Nixie-Tubes

1. Nixie Box
Conventional Nixie Tubes (One Plate/Anode)

With a small additional adapter (Nixie-Box) it is possible to test conventional Nixie tubes very comfortably.

This adapter is connected between the socketbox connector of the RoeTest and the sockets. Sockets can be built into the adapter or can be plugged in.

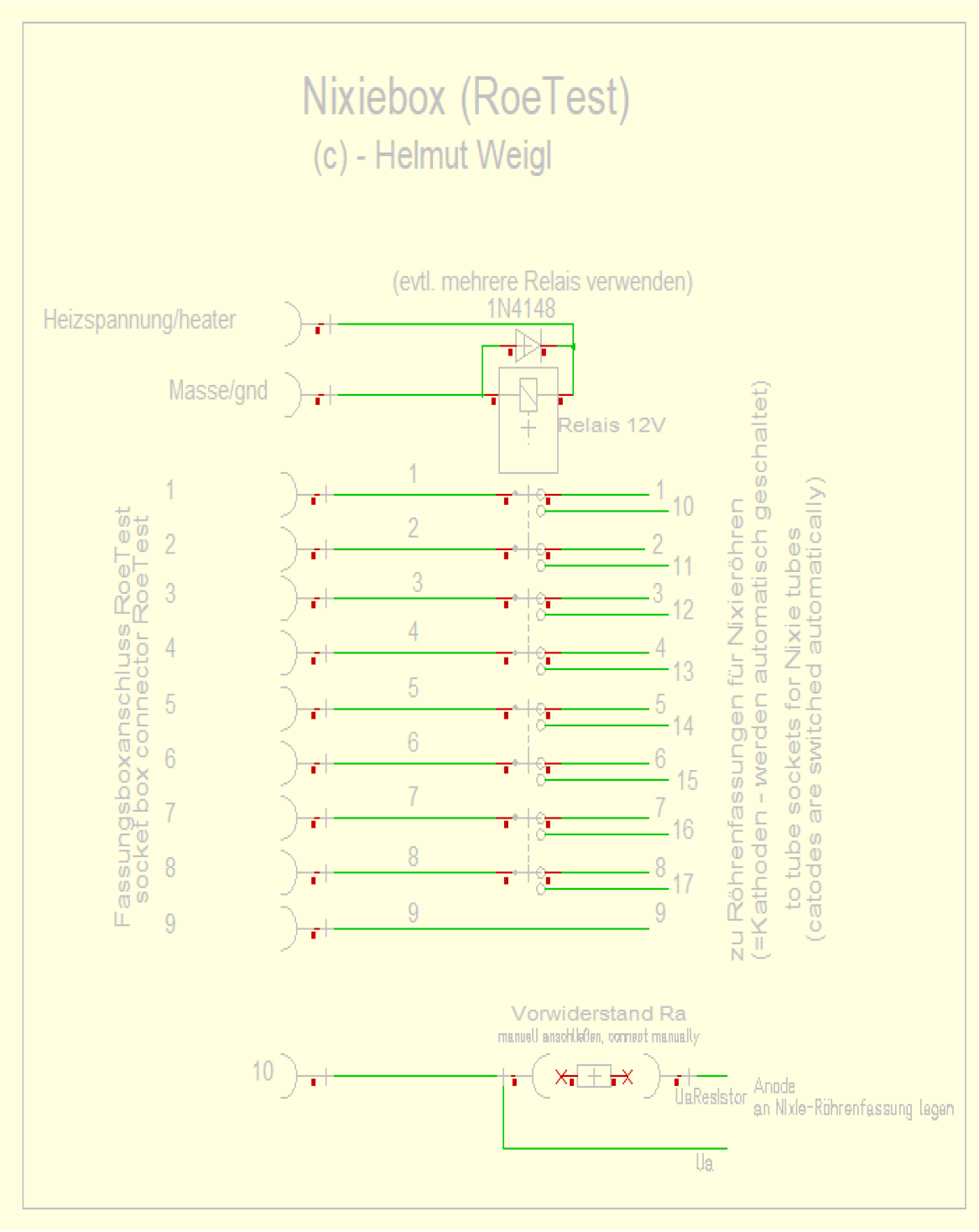
As the RoeTest can switch a maximum number of 10 pins and Nixie tubes can have more pins a small circuit extension is required inside the socket box. A relay switches pins 1-8, pin 9 is connected through. So up to 17 pins are usable for the cathodes and can be switched automatically. Pin 10 is always connected to the anode voltage (the G2 voltage source with maximal 60mA is used). This pin must be attached manually to the specific tube pin with a pluggable series resistor **Ra** (see the data sheet for the specific Nixie tube).

