

Double triodes above software version 7.5.0.0.

With the new software small signal double triodes, like the ECCxx, PCCxx, UCCxx and similar types (e.g. 12AX7) can be tested in one step (both tube systems together). This mode gives you the advantage of double speed.

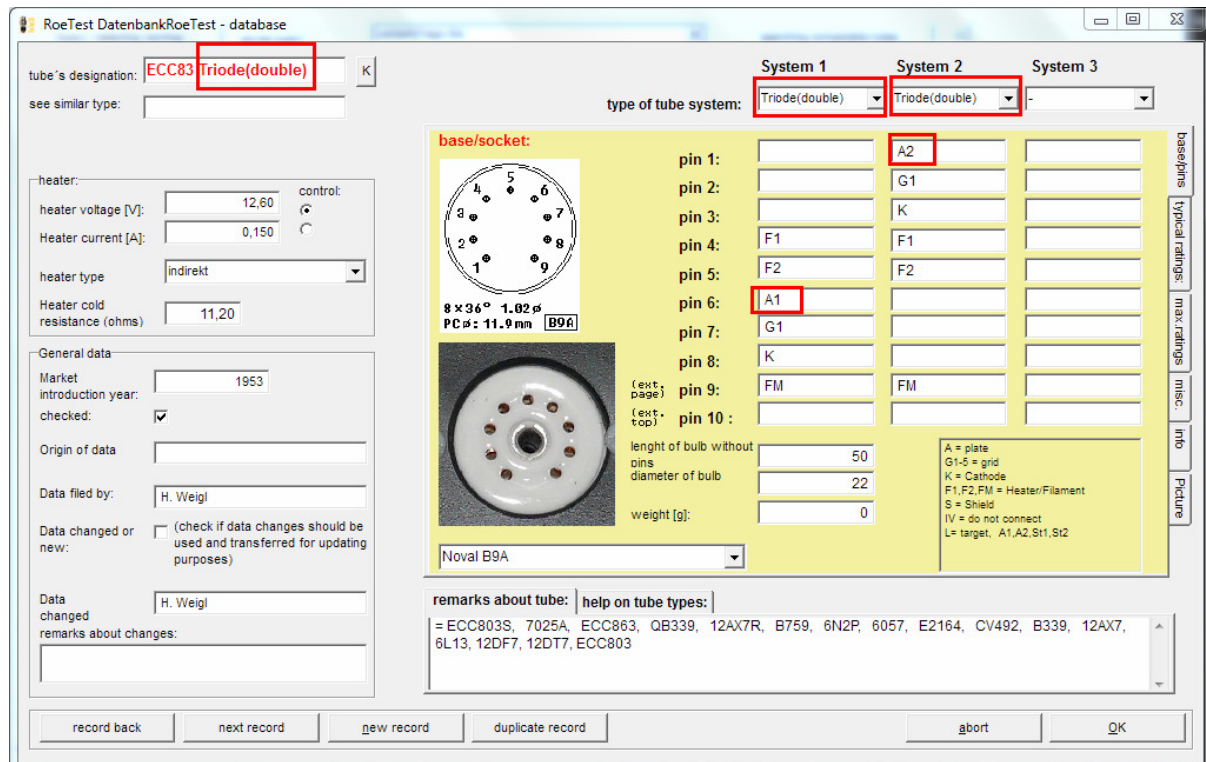
The hardware used is as follows: System 1: Anode/Plate board, System 2: Screen grid board. The screen grid card supplies up to 50 mA. This is sufficient for these tubes.

Almost all kinds of measurements are possible in this mode (heater, short circuit test, anode/plate currents, transconductance, manual mode, curve recording). Only a few tests like Ri and μ are not possible. Mostly you don't need it.

To use the mode for double triodes perform the following steps:

First duplicate an existing data set of a double triode. To distinguish this data set from the other data sets add to **the tube designation the term "Triode(double)"**. Then change **the type of the tube systems** for system 1 and system 2 to **"Triode(double)"**. Designate the anode/plate of system 1 **'A1'** and the anode/plate of system 2 **'A2'**.

The measurement software then knows that the mode for double triodes is to be used.



For popular tubes I have already created additional data sets.

