

Manual Mode:

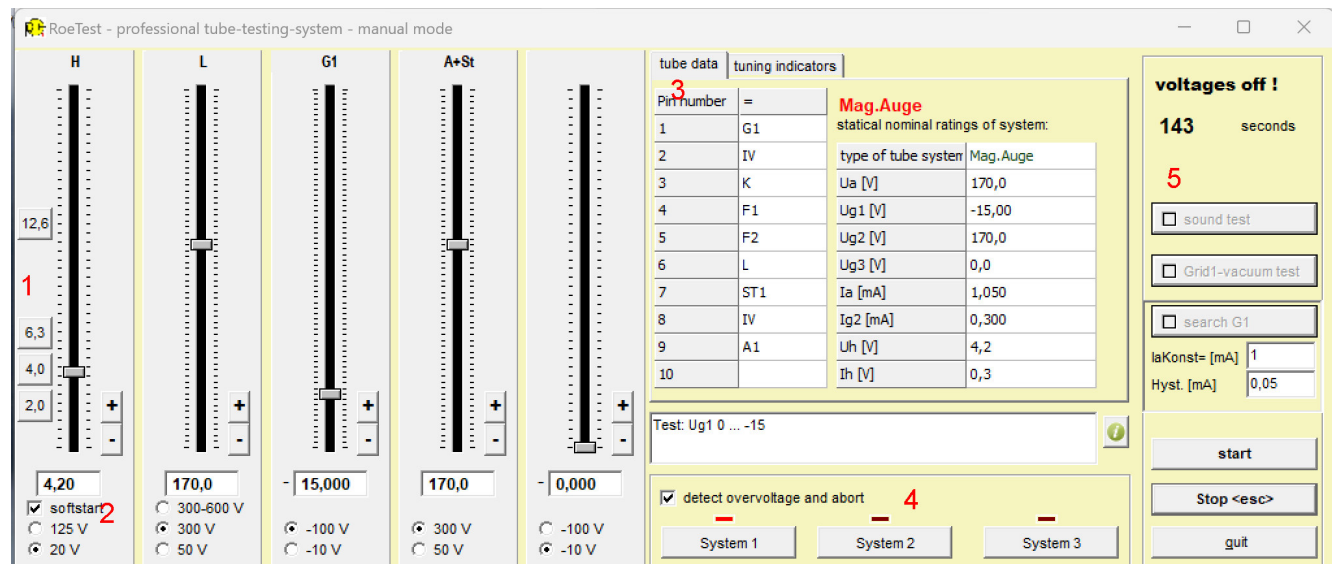
The screenshot displays the RoeTest software interface in manual mode. The top window, titled 'RoeTest - professional tube-testing-system', shows seven analog meters for measured parameters: UH (0-120 V), UL (0-300 V), UA+St (0-300 V), UG1 (0-100 -V), IH (0-6000 mA), IL (0-300 mA), IA+St (0-60 mA), and U (0-100 -V). The bottom window, titled 'RoeTest - professional tube-testing-system - manual mode', features five vertical sliders for H, L, G1, A+St, and a fifth unlabeled slider. The H slider is set to 4,20, L to 170,0, G1 to -15,000, A+St to 170,0, and the fifth slider to 0,000. Below the sliders are radio button options for various voltage and current ranges. A 'tube data' table and 'tuning indicators' section are also visible, along with a 'voltages off!' warning panel showing 0 seconds.

Pin number	=	Mag.Auge
1	G1	statical nominal ratings of system:
2	IV	type of tube system Mag.Auge
3	K	Ua [V] 170,0
4	F1	Ug1 [V] -15,00
5	F2	Ug2 [V] 170,0
6	L	Ug3 [V] 0,0
7	ST1	Ia [mA] 1,050
8	IV	Ig2 [mA] 0,300
9	A1	Uh [V] 4,2
10		Ih [V] 0,3

In manual mode the control is done by hand. All voltages are adjusted using slides.

Only the pin assignment is done automatically (buttons System 1-3). There is no over current protection available for the tube and also no automatic control of anode and screen grid voltages. The current limit for device protection is also active in manual mode.