I simply used a socket terminal as a patch panel (**Caution: do not touch the resistor when voltages are applied)**. The relay's supply source is the heater voltage (use a 12 V relay with 8 SPDT switches; eventually use several relays, e.g. 4 relays with 2 SPDT switches each).

Socket box circuit diagram for conventional Nixie tubes (1 Anode)

As you can see the socket terminal is not only suitable for inserting a series resistor

into the anode connection but also for connecting Nixie tubes that come with wires. You could also connect additional socket boxes for the Nixie tubes there.




Nixie-SK136
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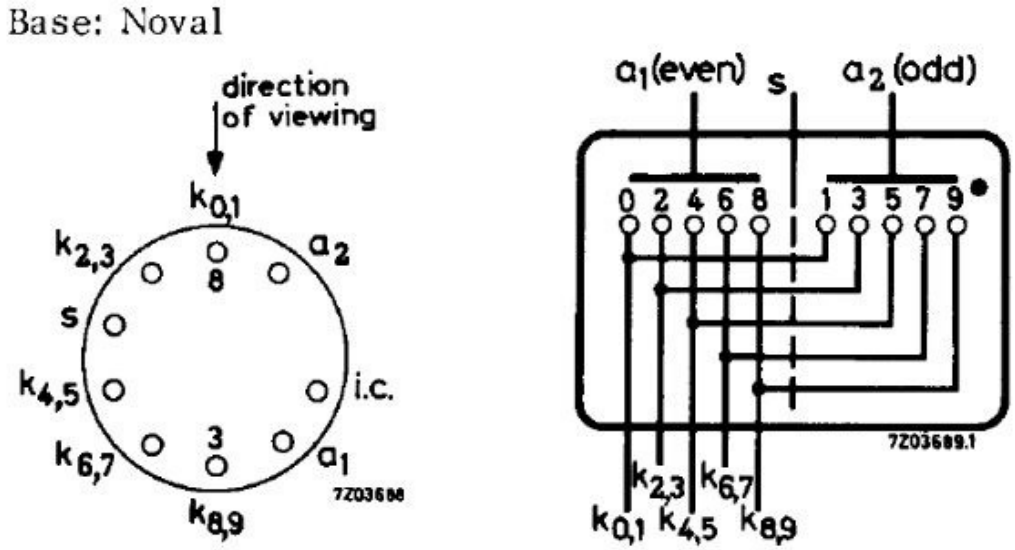
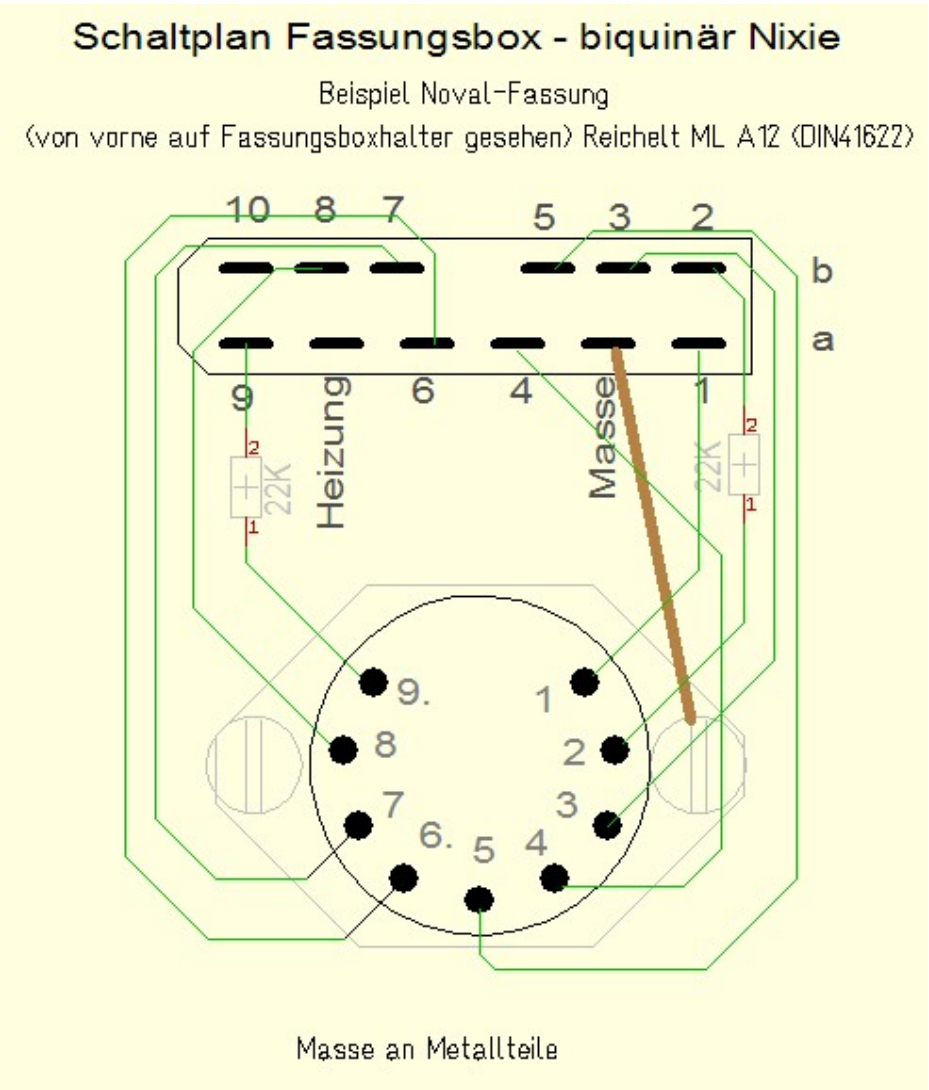
Nixie 13