In the measurement software you can see anode/plate voltages and currents at the same time side by side (red – blue). The measured data are written to the same grid as used for single measurements. Also the curves are drawn to the same graphics as for single measurements.

measured parameters:

H - Voltage: 0.00 V

Anode 1 - Voltage: 0.00 V

Anode 2 - Voltage: 0.0 V

G1 - Voltage: 0.00 V

H - Current: 0.00 mA

Anode 1 - Current: 0.000 mA

Anode 2 - Current: 0.000 mA

voltage: 0.0 V

version: 7.5.0.0

RoeTest
professional-tube-testing-system
(c) Helmut Weigl

862 (+s)
ECC83 Triode(double)
20,5 °C **Testmode: n:**

status | heater | testing for shorts | static data | vacuum | curves | remarks

system

	1	2	3
type of tube system	Triode(dou)	Triode(dou)	-
nominal plate current [mA]	1,2	1,2	
measured plate current [mA]	0,976	1,059	
= percent of nominal	81	88	
Nominal screen grid current [mA]			
measured screen current [mA]			
= percent of nominal			
transconductance [mA/V]	1,49	1,48	
at grid voltage change (dUG1) [V]	0,6	0,6	
plate current [mA] at + 1/2 dUG1	1,471	1,548	
plate current [mA] at - 1/2 dUG1	0,578	0,66	
μ			
D of plate in % (D = 4 μ)			
measured plate current [mA]			
at plate voltage			
D G2 [%]			

tube data:
designation: **ECC83 Triode(double)**
ECC83 Triode(double)

heater voltage [V]: 12,6
heater current [A]: 0,15
heater type: indirekt intern DC

base: Noval B9A

system	1	2	3
type of tube system	Triode(dou)	Triode(dou)	-
pinout			
Pin 1		A2	
Pin 2		G1	
Pin 3		K	
Pin 4	F1	F1	
Pin 5	F2	F2	
Pin 6	A1		
Pin 7	G1		
Pin 8	K		

Double triodes are also supported in manual mode.

measured parameters:

H - Voltage: 0.00 V

Anode 1 - Voltage: 0.00 V

Anode 2 - Voltage: 0.0 V

G1 - Voltage: 0.00 V

H - Current: 0.00 mA

Anode 1 - Current: 0.000 mA

Anode 2 - Current: 0.000 mA

voltage: 0.0 V

version: 7.5.0.0

RoeTest
professional-tube-testing-system
(c) Helmut Weigl

862 (+s)
ECC83 Triode(double)
20,5 °C **und**

RoeTest - professional tube-testing-system - manual mode

H: 12,60

Anode 1: 249,600

G1: -2,0000

Anode 2: 249,600

0,0000

K, F1, S = 0 V
note: only internal DC heater possible in manual mode

voltages off

start

adjusting heater

Grid1-vacuum test

Stop

quit

tube data:
pins related to system: **Triode(double)**

Pin number	=	statical nominal ratings of system
1	A2	Ua [V] 250,0
2	G1	Ug1 [V] -2,00
3	K	Ug2 [V] 0,0
4	F1	Ug3 [V] 0,0
5	F2	Ia [mA] 1,20
6	A1	Ig2 [mA] 0,00
7	G1	Uh [V] 12,6
8	K	Ih [V] 0,15
9	FM	
10		

using data from:
System 1 System 2 System 3

For information the dataset 'Triode(double)' from database 'kind of tube system':

RoeTest DatenbankRoeTest - database

type of tube system

Triode(double)

m/k (m=must, k=can)

A	K	G1	G2	G3	G4	G5	F1	F2	FM	IV	S	L	A1	A2	ST1	ST2
	k	m					m	m	k	k	k		k	k		

at rail no.:

	0	3					0	1			0		2	4		
--	---	---	--	--	--	--	---	---	--	--	---	--	---	---	--	--

Designation of rails

rail 0:	mass	0V
rail 1:	+ (external) heating	H
rail 2:	+ 306V/250mA	Anode 1
rail 3:	-51V (-5.1V)	G1
rail 4:	+306V/50mA	Anode 2
rail 5:	-51V external heater supply	

remarks:

beide Trioden werden gleichzeitig gemessen
 die zweite positive Spannung wird für das G2 verwendet
 nur für Vorstufentrioden
 both triodes are tested at same time. Voltage+306V/50mA are used for the Anode 2.
 Use this system kind only for smal signal double triodes

allowed tests:

filament test	<input checked="" type="checkbox"/>	manual mode	<input checked="" type="checkbox"/>
static tests:	<input checked="" type="checkbox"/>	manual mode with series resistor	<input type="checkbox"/>
transconductance:	<input checked="" type="checkbox"/>	nixie	<input type="checkbox"/>
D of plate	<input type="checkbox"/>	neon stabilizer / neon lamp	<input type="checkbox"/>
D of screen	<input type="checkbox"/>	Zenerdiode	<input type="checkbox"/>
internal resistance	<input type="checkbox"/>	grid curves	<input checked="" type="checkbox"/>
Vacuum test	<input checked="" type="checkbox"/>	plate curves:	<input checked="" type="checkbox"/>
test cathode isolation	<input checked="" type="checkbox"/>	screen curve	<input type="checkbox"/>
test Diodes with inverted hi voltage	<input type="checkbox"/>		

Electrode designations:

A = plate
 G1-5 = grid
 K = Cathode
 F1, F2, FM = Heater/Filament
 S = Shield
 IV = do not connect
 L = target, A1, A2, St1, St2

record back next record new record duplicate record abort OK