

RoeTest – professional tube testing system

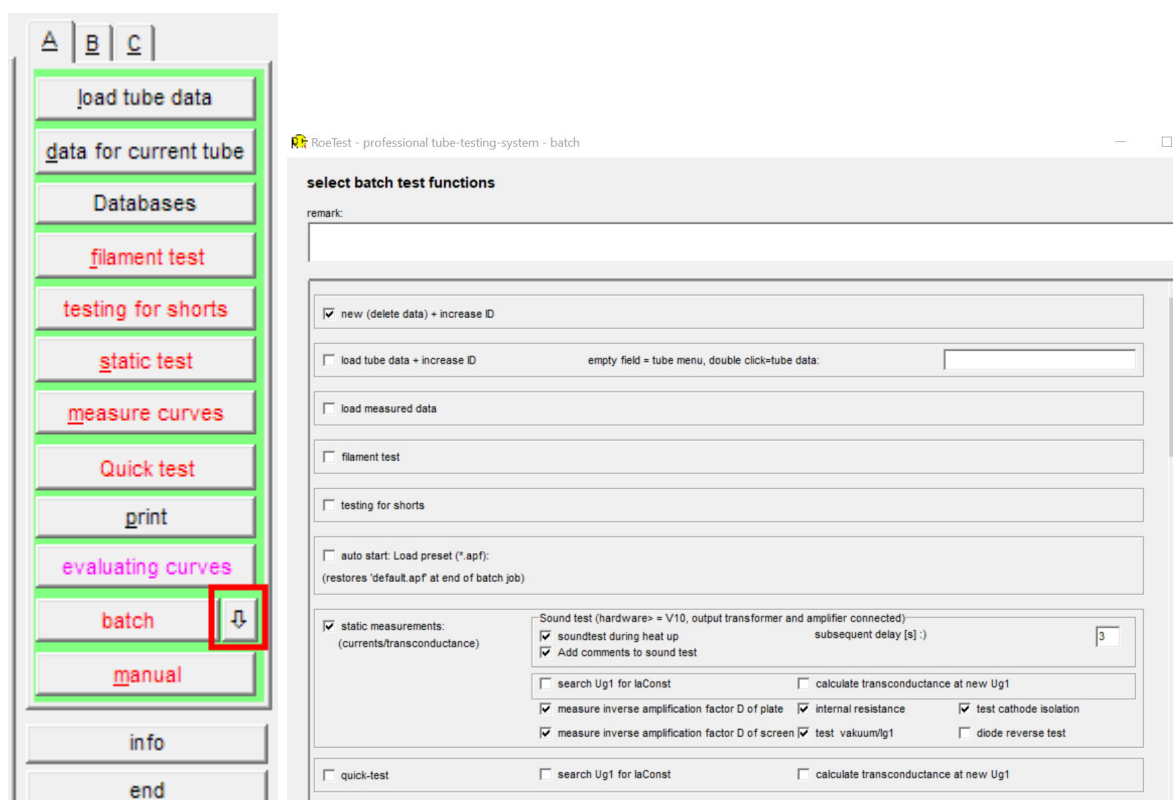
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Batch processing:

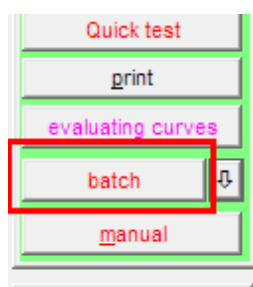
Often you have to do the same workings:

E.g. filament test, short test, static measurements, perhaps curves, printing, saving, evaluating curves and so on.

You can do one button batch processing. First please define, which steps are to do:



Then you can start the batch process:



Explanations:

Most of the functions also you can start manually by buttons. This functions are not all explained detailed here.

remark:
Stapeljob 2: Prüft Röhre mit anderen Daten; kopiert Ergebnis in Tabelle; zeigt am Ende Fenster zum Röhrenwechsel; startet dann Stapeljob 1

Field for remarks: Explanation what this job does

Prefix/order number (can be printed on report or labels)

Prefix. You can use this field for printing on protocols or labels. E.g. to print a order number.

new (delete data) + increase ID

= erase all arrays, set next ID# (useful, if you want test several tubes of the same type). The next ID# depends if you work with the tubestock database.

add dataset to tubestock database
(ID = synchronized with tubestock database)

If you activate in batch processing then always the ID# is the next free dataset in the tubestock database.

load tube data + increase ID empty field = tube menu, double click=tube data:
 Maintain soft start status

If the right edit field is empty then a window for selection tube data opens.