2. Biquinary Nixie Tubes (Two Anodes)

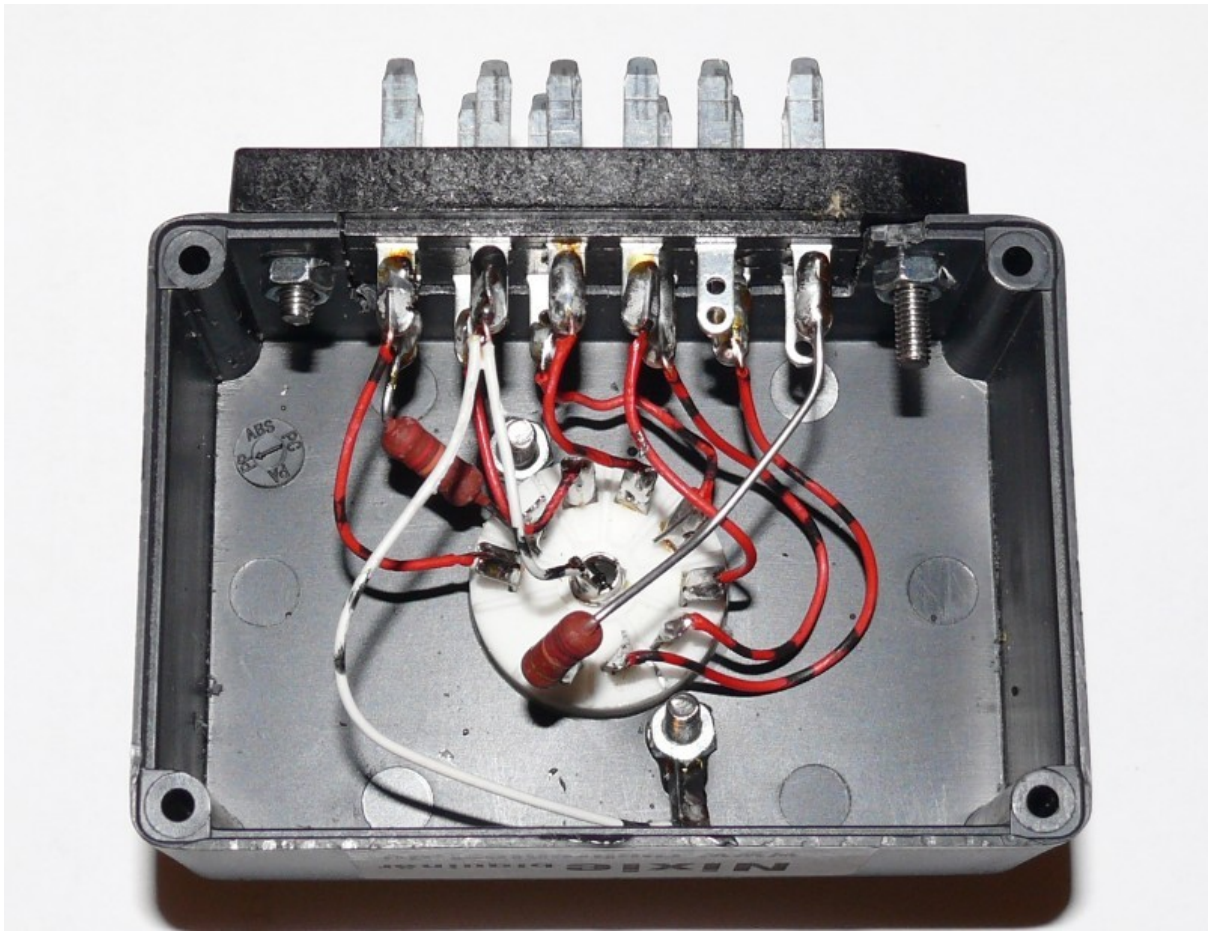
This type of Nixie tubes has two anodes. The cathode pins are double assigned (example: ZM1030). This connection pattern reduces the required overall pin count so a standard Noval socket with 9 pins can be used. The pins of these tubes are all wired using the same scheme so only one additional socket box suffices for all biquinary Nixie tubes.