Description of controls:



Slider:

In the left half there are 5 sliders for the 5 voltage sources of the RoeTest. These are labeled depending on the tube used (or system in the tube). The +/- buttons can be used to fine-tune the voltages. The voltage range can be set with the radio buttons. There are special features with the heating voltage: Here you have the option of deactivating the soft start (2) (useful e.g. when the tube is already warm) and there are buttons for the most frequently used heating voltages (1).

tube data:

The tube data loaded from the tube database are displayed here (3). The system can be selected with the buttons (4) if the tube has several systems. When the manual mode is called up, the first system is automatically selected and the sliders are set automatically.

Action Buttons:

These are on the right (5). Most often you will use <start> <Stop> and <quit> (the manual mode).

<sound test> (from hardware V10)

An external transformer and a subsequent amplifier must be connected (see separate documentation)

<Grid 1 vacuum test>

A 1.2 MOhm resistor is placed in the G1 line. If a grid current flows, the anode current changes.

<search G1>:

As soon as the tube is warm: A constant anode current is specified. The software then searches for the appropriate grid voltage.

Magic Eyes/Indicator tubes:

Manual mode is also used to test Magic Eyes. As soon as the tube type "Mag.Auge" is defined in the database for the tube, the RoeTest is automatically switched to the mode for magic eyes by the software. 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 magic eyes. According to the data sheet, higher resistance values would be required for other tube types. However, the built-in resistors of 470KOhm are sufficient for a function test.

You start the test of the magnetic eyes just like with other tubes with the <start> button. As soon as the currents are constant and the luminescent layer lights up, you can play with the sliders and check the control effect. The luminosity is always assessed manually by visual inspection.

As of software 10.5.3.3, the software switches to the "tuning indicators" tab as soon as the tube is heated. If the currents are stable, the luminous image is assessed (by clicking the radiobuttons). Then press the <test> button. The control effect is checked automatically and the currents are measured and recorded in a table:

The screenshot shows a software window titled 'tuning indicators' with a table of current measurements and a 'test' button. The table contains the following data:

IL [mA]	1,050
Ia1 [mA]	0,300
IL [mA] Ug1=0V	0,879
Ia1 [mA] Ug1=0V	0,071
control ability	0,504
Ia1 [mA] Ug1=0V	0,294
Steuerwirkung	o.k.

Below the table is a 'light quality' section with the following options:

- not rated
- bad
- useable
- good

To the right of the table is a text box with the following instructions:

test tuning indicator:
Please wait until screen current and control current are constant.
Please evaluate light quality manually.
Then button Press <test>.

At the bottom of the window, there is a 'test' button, a status bar showing 'Test: Ug1 0 ... -15', and a checkbox for 'detect overvoltage and abort' which is checked. Below the checkbox are three sliders labeled 'System 1', 'System 2', and 'System 3'.

After exiting manual mode, the results are written back to the static data window:

status	heater	testing for shorts	static data	vacuum	curves	re
system				1	2	
type of tube system				Mag.Auge		
IL [mA]				1,050		
IL [mA] Ug1=0V				0,879		
= percent of nominal				83,7		
Ia1 [mA]				0,300		
Ia1 [mA] Ug1=0V				0,071		
= percent of nominal				23,7		
control ability				0,504		
Ia1 [mA] Ug1=0V				0,294		
Steuerwirkung				o.k.		
light quality				useable		

In addition, the results are recorded in the comments:

status	heater	testing for shorts	static data	vacuum	curves	remarks
remarks about measured tube:						
manual mode: System 1: Uh=4,20V, Ih=0mA, Ua=170,0V, Ia=0mA, Ug1= -15,000V, Ug2=170,0V, Ig2=0mA, Ug3= -0,000V manual mode: System 1 (tuning indicators): Uh=4,20V, Ih=289,98mA, UL=170,0V, IL=0,879mA, Ug1= -15,000V, Ua1=170,0V, Ia1=0,071mA, control ability: o.k.						
ID. # 708						

The results are thus available in the measurement logs (print, save) and in the inventory database.