If the right edit field contains tube data, then this data will be loaded.

Select the tube data in this field by mouse double click.

Preserve softstart status: If checked, the "Softstart" checkbox in the main window will not be reset when new tube data is loaded:

tube data:
designation: **PCL84**
PCL84
heater voltage [V]: 15
Heater current [A]: 0,3 softstart
heater type: indirekt intern DC
haco: Nival R94

load measured data

opening a dialog for loading stored measured tube data.

filament test

testing for shorts

auto start: Load preset (*.apf):
(restores 'default.apf' at end of batch job)

Loads a autostart preset (special start parameters)

static measurements:
(currents/transconductance)

Sound test (hardware > = V10, output transformer and amplifier connected)

soundtest during heat up subsequent delay [s] :

Add comments to sound test

search Ug1 for IaConst calculate transconductance at new Ug1

measure inverse amplification factor D of plate internal resistance test cathode isolation

measure inverse amplification factor D of screen test vakuumUg1 diode reverse test

static measurements. Select which test to do (if possible for tube type)
Soundtest: Only with hardware V10. You must connect a outputtransformer and extern amplifier (see extra tip to soundtest).

Search Ug1 for Iaconst: Searches the grid voltage for a concrete plate current

calculate transconductance at new Ug1: Calculates the transconductance on the founded Ug1.

quick-test search Ug1 for IaConst calculate transconductance at new Ug1

static short test.

Search Ug1 for Iaconst: Searches the grid voltage for a concrete plate current

calculate transconductance at new Ug1: Calculates the transconductance on the founded Ug1.

abort, if not at least %

If the tube measurement don't reach the % value, then abort the batch processing.

auto start: Load preset (*.apf):
(restores 'default.apf' at end of batch job)

Loads a autostart preset (change special start parameters)

writing curves Ug1-curve Ua/Ug2-curve 1

curve tracing. You can select which curves you want to trace. ,1' means: Only one curve of each chart.

manual mode start immediatly softstart search G1 IaKonst= [mA]

Finish immediately after indicator tube test

message (text):

sound [wav]:

bring window to foreground

Starts the manual mode.

Search G1: Searching a G1 voltage for IaConst. If IaConst = 0, then the typical value from the tubedata database is used.

Message: This text is messaged in the manual mode (what to do manually?)

Sound: (wav file, search with mouse doubleclick). Sound was played with starting manual mode.

The screenshot shows a software control panel with the following elements:

- Curve over time
- start immediately
- soft start
- with sound test
- write back typical value
- Radio buttons for system selection: system 1, system 2, System 3
- Measurement every [s]:
- Modus: normal, RUG, alternierend
- Number of measurements:
- A text input field containing "1200 KOhm"

see separate informations to curve over time

The screenshot shows a software control panel with the following elements:

- neon stabilizer / neon lamp
- start measurement

The screenshot shows a software control panel with the following element:

- nixie

The screenshot shows a software control panel with the following elements:

- synchronize with tubestock database
- add dataset to tubestock database (ID = synchronized with tubestock database)
- show maske tubestock
- save measured data as attachment to the dataset in tubestock database
- mark dataset
- make a picture with webcam an add it as attachment to tubestock database
- copy picture to folder 'Röhrenbilder' if not exists

This part is relevant for automatic adding the tube to the tubestock database (tubestock.dbf).

Important: If set add dataset to tubestock database (ID = synchronized with tubestock database), then the ID#s are **synchronized with the tubestock database.**

The ID numbers are equal the dataset numbers. With this strategy the software enabled quick access to the tubestock database without searching. In this case, it is not possible to use free ID#s (this becomes useless).

save measured data as attachment to the dataset in tubestock database stores the measured data as attachment to the datasets of the tubestock database:

mark dataset marking the dataset in the tubestock database. Later you can select all marked datasets (you know all new datasets, e.g. for printing tube rolls)

make a picture with webcam an add it as attachment to tubestock database taking a photo with webcam. See separate Tipp.

copy picture to folder 'Röhrenbilder' if not exists

copying the picture to the folder „Röhrenbilder“, in case the picture don't exist there. Therewith the picture also displayed in measurement software and tube data database.