A standard Noval socket is required. Both pin 2 and pin 9 are connected with a 22 kOhms series resistor to the socket box connector. All other pins are directly connected.



Socket box circuit diagram for biquinary Nixie tubes (2 Anodes)

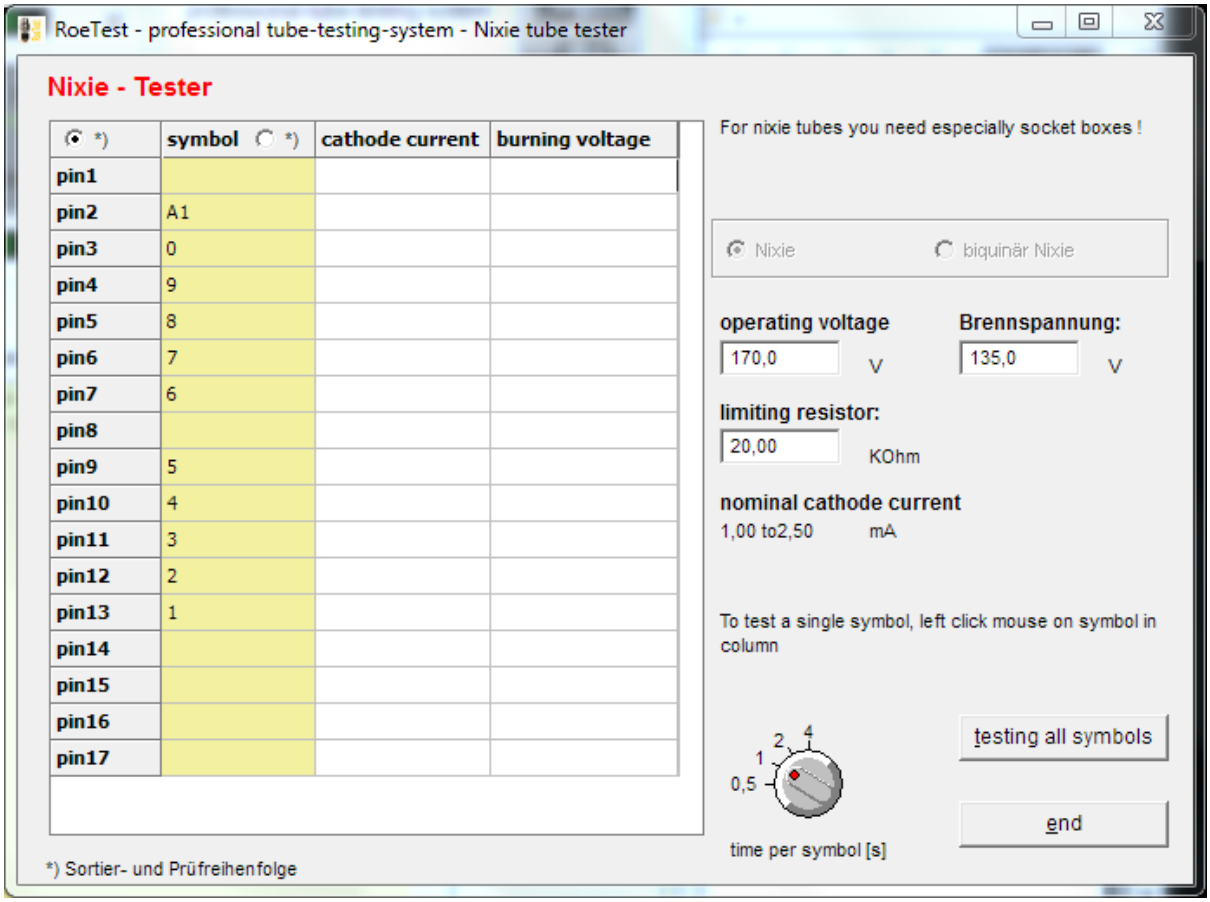


5. Seven segments Nixies
→ see 7-Segmenttest_D_EN.pdf

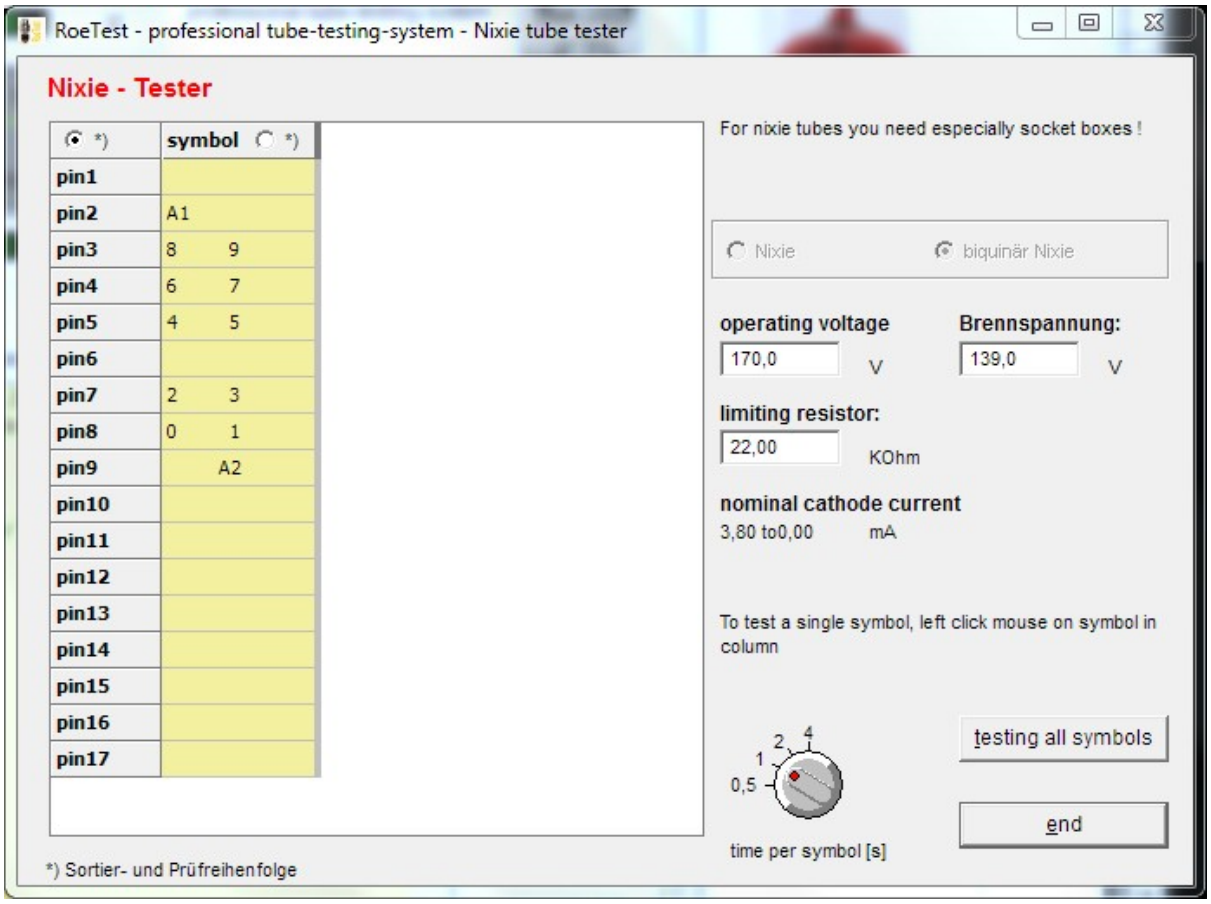
Software:

