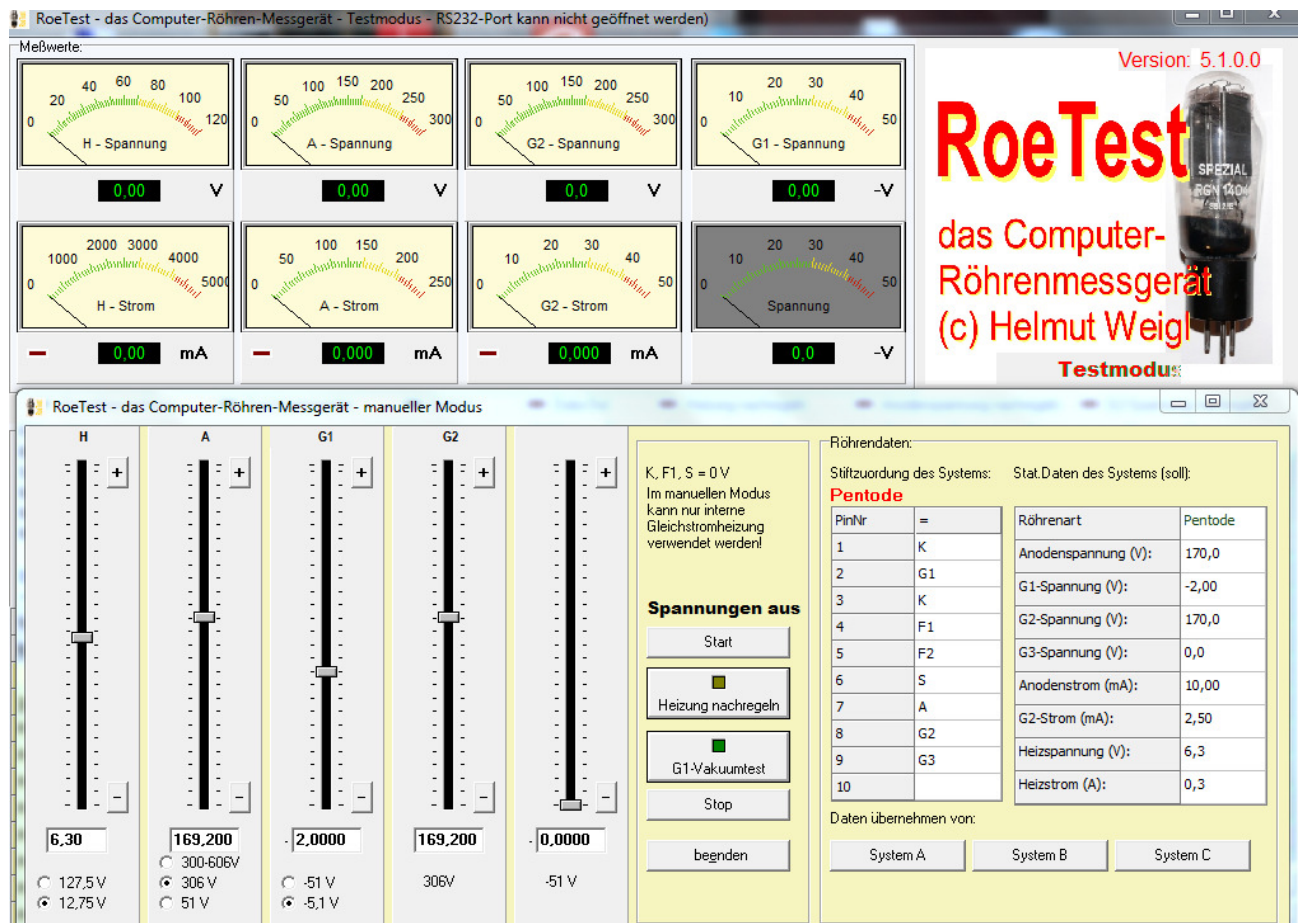


**Manual Mode:**



In manual mode the control is done by hand. All voltages are adjusted using slides. There is no external AC heating available in manual mode!

Only the pin assignment is done automatically (buttons System A-C). There is no over current protection available for the tube and also no automatic control of anode and screen grid voltages. Merely the heating can be switched to automatic control.

Manual mode is also used for the testing of tuning eyes. In this case measured values are not important but only the brilliance and the control action. As soon as a tube is defined in the database as **tube type "Mag.Auge"** the RoeTest is automatically switched to the mode for tuning eyes. In this case the screen grid voltage source will be connected to the control grid of the light emitting system and the anode of the first system via 2 resistors of 470 kohm. The value of 470 kohm is suitable for many tuning eyes. For others there should be higher resistor values used according to the data sheets. For a functional test the built in resistors of 470kohm are sufficient.

## **In the following some FAQ's concerning manual mode:**

### **Problem:**

How to start:

### **Solution:**

Select tube data in the main menu.  
Press button <manuell>.  
Import data from <System A> (or B or C).  
<Start>  
<Heizung nachregeln>  
if needed move the sliders (to adjust the desired voltage)  
  
<Stop>

### **Problem:**

In manual mode the display values of the sliders do not correspond with the measuring instruments (this only applies to RoeTest up to version 3 – with higher hardware versions the voltages are electronically controlled)?

### **Solution:**

Small deviations are not a fault. When loaded the voltages may drop a little. There is no load for the two negative voltages (normally G1 and G3); measuring display and slides are in good synchronization (there are minimal differences due to the resolution and accuracy of the AD/DA converters). There may be a small voltage drop under load for the two positive voltages (normally anode and screen grid). Under load the heater voltage may have a larger voltage drop.

When using automatic modes this is irrelevant. Heater voltage, anode voltage and screen voltage are automatically controlled by the software (for this reason the range of the anode voltage is up to 306V to give enough 'headroom' for a 300V output voltage).

In manual mode there is only one automatic control for the heater (button "Heizung nachregeln"). Automatic control of the anode and G2-voltage would be contrary to control by hand. Anode and G2 voltage must be readjusted manually using the sliders. Adjustment should be done using the values from the measuring instruments and not that of the sliders. The value at the sliders is used before start of the measurement as a coarse reference point.

**Problem:**

How to test tuning eyes/bands?

**Solution:**

The measurement of currents is irrelevant in this case. With tuning eyes the most common fault is an exhausted phosphor. Testing is done only optical using your eyes. If the tube is defined correctly with tube type "magisches Auge" in the database, resistors of 470kohm will automatically be connected in series to the anode of the first system and the control grid of the light emitting system.

In manual mode you can proceed the same way as with a standard tube. The control accuracy (G1) can be checked using the slider for G1 and the light emitting efficiency is controlled visibly (just use your eyes). Some tubes would require different resistor values to fully control the bar length. For a functional test the 470kohm resistors are sufficient.