Compare system 1 and 2 (e.g. double triode)
 Transfer the first characteristic into the evaluation window (graphic) Ug1 characteristics Ua / Ug2 characteristics

matching - transfer first curve in evaluation window to graphic Ug1-curve Ua/Ug2-curve

(without easy-match table)

Copying the first curve to the evaluation chart. You can select whether the use of Ug1 or the Ua/Ug2 curve. For matching it is only necessary tracing of 1 curve. In evaluation chart you can display up to 20 curves at same time. The 21st time the first characteristic curve is overwritten again.

easy match
 matching - transfer data in evaluation window to table (any count) Ug1-curve Ug2/Ua-curve

(matching with easy-match table)

Copies much you want curves to the 'easy-match table' in the evaluation window. Then in the evaluation window you can copy the curves with mouse click to the chart. This is a simple, comfortable function matching tubes from a bigger number of tubes. Also it is possible to use the windows clipboard for copying curve datas to other applications (e.g. Excel). See also separate tip to evaluating curves.

display evaluating-window bring window to foreground

After curve trace you can display the evaluation window (usefull if no more tests in this batch process)

save measured data show dialog 'saveing'

Save measured data to the folder, set in options. The file name automatically generated as set in options. If wished, a save dialog is displayed.

load print job (.pjb) - doubleclick: C:\CBuilder5\Projects\RoeTest\common_data_and_settings\default.pjb
 print (at the end of the batch processing 'default.pjb' is loaded again)
 print label count of labels:

load print job: Loads a printjob especialy for this batch job

print printing protocol to printer (using settings of print dialog)

print label count of labels:

printing a label with a label printer (ZPL-printer). Using settings of print dialog

<input checked="" type="checkbox"/> measured data->list	view list of measured tubes
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Stores measured values to a table. You can export it to csv.

Call up external application (defined in Options2):
<input checked="" type="checkbox"/> test

„test“: In options 2 you can define 2 extern applications (exe-files). If so, you can start this applications here.

<input checked="" type="checkbox"/> endless loop	<input type="checkbox"/> beep	<input checked="" type="checkbox"/> auto tube detection	<input checked="" type="checkbox"/> Fenster in Vordergrund holen
sound complete [wav]:	C:\CBuilder5\Projects\RoeTest\klingeln.WAV		
sound continue [wav]:	C:\CBuilder5\Projects\RoeTest\XYLOPHON.WAV		

If this part selected, then batch processing starts again, until you abort.

Auto tube detection: At end of the loop the software prompt you to insert another tube. The system is recognizing whether a tube is removed and inserted again. For security I only allow tubes without top connection (this function is limited to quantified sockets).

Caution: The measurement starts automatically after inserting the tube. In this case are high voltages at the tube sockets present. Only use this mode if no touch with the sockets is possible (only one socket is in an adapter).

You can define playing a beep or a WAV file at prompting and restart the batch processing.

start batch job (doubleclick):	C:\CBuilder5\Projects\RoeTest\common_data_and_settings\Stapeljob1.job
load this job if aborted:	C:\CBuilder5\Projects\RoeTest\common_data_and_settings\Stapeljob1.job

Loads and starts another batch job. In this way also complex tasks are possible.

Example:

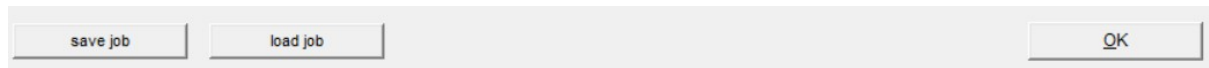
Somebody want to test tubes with two different settings. The results should be stored in the table measured tubes. Solve this task with two batch jobs:

Job 1: next ID, load tube data "first settings", quicktest, store result to table, start job 2

Job 2: load tube data "second settings", quicktest, store result to table, show window endless loop with tube change, start job 1

Begin the testing with job1 !

Load this job if aborted: This allows you to jump back to the first job, for example.



Storing and reloading of batch jobs.

The at last used job is automatically loaded at starting software.

Reseting all fields:

Do this by <load job> 'Leeres Formular – empty form.job'