In menu “B” there is a button for Nixie tubes. Clicking a symbol on the symbol column switches on this symbol and the burning current and voltage are measured. The symbols can also be automatically switched on one after the other (button <alle Symbole testen>).

The testing time for a symbol can be selected with a rotary switch from 0,5 to 4s. With the two radio buttons at top of the table the sorting/testing order can be chosen, either by pin number or by symbol.



Menu for conventional Nixie tubes (1 Anode)

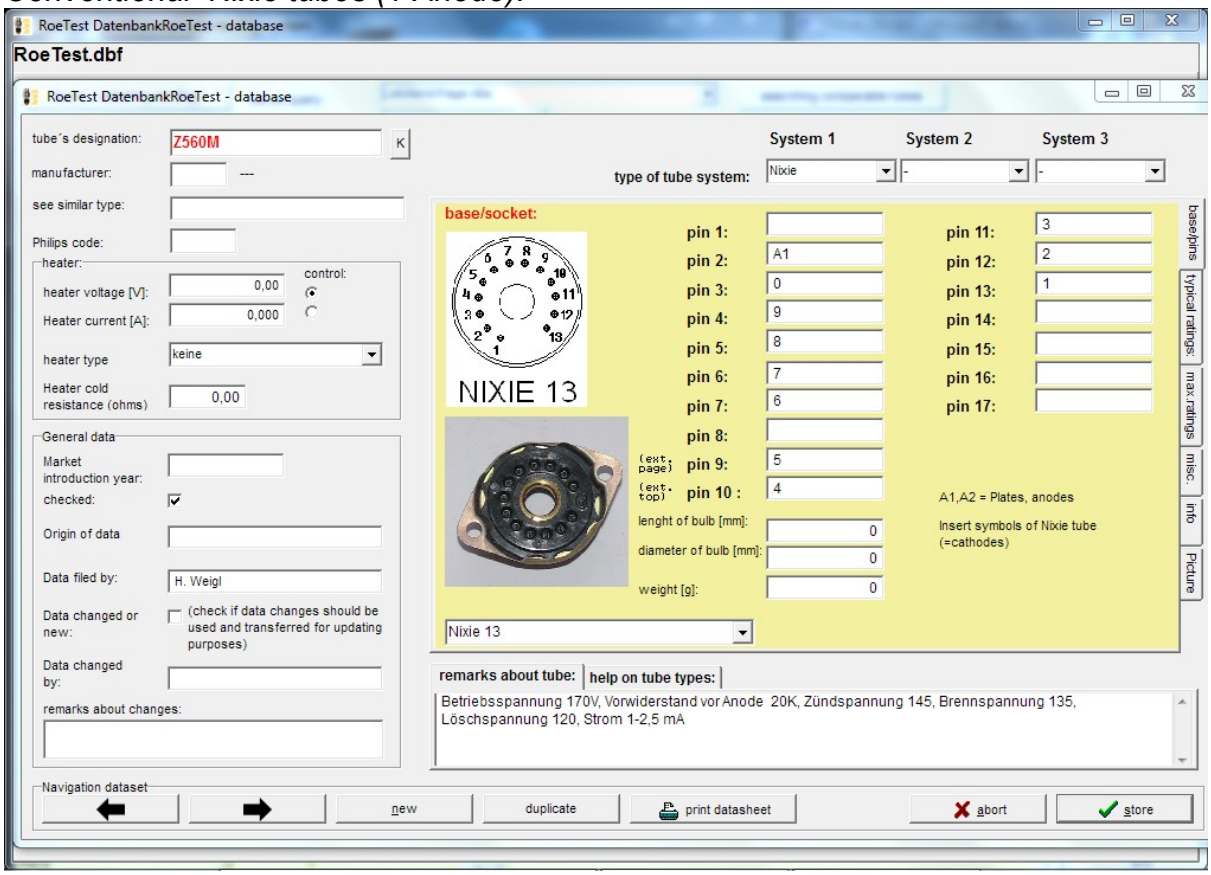


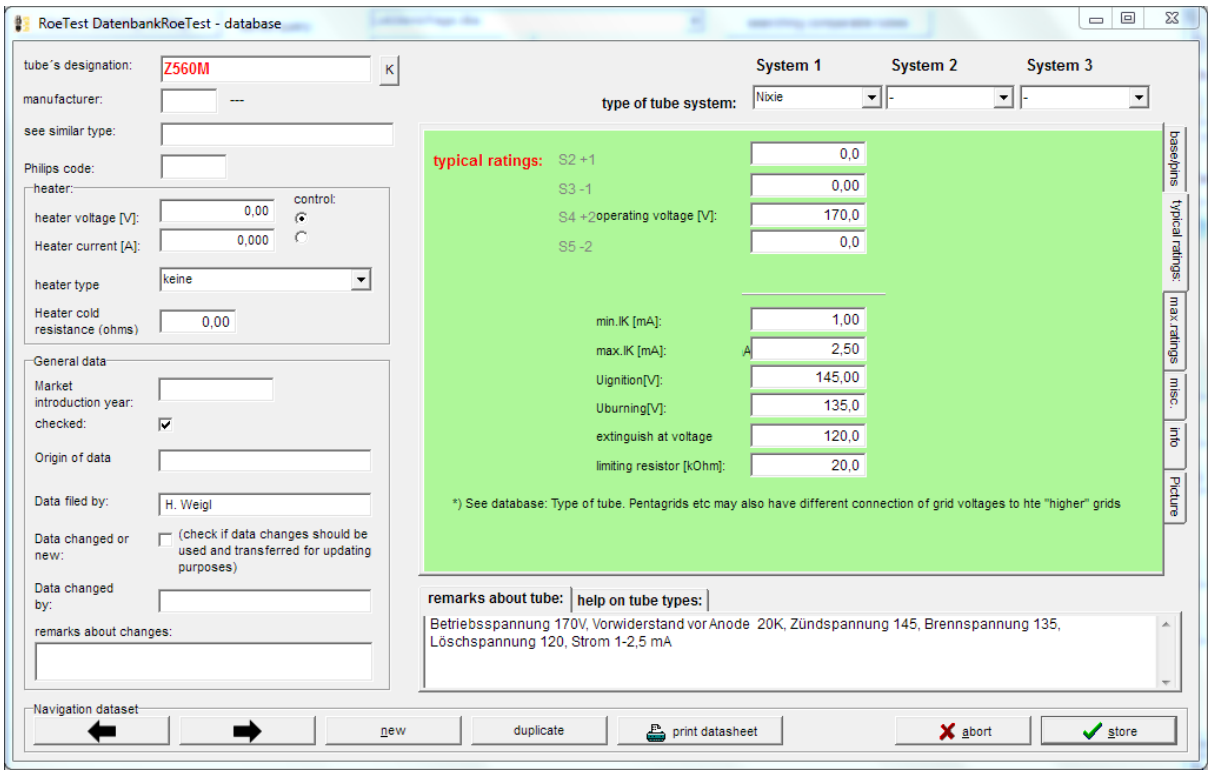
Menu for biquinary Nixie tubes (2 Anodes)

Database software:

Selecting the „Nixie“ tube type automatically changes the input mask:

Conventional Nixie tubes (1 Anode):





For biquinary Nixie tubes (2 Anodes) choose tube type „Nixie bi“. The symbols associated with each anode must be registered as system1 and system2 respectivly: